City of

Santa Monica

Volume 4: APPENDICES L-O

Miramar Hotel Project

Final Environmental Impact Report

SCH No. 2013041091

August 2020

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Appendix L

Transportation Impact Analysis, Fehr and Peers, February 2020

ESA

MIRAMAR HOTEL REDEVELOPMENT TRANSPORTATION IMPACT ANALYSIS

SANTA MONICA, CALIFORNIA

February 2020

PREPARED FOR

ESA | ENVIRONMENTAL SCIENCE ASSOCIATES

PREPARED BY

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EXECUTIVE SUMMARY

In support of the Environmental Impact Report being prepared in accordance with CEQA, this study was conducted to analyze the potential traffic impacts of the proposed Miramar Hotel project (the proposed project) in the City of Santa Monica. This report describes existing transportation network conditions, identifies the base assumptions and methods used to analyze the project's traffic impacts on intersection and street operations, summarizes the findings of the analysis, and also provides a comparative analysis of the traffic impacts of the project versus those of alternatives to the project. The key findings and conclusions of the study are summarized below.

PROJECT DESCRIPTION

The proposed Miramar Hotel project site is located at 1133 Ocean Avenue/101 Wilshire Boulevard on the City of Santa Monica block bounded by Wilshire Boulevard, Ocean Avenue, California Avenue, and Second Street (the "Hotel Parcel"). The Hotel Parcel is approximately 192,063 square feet (4.4 acres) in size. Upon completion, development on the Hotel Parcel will consist of:

- Rehabilitation and ongoing hotel use of the historic Palisades Building (a City-designated landmark)
- Preservation and protection of the Moreton Bay Fig Tree (a City-designated landmark) as a focal point of the Project
- Relocation of the main entry drive from Wilshire Boulevard to 2nd Street
- Removal of the existing surface parking lots
- Demolition of all non-landmarked buildings
- Construction of two new buildings (referred to as the Ocean Building and the California Building)
    - Including 60 new residential condominium units
    - 312 hotel guest rooms
- 6,600 square feet of retail space, 12,500 square feet of spa and fitness space, and 19,708 square feet of restaurant space
- Expansion of public and guest open space areas on the ground level and in building terraces and rooftops
- Construction of a subterranean parking garage beneath the newly constructed buildings and open space

Additionally, the Project will include the development of the parcel located at 1127/1129 2nd Street (the "Second Street Parcel"). The Second Street Parcel, which is located directly across 2nd Street from the Hotel Parcel, is approximately 15,000 square feet (0.3 acre) in size and is currently used as surface parking lot by the hotel. The Second Street Parcel development would include a 100% affordable housing component with a minimum of 30 and a maximum of 48 affordable apartments.

The Project will include three vehicular access points to/from the Project Site:

- A new entry court on 2nd Street to serve the Project's hotel and restaurant/retail uses and provide an access alternative for residents
- A secondary access driveway on California Avenue, located approximately 100 feet east of Ocean Avenue, to serve employees only and provide direct access to the underground parking while appropriately disbursing trips around the Hotel Parcel
- A modified entry and access driveway on Ocean Avenue for use by residents to provide direct access to the underground parking structure.

The 2nd Street Entry Court, the Ocean Avenue Entry and the California Avenue Entry would provide direct access to the subterranean parking.

SUMMARY OF IMPACTS

This study analyzed 51 intersections for potential traffic impacts. The proposed project is expected to generate a total of approximately 256 weekday AM peak hour trips, 224 weekday PM peak hour trips and 416 weekend midday peak hour trips. Taking into account the removal of the existing uses, the proposed project is expected to generate net-new travel of approximately 85 trips in the weekday AM peak hour, 81 trips in the weekday PM peak hour and 96 trips in the weekend midday peak hour.

Approval Year (2020) Plus Project Intersection Analysis

Based on the City of Santa Monica impact criteria, the addition of project traffic is expected to result in significant traffic impacts at four locations under Approval Year (2020) conditions:

1. Palisades Beach Road & California Avenue
3. Ocean Avenue & California Avenue
14. 2nd Street & Wilshire Boulevard
42. Lincoln Boulevard & California Avenue

TABLE ES-1
SUMMARY OF PROPOSED PROJECT INTERSECTION IMPACTS

No.	INTERSECTION	PEAK HOUR	APPROVAL YEAR (2020)	FUTURE YEAR (2025)
1	PALISADES BEACH ROAD & CALIFORNIA INCLINE	AM	X	X
		PM		
		WKND		
3	OCEAN AVENUE & CALIFORNIA AVENUE	AM	X	X
		PM	X	X
		WKND		X
14	SECOND STREET & WILSHIRE BOULEVARD	AM	X	X
		PM	X	X
		WKND	X	X
42	LINCOLN BOULEVARD & CALIFORNIA AVENUE	AM	X	X
		PM		
		WKND		X
Total Impacted Intersections:			**4**	**4**

Future Year (2025) Plus Project Intersection Analysis

Based on the City of Santa Monica impact criteria, the addition of project traffic is expected to result in significant traffic impacts at the same four locations under Future Year (2025) conditions:

1. Palisades Beach Road & California Avenue
3. Ocean Avenue & California Avenue
14. 2nd Street & Wilshire Boulevard
42. Lincoln Boulevard & California Avenue

Intersection Mitigation Measures

Mitigation measures for the four significant impacts under the Approval and Future with Project conditions were considered. Three of the four impacts could be mitigated to less-than-significant levels with changes to signal operation and, in the case of 2nd Street & Wilshire Boulevard, restriping of travel lanes. The impact at Lincoln Boulevard & California Avenue, an all-way stop-controlled intersection, cannot be fully mitigated without potential secondary impacts to pedestrian safety goals and policies outlined in the City's Land Use and Circulation Element (LUCE). Therefore, under both the Approval Year (2020) and Future Year (2025) conditions, the project would result in significant and unavoidable impacts at one intersection.

Segment Analysis

The addition of project traffic is expected to result in significant impacts at 5 of the 11 analyzed street segments, which all have significance thresholds of one trip under the City of Santa Monica's criteria. The following segments are impacted by the proposed project:

- 2nd Street between Wilshire Boulevard and California Avenue
- California Avenue between Ocean Avenue and 2nd Street
- California Avenue between 2nd Street and 3rd Street
- California Avenue between 3rd Street and 4th Street
- California Avenue between 4th Street and 5th Street

No feasible mitigation measures are available to fully mitigate all street segment impacts, including relocating the project's access point or turn restrictions that would limit motorists that arrive or depart the project site from using the public street grid and these street segments. Therefore, the project impacts to these street segments would be significant and unavoidable.

1. INTRODUCTION

Fehr & Peers evaluated the potential traffic impacts of the proposed Miramar Hotel project in the City of Santa Monica. This report identifies the baseline traffic conditions of the transportation network, describes the methodology and assumptions for the analysis, and summarizes the findings of the study that was conducted as part of the environmental impact report (EIR) for the proposed project.

PROJECT DESCRIPTION

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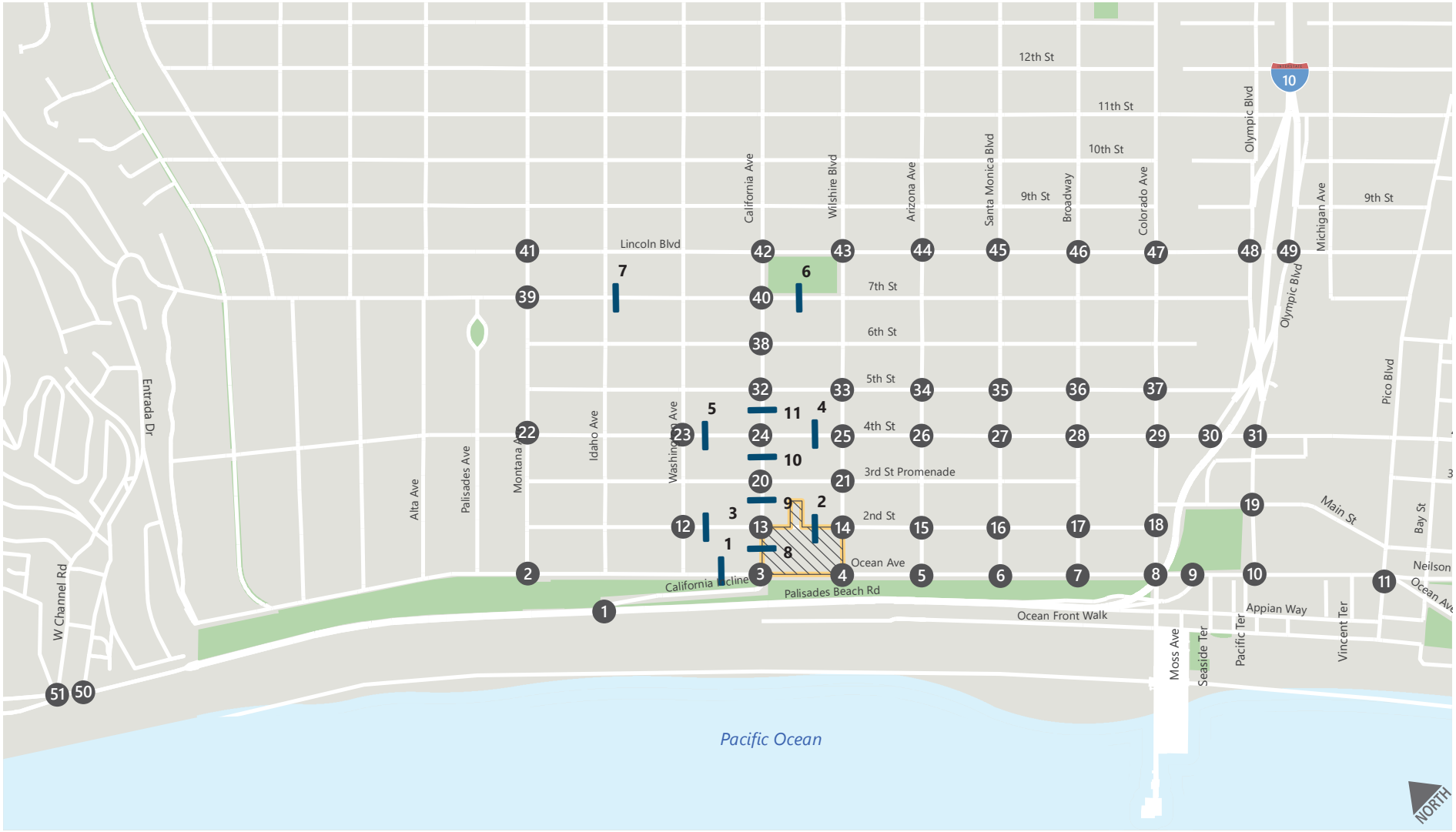


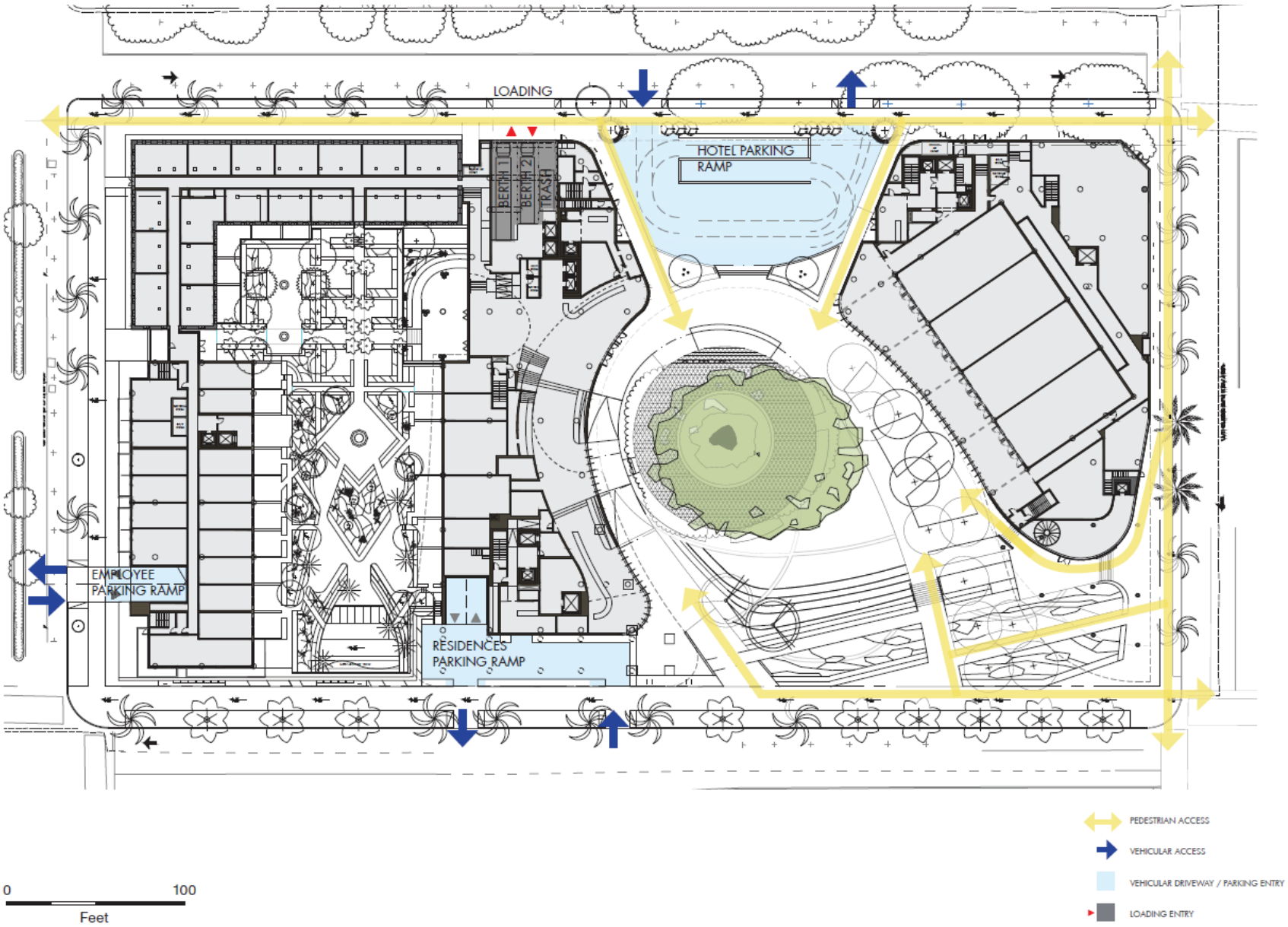
Study Segment

Study Intersection

Project Site

Figure 1

Miramar Hotel Project - Traffic Impact Analysis Locations



Source: Pelli Clarke Pelli Architects, 2019.

Figure 2

Site Plan

STUDY SCOPE

In accordance with CEQA and City requirements, this study covers a range of various topics, including intersection operations, regional transportation network operations, vehicle miles traveled, residential street segments, and project alternatives.

Intersection Operations

This study evaluates the project's potential to impact intersection operations of the surrounding street system as a result of project-generated vehicle trips. Specifically, the project's peak hour traffic impacts during the typical weekday AM (7:30 to 9:30 AM) and PM (5:00 to 7:00 PM) peak periods were evaluated. In addition, since the project site is located in the Downtown district where weekend traffic volumes tend to be relatively high, the study also analyzed traffic impacts during the weekend midday peak period (1:00 to 5:00 PM) for all locations on and west of Lincoln Boulevard.

In consultation with the City of Santa Monica and City of Los Angeles staff, 51 intersections in the project vicinity were selected for analysis. These intersections were selected as the ones most likely to be affected by project-generated trips. Per City of Santa Monica traffic study guidelines, all 51 study intersections were analyzed using the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2010) operations methodology. A total of 43 intersections are currently controlled by traffic signals. The study examined the intersections for each of the traffic scenarios. The intersections are listed below and illustrated in Figure 1:

1. Palisades Beach Road & California Incline
2. Ocean Avenue & Montana Avenue
3. Ocean Avenue & California Avenue
4. Ocean Avenue & Wilshire Boulevard
5. Ocean Avenue & Arizona Avenue
6. Ocean Avenue & Santa Monica Boulevard
7. Ocean Avenue & Broadway
8. Ocean Avenue & Colorado Avenue
9. Ocean Avenue & Moomat Ahiko Way
10. Ocean Avenue & Olympic Drive
11. Ocean Avenue & Pico Boulevard
12. 2nd Street & Washington Avenue (unsignalized)
13. 2nd Street & California Avenue (unsignalized)
14. 2nd Street & Wilshire Boulevard
15. 2nd Street & Arizona Avenue
16. 2nd Street & Santa Monica Boulevard
17. 2nd Street & Broadway
18. 2nd Street/Main Street & Colorado Avenue
19. Main Street & Olympic Drive
20. 3rd Street & California Avenue (unsignalized)

21. 3rd Street & Wilshire Boulevard
22. 4th Street & Montana Avenue
23. 4th Street & Washington Avenue (unsignalized)
24. 4th Street & California Avenue
25. 4th Street & Wilshire Boulevard
26. 4th Street & Arizona Avenue
27. 4th Street & Santa Monica Boulevard
28. 4th Street & Broadway
29. 4th Street & Colorado Avenue
30. 4th Street & I-10 Westbound Off-Ramp
31. 4th Street & I-10 Eastbound On-Ramp
32. 5th Street & California Avenue (unsignalized)
33. 5th Street & Wilshire Boulevard
34. 5th Street & Arizona Avenue
35. 5th Street & Santa Monica Boulevard
36. 5th Street & Broadway
37. 5th Street & Colorado Avenue
38. 6th Street & California Avenue (unsignalized)
39. 7th Street & Montana Avenue
40. 7th Street & California Avenue (unsignalized)
41. Lincoln Boulevard & Montana Avenue
42. Lincoln Boulevard & California Avenue (unsignalized)
43. Lincoln Boulevard & Wilshire Boulevard
44. Lincoln Boulevard & Arizona Avenue
45. Lincoln Boulevard & Santa Monica Boulevard
46. Lincoln Boulevard & Broadway
47. Lincoln Boulevard & Colorado Avenue
48. Lincoln Boulevard & I-10 Westbound Ramps/Olympic Boulevard
49. Lincoln Boulevard & I-10 Eastbound On-Ramp
50. Pacific Coast Highway (SR-1) & Entrada Drive (Caltrans/City of Los Angeles)
51. Pacific Coast Highway (SR-1) & Chautauqua Boulevard/Channel Road (Caltrans/City of Los Angeles)

To analyze the project's impacts on the 51 study intersections, the following traffic scenarios were analyzed in the study:

- Existing Conditions (2017/2018) – The analysis of existing conditions provides the basis for the assessment of Approval Year (2020) and Future Year (2025) traffic conditions. This assessment is based on the citywide weekday and weekend traffic counts collected by the City in 2017 (weekend counts were collected in 2018 for 17 intersections). The existing conditions analysis included a description of key area streets and highways, traffic volumes at intersections, and operating conditions of the intersections.

- Approval Year (2020) "No Project" Conditions – This scenario reflects the base traffic conditions expected in the project's anticipated Approval Year (2020) without the project and provides the baseline by which the project's impacts in the Approval Year were evaluated. It includes cumulative development projects that have been or will be completed between the 2017/2018 baseline counts and 2020. This scenario provides the baseline conditions against which project impacts were evaluated. The latest version of the City of Santa Monica's Travel Demand Forecasting Model (TDFM) was used to project Approval Year (2020) No Project traffic forecasts.

- Approval Year (2020) Plus Project Conditions – This scenario reflects the traffic conditions expected in the project's anticipated Approval Year (2020) with inclusion of the project's trips. This scenario identifies the potential traffic impacts of the project on Approval Year traffic operating conditions by adding project-generated trips to the Approval Year (2020) No Project traffic forecasts. The City's TDFM was used to inform project trip distribution and trip assignment under Approval Year (2020) conditions.

- Future Year (2025) "No Project" Conditions – This scenario reflects the future traffic conditions expected in the year 2025 without the project. This scenario identifies future operating conditions of the study intersections as a result of regional growth and known "cumulative projects" in the study area by year 2025. This scenario also accounts for future street network changes that would affect traffic conditions. The Future Year (2025) No Project forecasts were also developed using the City's TDFM.

- Future Year (2025) Plus Project Conditions – This analysis reflects the traffic conditions expected in the Future Year (2025) with inclusion of the project's trips. This scenario was developed using the same methodology described for the Approval Year plus Project conditions.

Residential Street Segments

In addition, due to the project's proximity to residential neighborhoods, the project's impacts on the weekday and weekend operations of street segments surrounding the project site were analyzed. The 11 street segments listed below were analyzed.

1. Ocean Avenue north of California Avenue
2. 2nd Street between Wilshire Boulevard and California Avenue
3. 2nd Street between California Avenue and Washington Avenue
4. 4th Street between Wilshire Boulevard and California Avenue
5. 4th Street between California Avenue and Washington Avenue
6. 7th Street between Wilshire Boulevard and California Avenue
7. 7th Street between Washington Avenue and Idaho Avenue
8. California Avenue between Ocean Avenue and 2nd Street
9. California Avenue between 2nd Street and 3rd Street
10. California Avenue between 3rd Street and 4th Street
11. California Avenue between 4th Street and 5th Street

Vehicle Miles Traveled

Authorized in September of 2013, Senate Bill (SB) 743 directed the Office of Planning and Research (OPR) to revise the CEQA Guidelines (Title 14 of the California Code of Regulations sections and following to establish new criteria for determining the significance of transportation impacts and define alternative metrics for traffic LOS. OPR adopted final guidelines in December 2018, and the provisions of SB743 are now in effect, with agencies having an opt-in period until July 1, 2020. At the time of this publication, the City of Santa Monica has not adopted VMT-based impact criteria. Project VMT analysis is included later in this report for informational purposes.

The estimates of VMT for the proposed project are based on the OPR guidance, which recommend evaluating each component of a mixed-use project independently. For residential uses, the suggested metric is VMT per capita. Guidance is provided for several broad land use types that account for majority of the development projects that are proposed (residential, office, retail). The proposed project includes Hotel, Retail, and Restaurant (which are fundamentally from retail from a travel perspective), and Residential. While there is no office-type land use for this project, employee VMT estimates were calculated.

Project Alternatives

Additionally, in accordance with CEQA Section 15126.6, this study analyzes the traffic impacts of alternatives to the project.[1] As permitted by CEQA, the alternatives are evaluated at a lesser level of detail than the project. These project alternatives are:

Alternative 1 – No Project
Alternative 2 – Ocean Ave Transition Zone Tier 2
Alternative 3 – Hotel Only on Hotel Parcel (No Condominiums)
Alternative 4 – Reduced Height and Density
Alternative 5 – Alternate Massing
Alternative 6 – Modified Access

Further descriptions of these alternatives are provided in Chapter 7, Project Alternatives.

ORGANIZATION OF REPORT

This report is divided into seven chapters, including this introduction. Chapter 2 describes the existing circulation system (including the roadway network, public transit, bicycle/pedestrian facilities), traffic volumes at intersections, and operating conditions of the intersections in the study area. Chapter 3 describes the methodologies used to develop future cumulative traffic forecasts and project traffic volumes. Chapter 4 presents an assessment of potential project traffic impacts on intersection operations in the vicinity of the project site. Chapter 5 presents a discussion of potential mitigation measures to address the identified intersection traffic impacts. Chapter 6 presents the analysis of potential project traffic impacts on nearby street segments. Chapter 7 analyzes the potential traffic impacts that could result from the project alternatives and compares them to the project.

[1] *As required by CEQA, the study analyzes a range reasonable alternatives to the project and include ones that are potentially feasible, would "feasibly attain most of the basic objectives of the project," and would avoid or substantially lessen any of the project's significant effects.*

2. EXISTING TRANSPORTATION CONDITIONS

The project site is located in the Downtown district of the City of Santa Monica. The Downtown district includes a dense urban mix of residential, retail, restaurant, office, entertainment, recreational, and institutional uses. A network of streets and sidewalks serving all modes of mobility supports circulation throughout the city, intermixing automobiles, buses, and people walking and bicycling. Additionally, the western terminus station for the Expo Light Rail Transit line (Expo Line) is located in the Downtown at 4th Street/Colorado Avenue (about ½ mile from the project site).

Due to the project site's proximity to popular destinations such as the Third Street Promenade, the Santa Monica Pier, and the oceanfront, nearby intersections can become congested during peak hours including weekends, holidays and events, as drivers navigate the Downtown. A discussion of the key circulation facilities in the Project study area is provided below:

EXISTING STREET AND FREEWAY SYSTEM

The project site is located at 1133 Ocean Avenue/101 Wilshire Boulevard and 1127/1129 2nd Street in the Downtown district of the City of Santa Monica. The project site is specifically bounded by California Avenue on the north, 2nd Street on the east, Wilshire Boulevard on the south, and Ocean Avenue on the east. The adjacent streets are described below:

- California Avenue is a one-lane east-west roadway that provides surface street access to the Downtown. California Avenue fronts 350 feet of the northern edge of the project site.
- 2nd Street is a one-lane north-south roadway that serves as a key entrance to California Avenue and Wilshire Boulevard. 2nd Street fronts the Hotel Parcel for about 600 feet of the eastern edge of the parcel and 120 feet of the western edge of the Second Street Parcel.
- Wilshire Boulevard is a two-lane east-west roadway that also provides surface street access to the Downtown. Wilshire Boulevard fronts the Hotel Parcel for about 350 feet, with two existing driveways accessing the Hotel Parcel.
- Ocean Avenue is a two-lane north-south roadway that runs along the western edge of the City of Santa Monica. Ocean Avenue fronts 600 feet of the eastern edge of the Hotel Parcel.

The Project Site has regional access via nearby arterials and freeways. The Pacific Coast Highway (PCH) is located at the foot of the Palisades bluff at the west edge of Ocean Avenue, just to the west of the Hotel Parcel. The California Incline (at California Avenue) provides direct access to PCH, and PCH in turn, provides access to the Sana Monica Freeway ("I-10"), which is located approximately 0.75 miles southeast of the California Incline, and the Pacific Palisades community to the north. The Hotel Parcel is located on Wilshire Boulevard, a major east-west arterial with an interchange at the San Diego Freeway ('I-405"), approximately

four miles to the east of the Hotel Parcel. Wilshire Boulevard also intersects 4th Street, 5th Street and Lincoln Boulevard, which provide direct access to the I-10 approximately 0.75 miles southeast of the Hotel Parcel.

The LUCE defines the street system according to its use by various modes including walking, biking, transit, and automobile. These street types include Boulevard, Special Streets, Downtown Commercial, Neighborhood Commercial, Major Avenue, Secondary Avenue, Minor Avenue, Industrial Avenue, Neighborhood Street, Shared Street, Parkway, Pathway, Bikeway, Highway, and Alley. The city streets surrounding the proposed project are described below based on their designations in the LUCE:

- Boulevard – Boulevards are regional transportation corridors with continuous mixed-use and commercial land uses. Boulevards provide access for all forms of transportation but emphasize transit and walking. Regional auto traffic is accommodated here in order to minimize regional traffic on parallel local streets. Boulevards in the study area include Wilshire Boulevard, Santa Monica Boulevard, Lincoln Boulevard (Wilshire Boulevard to Pico Boulevard), Ocean Avenue (California Avenue to Pico Boulevard), Main Street (Colorado Avenue to Pico Boulevard), and 4th Street (Wilshire Boulevard to Pico Boulevard).

- Special Streets – These streets are unique and ceremonial streets requiring special consideration. In the study area, the Third Street Promenade is a Special Street between Wilshire Boulevard and Broadway.

- Commercial: Downtown – These streets provide access for all transportation and support downtown Santa Monica. Downtown Commercial streets in the study area include Wilshire Boulevard (Ocean Avenue to 11th Street), Arizona Avenue (Ocean Avenue to Lincoln Boulevard), Santa Monica Boulevard (Ocean Avenue to 11th Street), 2nd Street (Wilshire Boulevard to Colorado Avenue), 5th Street (Wilshire Boulevard to Olympic Boulevard), 6th Street (Wilshire Boulevard to Colorado Avenue), 7th Street (Wilshire Boulevard to Olympic Boulevard), and Lincoln Boulevard (Wilshire Boulevard to Pico Boulevard).

- Avenue: Major – These streets serve regional automobile trips and provide access for all modes of transportation. They are designed to discourage regional auto traffic from using Secondary or Minor Avenues. The Major Avenues in the study area include the California Incline and Olympic Boulevard (4th Street to Lincoln Boulevard).

- Avenue: Secondary – These streets distribute auto trips onto Minor Avenues and Neighborhood Streets, often serving regional bicycle trips. Secondary Avenues in the project area include Broadway, Colorado Avenue, and Olympic Drive (Ocean Avenue to 4th Street).

- Avenue: Minor – These streets serve local auto and bicycle trips. Minor Avenues in the study area include 4th Street (Wilshire Boulevard to northern city limits), 7th Street (Wilshire Boulevard to northern city limits), and 11th Street (Wilshire Boulevard to Ocean Park Boulevard).

- Neighborhood Street – These streets primarily serve abutting buildings. Neighborhood Streets in the study area include 5th Street (Wilshire Boulevard to Montana Avenue), Arizona Avenue (Lincoln Boulevard to 11th Street), 9th Street, 10th Street, and Lincoln Boulevard (Wilshire Boulevard to northern city limits).

- Parkway – Parkways serve as linear parks incorporating continuous landscaping, recreational bikeways and pedestrian paths. The Pacific Palisades Parkway in the study area is west of Ocean Avenue.

Lane configurations at the study intersections are illustrated in Appendix B1.

EXISTING PUBLIC TRANSIT SERVICE

Santa Monica's Big Blue Bus and the Los Angeles County Metropolitan Transportation Authority (Metro) provide a dense network of public transit service throughout the study area. The project site is directly accessible via transit from most of Santa Monica and much of the Los Angeles metropolitan area including Downtown Los Angeles, UCLA/West Los Angeles, Century City, LAX, Venice, Culver City.

Metro Exposition Line LRT and Downtown Santa Monica Station

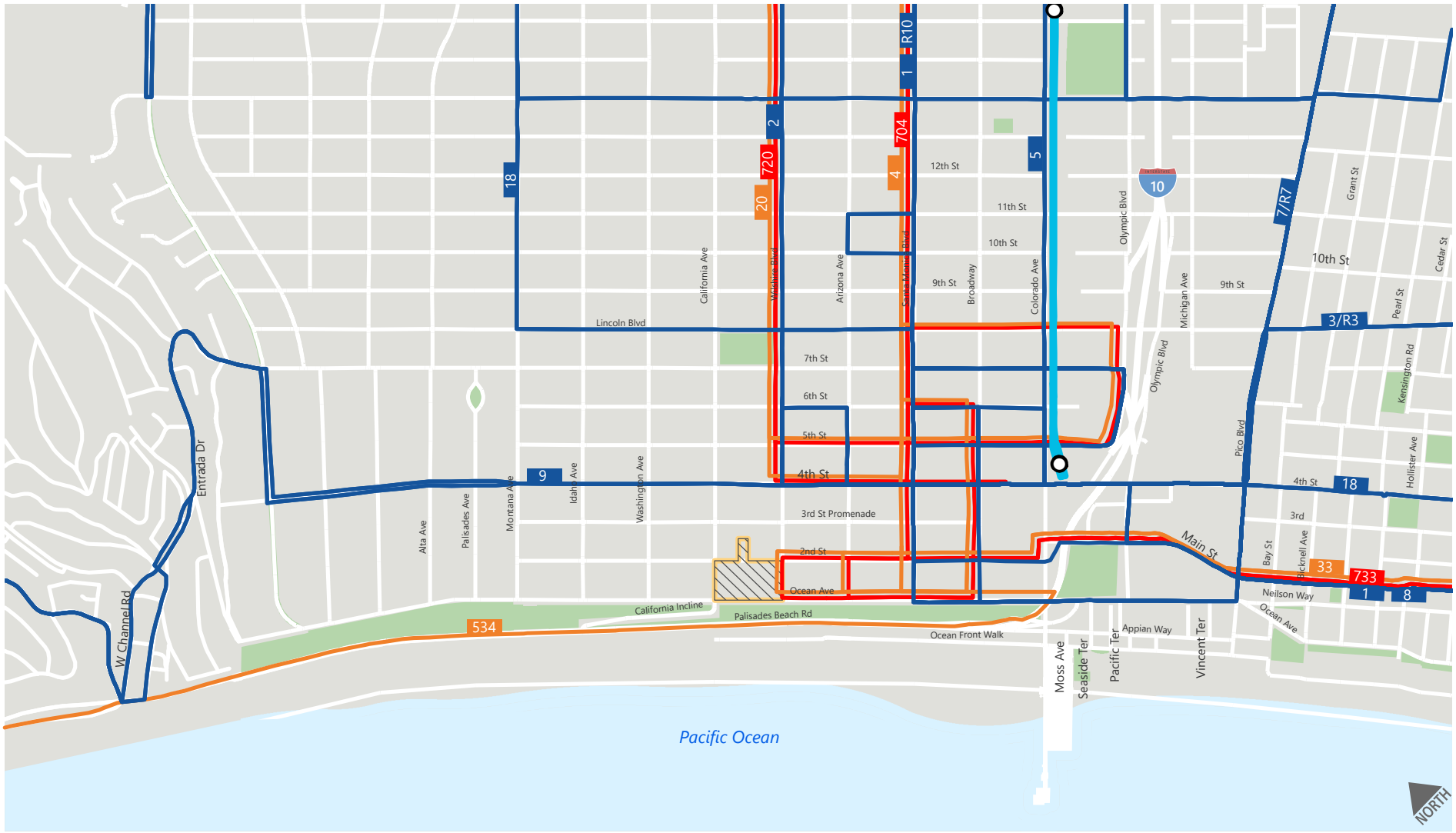
The project site is located approximately ½ mile north of the Downtown Santa Monica Station of the Exposition Light Rail (Expo LRT) line, which is the western terminus of the line. The Downtown Santa Monica Station is located at 4th Street/Colorado Avenue. The Expo LRT began operation in Santa Monica in May 2016, connecting Santa Monica through West Los Angeles to Culver City and continuing to downtown Los Angeles. The Expo LRT line makes 19 stops including the Downtown Santa Monica station and connects with other Metro rail service in downtown Los Angeles. Service operates daily from about 4:00AM through 2:00AM, with peak headways of six to eight minutes in both directions and off-peak headways between 12 and 20 minutes. A new connecting line along Crenshaw Boulevard is under construction and will open in 2020, providing service south towards LAX and connecting with the Metro Green Line.

All Big Blue Bus and Metro bus lines operating in Downtown Santa Monica have a connecting stop within a few hundred feet of the Downtown Santa Monica station. Bikesharing stations, bicycle lane facilities, and bicycle service facilities are located either adjacent or very close to the station as well.

Public Buses

Figure 3 shows the transit lines and stops near the project site. There are 6 fixed-route bus lines within ¼-mile of the project site:

- Big Blue Bus Line 2 (Wilshire Boulevard) – Line 2 runs from the Civic Center through downtown Santa Monica to UCLA. Headways are approximately 15-20 minutes. The stop closest to the project site is at 4th Street & Wilshire Boulevard.
- Big Blue Bus Line 3 / Rapid 3 (Lincoln Boulevard) – Line 3 runs from the Metro Green Line/Aviation Station along Lincoln Boulevard to downtown Santa Monica via Lincoln Boulevard and 4th Street. Headways are approximately 10 minutes during weekday and weekend peak periods and 15-20 minutes off-peak. The stop closest to the project site is at 4th Street & Wilshire Boulevard.
- Big Blue Bus Line 5 (Olympic Boulevard) – Line 5 runs between downtown Santa Monica and Century City via Colorado Avenue and Olympic Boulevard and continues from Century City to the Palms Expo Line Station. Headways are every 20-30 minutes during the weekday. The stop closest to the project site is on 4th Street and East of Wilshire Boulevard.
- Big Blue Bus Line 9 (Pacific Palisades) – Line 9 runs from the Civic Center through downtown Santa Monica to Pacific Palisades. In the study area, Line 9 operates on 4th Street with headways of 30 minutes during the weekday and weekend peak hours. The stop closest to the project is on 4th Street & Wilshire Boulevard.
- Metro Line 20 / Rapid 720 (Wilshire Boulevard) – Line 20/720 operates on Wilshire Boulevard between Santa Monica and Downtown Los Angeles. Rapid 720 service is limited-stop operating throughout the day with 10-minute headways in the peak period and peak direction and approximately 15-20 minute headways at other times. Overnight, local service on Line 20 operates on approximately 20-30 minute headways after BBB Line 2 ceases operation. The stop closest to the project is on 2nd Street at Wilshire Boulevard.
- Metro Line 33 / Rapid 733 (Venice Boulevard) – Line 33/733 provides service on Venice Boulevard and Main Street between Santa Monica and Downtown Los Angeles. The Rapid 733 operates with 15-20 minute headways throughout the day. Line 33 extends local service along Main Street to Santa Monica from Venice during the late evening and overnight periods. The closest stop to the project site is on 2nd Street at Santa Monica Boulevard.



Transit Lines

- Big Blue Bus
- Expo Line
- Metro Local
- Metro Rapid

Project Site

Figure 3

Miramar Hotel Project - Existing Transit

EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Bicycle Network

Downtown Santa Monica hosts a dense network of bicycle facilities including some immediately adjacent to the project site. Bicycle lanes extend in both direction on California Avenue from Ocean Avenue to 17th Street, and then on Ocean Avenue on both sides from Wilshire Boulevard to California Avenue. The existing bicycle facilities within ½ mile of the project site are listed below.

The following streets near the project have marked bicycle lanes separating bicyclists from vehicles:

- Ocean Avenue between San Vicente Boulevard and Bicknell Avenue
- 2nd Street between Montana and Colorado Avenue, serving the City's Bike Center
- Main Street between Colorado Avenue and the Santa Monica southern city boundary
- 6th Street between Montana Avenue and Colorado Avenue
- 7th Street between Wilshire Boulevard and Olympic Boulevard
- Broadway between 5th Street and Centinela Avenue
- California Avenue between Ocean Avenue and 26th Street
- The California Incline includes a two-way cycletrack with a connecting bridge across the Pacific Coast Highway for beach access
- Arizona Avenue between Ocean Avenue and the eastern city limit
- 11th Street between Olympic Boulevard and Wilshire Boulevard

In addition to these facilities, the City has recently marked various streets in the Downtown area as shared-vehicle/bicycle lanes and included bicycle detection zones at signalized intersections. These lanes have been painted with "sharrow" markings. Streets with these markings include 4th Street, Broadway, and Colorado Avenue. Additional designated future bicycle routes with shared lane marking are proposed in the City's 20-Year Bicycle Implementation Plan. A number of intersections in downtown Santa Monica have also been equipped with bicycle detection cameras.

A review of 2019 weekend peak hour bicycle counts in the Miramar study area shows that cycling activity is highest at Ocean Avenue & California Avenue. The bicycle counts for four intersections are listed below:

1. Ocean Avenue & California Avenue: 155

2. Ocean Avenue & Wilshire Boulevard: 85

3. 2nd Street & Wilshire Boulevard: 39

4. 3rd Street & Wilshire Boulevard: 42

Bicycle Parking

Bicycle parking is available throughout the study area, including in many parking structures, on-street racks, and at public and private facilities. For example, indoor bicycle parking and lockers are provided in Parking Structures #1, #3, #5, #6, and #7 in Downtown. The City continues to install racks throughout the Downtown. In addition, the Bike Center, located on Colorado Avenue at Parking Structure 8 of the Santa Monica Place Mall provides secure bike parking and a variety of mobility services, including retail, bike repair, bike rental, attended bike parking, public information on alternative transportation, and a variety of additional related service.

Bike Share

The City also offers the Breeze Bike Share service, which allows residents, visitors, and employees to ride a public bicycle for their travel needs within the City. The bikeshare program makes several hundred "smart" bicycles available at more than 80 stations citywide including downtown, and in Venice in the City of Los Angeles.

Pedestrian Facilities

Pedestrian activity is high in the Downtown, and sidewalks are present on all streets throughout the Downtown. In 2016, the City converted pedestrian crossings and signals at the following Downtown intersections to “scramble” types, in which pedestrians are given an exclusive phase to cross in any direction while vehicles hold:

- Ocean Avenue & Colorado Boulevard
- 2nd Street & Wilshire Boulevard
- 2nd Street & Arizona Avenue
- 2nd Street & Santa Monica Boulevard
- 2nd Street & Broadway
- 2nd Street & Colorado Avenue
- 3rd Street & Wilshire Boulevard
- 4th Street & Wilshire Boulevard
- 4th Street & Arizona Avenue
- 4th Street & Santa Monica Boulevard
- 4th Street & Broadway
- 4th Street & Colorado Avenue

Santa Monica also recently updated many other traffic signals in the study area to include a "leading pedestrian interval" (LPI), which holds all vehicle movements (red signal) for several seconds at the start of a pedestrian phase to improve safety by giving pedestrians a head start and improve their visibility to motorists. Signals (other than those listed above) along Wilshire Boulevard, Ocean Avenue, and elsewhere have been updated with LPIs since 2017. The new LPI timings are incorporated in this analysis.

Signalized intersections throughout the study area have marked or textured crosswalks and pedestrian countdown signals. Signalized pedestrian walk signals are either automatic at the intersection or actuated by pedestrians by push-button. All intersections have accessible curb ramps.

A review of 2019 weekend peak hour pedestrian counts in the Miramar study area shows that walking activity is highest at Ocean Avenue & California Avenue. The pedestrian counts for four intersections are listed below:

1. Ocean Avenue & California Avenue: 877
2. Ocean Avenue & Wilshire Boulevard: 461
3. 2nd Street & Wilshire Boulevard: 728
4. 3rd Street & Wilshire Boulevard: 711

OTHER TRANSPORTATION CHOICES

Shared Mobility Technologies

The growth of privately-operated Transportation Network Companies (TNCs) like Lyft and Uber has also changed the way people move in and around the City. TNC's provide app-based platforms to connect passengers with drivers who use personal, non-commercial vehicles. Lyft and Uber have become the most recognized and ubiquitous forms of shared mobility. Research around the nation in recent years suggests that usage of Lyft and Uber is generating an increase in traffic[2]. Other research has suggested this result is in part because many users are making trips they would not have made previously, and in some cases replacing transit trips.

Since late 2017, the City has seen the burgeoning of dockless mobility devices, including Bird and Lime electric scooters, on City streets. These dockless mobility devices have taken off in Santa Monica and the region. Dockless systems allow scooters and bikes to be left in any location. In June 2018 the City adopted new regulations to address safety concerns associated with dockless mobility devices. Their influence is included in existing count data as bicycles, but no assumption of changes to mobility behavior are included in the analysis given the new and rapidly changing circumstances as well as lack of available data.

[2] Pangilinan, Chris. "Learning more about how our roads are used today". *Medium.com* August 5, 2019 https://medium.com/uber-under-the-hood/learning-more-about-how-our-roads-are-used-today-bde9e352e92c
https://drive.google.com/file/d/1FIUskVkj9IsAnWJQ6kLhAhNoVLjfFdx3/view

EXISTING INTERSECTION LEVELS OF SERVICE

The following section describes existing peak hour traffic volumes at the 51 study intersections, the methodology used to analyze operating conditions at the intersections, and resulting levels of service (LOS) for the selected study intersections under existing conditions. LOS measures vehicle delay at intersections and on roadways. LOS is a method for characterizing the operational conditions at an intersection generally accounting for measures such as speed, delays, travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Existing Traffic Volumes

The most recent traffic volume count data was collected in 2017 by the City of Santa Monica and Fehr & Peers. Counts were collected in the fall (when school was in session) for weekday AM and PM peak periods and in the summer for weekend midday period (additional weekend counts were collected in 2018 for 17 intersections). The highest one-hour volume in each period at each intersection was selected for use in this study, providing a conservative, worst-case analysis. The existing traffic volumes for the analyzed peak hours and the lane geometry of each intersection are shown in Appendix B1.

Level of Service (LOS) Methodology/Definition

In accordance with the City's adopted impact analysis, the "Operational Analysis" method from *Highway Capacity Manual* was employed to perform signalized intersection LOS analysis at all signalized study intersections.

The HCM 2010 operational method determines two key operating characteristics of signalized intersections. The first characteristic is the average stopped delay experienced per vehicle. The second is the volume-to-capacity (V/C) ratio at intersections. Both metrics are based on the amount of traffic traveling through the intersection, the turning movements of that traffic, the lane geometries, and other factors affecting capacity such as pedestrian volumes at the street crosswalks. These characteristics are used to evaluate the operation of each signalized intersection, which is described generally in terms of LOS.

LOS categories range from excellent, nearly free-flow traffic at LOS A to overloaded, stop-and-go conditions at LOS F. Table 1 provides LOS definitions for signalized intersections using the HCM 2010 methodology. Table 2 provides LOS definitions for unsignalized intersections using the HCM 2010 methodology. The LOS definitions and ranges of delay shown in these tables represent average conditions for all vehicles at an intersection across an entire hour. Delays longer than the average condition are experienced by motorists on certain movements and/or during peak times within the peak hour.

Of the 51 study intersections, 43 are signalized and 8 are unsignalized. Of these intersections, 33 are classified as Arterial intersections, and 18 are classified as Collector intersections.[3] The City of Santa Monica's adopted criteria has designated LOS D as the minimum desirable LOS at arterial intersections and LOS C as the minimum desirable LOS at collector street intersections. The minimum desirable LOS – the design condition – allows for some queuing and delays at intersections during peak periods. At intersections operating at an undesirable LOS, delays and queuing are greater than what is considered acceptable.

Existing Levels of Service

The results of the analysis of existing weekday AM and PM and weekend midday peak hour conditions at the study intersections using the HCM 2010 methodology are summarized in Table 3. As shown, eight of the 51 study intersections currently operate at poor conditions during at least one of the analyzed peak hours under the existing conditions scenario:

1. Palisades Beach Road & California Incline (LOS E during the AM and weekend peak hours)
3. Ocean Avenue & California Avenue (LOS F during the PM and weekend peak hours)
14. 2nd Street & Wilshire Boulevard (LOS E during the PM peak hour, LOS F during the weekend peak hour)
16. 2nd Street & Santa Monica Boulevard (LOS F during the PM peak hour, LOS E during the weekend peak hour)
19. Main Street & Olympic Drive (LOS F during the AM peak hour, LOS E during the weekend peak hour)
47. Lincoln Boulevard & Colorado Avenue (LOS E during the AM peak hour)
48. Lincoln Boulevard & I-10 WB Off-Ramp (LOS F during the AM peak hour)
51. Pacific Coast Highway & Channel/Chautauqua (LOS F during the AM peak hour, LOS E during the PM and weekend peak hours)

[3] Functional street classifications used with respect to LOS are based on the City's previous Circulation Element. The 2010 LUCE has adopted a different typology for streets in the City, but the significance criteria have not yet been revised.

TABLE 1
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS
HCM 2010 METHODOLOGY

Level of Service	Average Stopped Delay per Vehicle (seconds)	Definition
A	≤10	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>10 and ≤20	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	>20 and ≤35	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>35 and ≤55	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>55 and ≤80	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>80	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: *Highway Capacity Manual,* Transportation Research Board, 2010.

TABLE 2 LEVEL OF SERVICE DEFINITIONS FOR STOP-CONTROLLED INTERSECTIONS HCM 2010 METHODOLOGY	
Level of Service	**Average Control Delay (seconds/vehicle)**
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0

Source: *Highway Capacity Manual,* Transportation Research Board, 2010.

TABLE 3
SUMMARY INTERSECTION LEVEL OF SERVICE
CITY OF SANTA MONICA - HCM 2010 METHODOLOGY

NO.	INTERSECTION	CLASS	PEAK HOUR	EXISTING (2017)		
				V/C	DELAY*	LOS
1	PALISADES BEACH ROAD &	A	AM	1.347	77	E
	CALIFORNIA AVENUE	A	PM	0.890	37	D
		A	WKND	1.121	79	E
2	OCEAN AVENUE &	C	AM	0.365	8	A
	MONTANA AVENUE	C	PM	0.350	10	A
		C	WKND	0.367	10	A
3	OCEAN AVENUE &	A	AM	0.798	54	D
	CALIFORNIA AVENUE	A	PM	1.031	**	F
		A	WKND	1.109	**	F
4	OCEAN AVENUE &	A	AM	0.291	12	B
	WILSHIRE BOULEVARD	A	PM	0.383	22	C
		A	WKND	0.387	27	C
5	OCEAN AVENUE &	A	AM	0.253	7	A
	ARIZONA AVENUE	A	PM	0.360	13	B
		A	WKND	0.345	13	B
6	OCEAN AVENUE &	A	AM	0.295	9	A
	SANTA MONICA BOULEVARD	A	PM	0.435	30	C
		A	WKND	0.470	41	D
7	OCEAN AVENUE &	A	AM	0.345	7	A
	BROADWAY	A	PM	0.539	34	C
		A	WKND	0.559	39	D
8	OCEAN AVENUE &	A	AM	0.357	24	C
	COLORADO AVENUE	A	PM	0.491	42	D
		A	WKND	0.439	33	C
9	OCEAN AVENUE &	A	AM	0.436	25	C
	MOOMAT AHIKO WAY	A	PM	0.520	24	C
		A	WKND	0.447	25	C
10	OCEAN AVENUE &	A	AM	0.400	11	B
	OLYMPIC DRIVE	A	PM	0.543	14	B
		A	WKND	0.523	33	C
11	OCEAN AVENUE &	A	AM	0.489	20	B
	PICO BOULEVARD	A	PM	0.572	39	D
		A	WKND	0.480	30	C
12	SECOND STREET &	C	AM	0.189	9	A
	WASHINGTON AVENUE	C	PM	0.210	9	A
		C	WKND	0.200	9	A
13	SECOND STREET &	C	AM	0.364	10	A
	CALIFORNIA AVENUE	C	PM	0.430	12	B
		C	WKND	0.468	12	B
14	SECOND STREET &	A	AM	0.328	30	C
	WILSHIRE BOULEVARD	A	PM	0.379	64	E
		A	WKND	0.617	**	F
15	SECOND STREET &	C	AM	0.308	29	C
	ARIZONA AVENUE	C	PM	0.387	29	C
		C	WKND	0.344	29	C
16	SECOND STREET &	A	AM	0.360	29	C
	SANTA MONICA BOULEVARD	A	PM	1.007	80	F
		A	WKND	0.789	60	E
17	SECOND STREET &	C	AM	0.341	28	C
	BROADWAY	C	PM	0.270	27	C
		C	WKND	0.328	29	C
18	SECOND STREET &	A	AM	0.283	35	C
	COLORADO AVENUE	A	PM	0.307	35	C
		A	WKND	0.362	36	D
19	MAIN STREET &	C	AM	0.679	94	F
	OLYMPIC DRIVE	C	PM	0.362	22	C
		C	WKND	0.588	71	E
20	THIRD STREET &	C	AM	0.377	10	B
	CALIFORNIA AVENUE	C	PM	0.328	10	A
		C	WKND	0.403	11	B
21	THIRD STREET &	A	AM	0.159	13	B
	WILSHIRE BOULEVARD	A	PM	0.234	19	B
		A	WKND	0.284	15	B
22	FOURTH STREET &	C	AM	0.274	7	A
	MONTANA AVENUE	C	PM	0.304	8	A
		C	WKND	0.283	8	A
23	FOURTH STREET &	C	AM	0.403	11	B
	WASHINGTON AVENUE	C	PM	0.416	11	B
		C	WKND	0.286	10	A
24	FOURTH STREET &	C	AM	0.332	7	A
	CALIFORNIA AVENUE	C	PM	0.325	8	A
		C	WKND	0.305	8	A
25	FOURTH STREET &	A	AM	0.280	27	C
	WILSHIRE BOULEVARD	A	PM	0.285	28	C
		A	WKND	0.317	28	C

26	FOURTH STREET &	A	AM	0.295	26	C
	ARIZONA AVENUE	A	PM	0.343	29	C
		A	WKND	0.352	29	C
27	FOURTH STREET &	A	AM	0.285	23	C
	SANTA MONICA BOULEVARD	A	PM	0.266	28	C
		A	WKND	0.296	29	C
28	FOURTH STREET &	A	AM	0.377	34	C
	BROADWAY	A	PM	0.472	39	D
		A	WKND	0.462	40	D
29	FOURTH STREET &	A	AM	0.281	15	B
	COLORADO AVENUE	A	PM	0.400	21	C
		A	WKND	0.392	21	C
30	FOURTH STREET &	A	AM	0.681	37	D
	I-10 WB OFF-RAMP	A	PM	0.557	29	C
		A	WKND	0.440	26	C
31	FOURTH STREET &	A	AM	0.552	39	D
	I-10 EB ON-RAMP	A	PM	0.542	24	C
		A	WKND	0.514	43	D
32	FIFTH STREET &	C	AM	0.326	10	A
	CALIFORNIA AVENUE	C	PM	0.448	12	B
		C	WKND	0.382	11	B
33	FIFTH STREET &	A	AM	0.275	16	B
	WILSHIRE BOULEVARD	A	PM	0.384	17	B
		A	WKND	0.379	15	B
34	FIFTH STREET &	C	AM	0.262	20	B
	ARIZONA AVENUE	C	PM	0.291	21	C
		C	WKND	0.446	24	C
35	FIFTH STREET &	A	AM	0.271	24	C
	SANTA MONICA BOULEVARD	A	PM	0.356	22	C
		A	WKND	0.348	23	C
36	FIFTH STREET &	C	AM	0.330	24	C
	BROADWAY	C	PM	0.359	22	C
		C	WKND	0.379	21	C
37	FIFTH STREET &	A	AM	0.297	21	C
	COLORADO AVENUE	A	PM	0.387	22	C
		A	WKND	0.378	23	C
38	SIXTH STREET &	C	AM	0.318	10	A
	CALIFORNIA AVENUE	C	PM	0.392	11	B
		C	WKND	0.390	10	B
39	SEVENTH STREET &	C	AM	0.750	32	C
	MONTANA AVENUE	C	PM	0.690	22	C
		C	WKND	0.761	30	C
40	SEVENTH STREET &	C	AM	0.477	13	B
	CALIFORNIA AVENUE	C	PM	0.564	14	B
		C	WKND	0.460	14	B
41	LINCOLN BOULEVARD &	C	AM	0.433	11	B
	MONTANA AVENUE	C	PM	0.493	9	A
		C	WKND	0.468	9	A
42	LINCOLN BOULEVARD &	C	AM	0.786	28	D
	CALIFORNIA AVENUE	C	PM	0.827	22	C
		C	WKND	0.863	24	C
43	LINCOLN BOULEVARD &	A	AM	0.436	22	C
	WILSHIRE BOULEVARD	A	PM	0.435	22	C
		A	WKND	0.487	22	C
44	LINCOLN BOULEVARD &	A	AM	0.882	47	D
	ARIZONA AVENUE	A	PM	0.700	30	C
		A	WKND	0.635	28	C
45	LINCOLN BOULEVARD &	A	AM	0.474	24	C
	SANTA MONICA BOULEVARD	A	PM	0.555	26	C
		A	WKND	0.576	29	C
46	LINCOLN BOULEVARD &	A	AM	0.533	28	C
	BROADWAY	A	PM	0.574	29	C
		A	WKND	0.622	32	C
47	LINCOLN BOULEVARD &	A	AM	0.499	64	E
	COLORADO AVENUE	A	PM	0.483	49	D
		A	WKND	0.584	44	D
48	LINCOLN BOULEVARD &	A	AM	0.941	88	F
	I-10 WB OFF-RAMP	A	PM	0.682	39	D
		A	WKND	0.821	52	D
49	LINCOLN BOULEVARD &	A	AM	0.797	35	D
	I-10 EB ON-RAMP	A	PM	0.540	30	C
		A	WKND	0.750	36	D
50	PACIFIC COAST HIGHWAY &	A	AM	0.835	19	B
	ENTRADA DRIVE	A	PM	0.700	6	A
		A	WKND	0.610	6	A
51	PACIFIC COAST HIGHWAY &	A	AM	1.015	99	F
	CHAUTAUQUA/CHANNEL	A	PM	0.893	58	E
		A	WKND	0.942	77	E

* Average stopped delay per vehicle, in seconds.

** Indicates oversaturated conditions. Delay cannot be calculated.

Arterial intersection

Collector intersection

3. TRAFFIC FORECASTS

TRAFFIC PROJECTIONS

Travel Demand Forecasting Model (TDFM) Projections

The Santa Monica LUCE (adopted in July 2010) provides a framework for integrating land use and transportation to reduce vehicle trips; encourage walking, bicycling and transit use; and create active, pedestrian-oriented neighborhoods. The LUCE establishes the goal of achieving no net new PM peak period vehicle trips generated within Santa Monica. There are three ways that trip generation rates are reduced in response to future conditions: the D's (i.e., density, diversity, destination, etc.),[4] the Expo LRT, and LUCE TDM strategies.

As part of the City's LUCE update, the City developed its first comprehensive, citywide TDFM. The TDFM was calibrated to a base year of 2013, based on 2013 land use data and 2013 traffic counts. The City of Santa Monica's land use data is supplemented by Southern California Association of Governments (SCAG) traffic analysis zone (TAZ)-based data for areas in the City of Los Angeles bordering the City of Santa Monica. The TDFM forecasts future conditions for the City's transportation network in the form of traffic volumes for daily, as well as AM, PM, and weekend midday peak hours. The model contains the major roadways in the City and considers the trip reduction effects of walking, bicycling, and transit, including the Expo Light Rail Transit (Expo) line. The model also includes all identified development projects and street network changes. Additional details are provided in Appendix C.

The TDFM contains a number of enhancements that allow it to capture the effects of land use and circulation element policy initiatives on traffic congestion. These enhancements include the effects of sustainable development patterns (e.g., mixed-use and transit-oriented development), urban streetscape design factors, alternative transportation networks, parking pricing and management, and TDM programs.

The TDFM outputs forecasted traffic volume estimates for intersections in the study area. These forecast volumes are loaded into the City of Santa Monica's VISTRO database for intersection level of service analysis. VISTRO is a software tool that evaluates intersection delay based on traffic turning volumes at intersections.

[4]The D's are a simple means of quantifying the transportation benefits of smart growth. They predict reductions in per-capita vehicle trips and miles in response to increases in development density, diversity, design and destination and other patterns within a region.

Approval Year and Future Year Traffic Conditions

To evaluate the potential impacts of the proposed project on intersections for the surrounding street system, it was necessary to develop estimates of Approval Year (2020) and Future (2025) traffic forecasts in the area both without and with project traffic:

- To develop the Approval Year (2020) scenario without the project, the land use file in the TDFM was updated to include the development projects with the model area that were completed or anticipated to be completed between the time of the model base year (2013) and Approval Year (2020). The model forecast informs the travel pattern changes, which are then applied to the Existing Year 2017 counts to develop the Approval Year (2020) No Project forecast. These projected traffic volumes, referred to as Approval Year No Project projections, represent the conditions expected during the project's Approval Year and provide the baseline for the Approval Year Plus Project traffic impact analysis. Appendix D1 lists the development projects included in the Approval Year land use forecasts.

- To develop the Future Year (2025) Scenario without the project, the land use file in the TDFM was updated to include the list of approved and pending (proposed) projects. These projects are conservatively assumed to all be completed between 2013 and Future Year (2025). Similar to the 2020 forecasts, land use and through trips outside the city were linearly interpolated. These projected traffic volumes, referred to as Future No Project projections, represent the conditions expected during year 2025 and provide the baseline for the Future Plus Project traffic impact analysis. Appendix D2 lists the development projects included in the Future Year land use forecasts.

- The traffic generated by the proposed project was estimated and assigned to the surrounding street system. The Santa Monica TDFM was run to provide information on trip distribution patterns for retail and residential land uses in this part of the city and that information was used as a guide to assign project trips to the roadway network. The project traffic was added to the Approval Year No Project scenario and Future No Project projections to form the Approval Year plus Project and Future Year plus Project traffic projection scenarios respectively.

Once these traffic projections were developed, analyses were conducted to determine the effect of the proposed project. The difference between no project and plus project scenarios represents the incremental changes in traffic attributable to the project itself.

TRIP GENERATION ESTIMATES

Santa Monica Trip Generation Rates

Santa Monica is generally characterized by compact urban development, high levels of public transit service, walkable and bike-friendly streets, and employer-sponsored Travel Demand Management (TDM) programs. The unique local characteristics of Santa Monica (such as compact density, availability of transit, diversity of land uses) require the development of specific trip generation rates to estimate trips associated with land uses in Santa Monica. These Santa Monica-specific trip rates are more appropriate for estimating trip generation rather than standard ITE rates which are more reflective of suburban locations.

Local trip generation rates were developed and calibrated for existing conditions as part of the Santa Monica TDFM development for a variety of land use types, including residential, retail, and restaurant. As part of the model development, these "existing" trip generation rates were initially based on residential trip generation surveys, the SCAG regional model, the San Diego Association of Governments' (SANDAG) trip generation survey, models in similar areas, and *Trip Generation, 8th Edition* (ITE, 2010). The rates were then modified to account for local conditions based on counts, production-to-attraction balancing, and the difference between ITE and model land use definitions.

The existing Santa Monica trip generation rates are unique to the Santa Monica model, and they are ultimately based on the results of model calibration and validation. Two sets of rates were developed reflecting the different levels of trip reduction effectiveness for different areas of the City. The first includes areas of the City in Downtown Santa Monica and the Special Office District, which are determined to have lower trip generation rates through calibration and validation of the Santa Monica TDFM (reflecting characteristics such as higher built environment density, numerous transit lines, and a greater share of pedestrian trips). The second rate includes the remainder of the City.

As part of the development of the TDFM, existing calibrated Santa Monica trip generation rates were modified to reflect the effectiveness of the TDM/trip reduction strategies required by the City (and consistent with what was envisioned in the LUCE). Since the City of Santa Monica trip generation rates assume a robust TDM program, the project applicant will be required to prepare and implement a TDM plan that achieves the targeted levels of trip reductions as set forth in the development agreement.

Existing Trip Generation Rates

Although the City's TDFM include a variety of trip generation rates for various uses, the model does not include trip generation rates for hotel uses. The existing hotel includes a 301-room hotel, with 13.599 ksf of restaurant space, 1.235 ksf of retail, and 5.569 ksf spa and fitness. To estimate trip generation that accurately reflect the site's unique uses and characteristics, the trip generation rates for the hotel and related non-residential uses were empirically derived from surveys provided by the applicant. A consulting firm hired by the applicant conducted intercept surveys on a typical weekday and weekend at on-site entrance and departure locations around the existing hotel site to obtain method of arrival and trip purpose data. The

data was then converted to vehicle trips from which the trip generation rates for all analysis periods were then derived. The data was taken during periods of higher than average occupancy at the hotel (96-97% occupancy). Therefore, they are more conservative than conditions during normal occupancy. The applicant's trip generation study memorandum is included in Appendix E.

Non-employee and employee survey respondents who stated that they were arriving or leaving by: (a) valet parking at the hotel; (b) driving and parking at off-site locations; (c) using a TNC; or (d) using a third-party private car were counted as vehicular trips. Loading dock staff also counted each truck arrival and departure from the loading dock as a vehicular trip. Non-vehicular travel, such as by bike, scooter or walking (except to an off-site vehicle) was also documented. The surveys also identified the purpose of the trip resulting in distinct trip generation rates for guests of the hotel, restaurant, spa/fitness, and retail.

Employee trips were also calculated using separate rates. The employee peak hour trip generation and inbound/outbound splits are substantially different from other uses. The trip generation detail shows that the majority of employees arrive outside of the peak traffic hour of analysis.

The empirical employee trip generation is an important separate element for this project because the existing hotel provides no on-site parking for employees, meaning that these trips currently arrive and depart from the surrounding neighborhood on-street parking, rather than the project site itself. The existing Miramar Hotel provides effectively no employee parking on-site. Almost all hotel employees generally park at metered parking along Ocean Avenue, California Avenue and 2nd Street, at unmetered parking along the east side of Ocean Avenue, and potentially at unmetered parking in the surrounding neighborhood. The majority of residential streets in the project study are located in preferential parking zones, such that parking is restricted to residential permit holders between 6:00PM and 8:00 AM.

Hotel, restaurant, and spa guests currently using Fairmont Miramar facilities generally enter the site from a driveway on Wilshire Boulevard. Valet service is available on-site, with vehicles either being moved to parking within the loop driveway, and on a surface lot at the corner of Wilshire Boulevard & Ocean Avenue. Additional valet vehicle storage is available in a lot along 2nd Street between Wilshire Boulevard and California Avenue. Finally, the project site has access to an overflow valet lot on the south side of Wilshire Boulevard on evenings and weekends.

Existing guest traffic was assigned to enter the site via the Wilshire Boulevard driveway. Approximately two-thirds of users were assumed to be parked in the main parking lot. The additional one-third of vehicles were assigned to the 2nd Street valet parking lot. Most valet trips to the 2nd Street lot were assumed to travel clockwise around the block via Wilshire Boulevard, Ocean Avenue, California Avenue and 2nd Street. A portion of the valet trips were also assumed to travel there by making a left turn out of the Wilshire driveway, a left turn at the intersection of 2nd Street & Wilshire Boulevard, and a right turn into the lot. Valets returning cars to the main entrance were assumed to travel on 2nd Street and Wilshire Boulevard, and from there drivers would then exit the driveway to their ultimate destinations. In accounting for the off-site valet, most of the additional traffic was ultimately added to 2nd Street & Wilshire Boulevard. With the addition of more on-site parking under the proposed project, these linked trips were removed from the network.

TABLE 4
MIRAMAR HOTEL PROJECT
APPROVAL YEAR (2020) AND FUTURE YEAR (2025) TRIP GENERATION ESTIMATES

Land Use	Size	Weekday	AM Peak Hour			PM Peak Hour			Weekend	Weekend Peak Hour			Trip Rate	Weekday	AM Peak Hour Trips			PM Peak Hour Trips			Weekend	Weekend Peak Hour Trips		
		Daily Rate	Rate	% In	% Out	Rate	% In	% Out	Daily Rate	Rate	% In	% Out	Unit	Daily Trips	In	Out	Total	In	Out	Total	Daily Trips	In	Out	Total
PROPOSED PROJECT																								
Hotel [a]	312 rooms	2.22	0.42	49%	51%	0.11	52%	48%	4.07	0.17	58%	42%	per room	693	64	68	132	18	16	34	1,271	31	22	53
Hotel Employee Trips [a]	387 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	303	29	2	31	27	24	51	677	39	38	77
Hotel Restaurant [a]	12.703 ksf	27.15	3.15	51%	49%	1.57	67%	33%	46.86	2.36	59%	41%	per ksf	345	20	20	40	13	7	20	595	18	12	30
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Retail [b]	6.600 ksf	29.59	1.33	61%	39%	2.01	49%	51%	29.59	2.64	52%	48%	per ksf	195	5	4	9	6	7	13	195	9	8	17
Spa & Fitness [a]	12.500 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	182	3	4	7	6	5	11	222	4	5	9
Condominiums [c] [d]	60 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	328	4	18	22	16	7	23	328	12	10	22
Affordable Housing - 1 bedroom [c]	17 DU	3.20	0.21	19%	81%	0.23	68%	32%	3.20	0.22	56%	44%	per du	54	1	3	4	3	1	4	54	2	2	4
Affordable Housing 2-3 bedrooms [c]	31 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	170	2	9	11	8	4	12	170	6	5	11
Total														**2,970**	**128**	**128**	**256**	**132**	**92**	**224**	**4,922**	**276**	**140**	**416**
EXISTING TO BE REMOVED																								
Hotel [a]	301 rooms	2.22	0.42	62%	38%	0.11	53%	47%	4.07	0.17	56%	44%	per room	669	79	48	127	17	16	33	1,226	29	22	51
Hotel Employee Trips [a]	282 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	221	21	2	23	19	18	37	493	28	28	56
Hotel Restaurant [a]	6.594 ksf	27.15	2.73	51%	49%	1.52	67%	33%	46.86	2.12	59%	41%	per ksf	179	9	9	18	7	3	10	309	8	6	14
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Hotel Retail [a]	1.235 ksf	2.43	0.00	61%	39%	1.23	49%	51%	14.57	1.62	52%	48%	per ksf	3	0	0	0	1	1	2	18	1	1	2
Spa & Fitness [a]	5.569 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	81	1	2	3	3	2	5	99	2	2	4
														(1,853)	**(110)**	**(61)**	**(171)**	**(82)**	**(61)**	**(143)**	**(3,555)**	**(223)**	**(97)**	**(320)**
NET NEW TRIPS														**1,117**	**18**	**67**	**85**	**50**	**31**	**81**	**1,367**	**53**	**43**	**96**

Notes:

[a] Rates derived empirically to reflect site-specific conditions, as documented in LLG Memo: "Addendum Trip Generation Report" (July 29, 2019)

[b] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #820 Shopping Center, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[c] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #220 Multifamily Housing, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[d] Based on market conditions and to provide future operational flexibility, the Project proposes to allow owners of condominiums the ability to periodically make their units available for use as hotel guest rooms. A maximum of 10 of the condominium units would be utilized as hotel guest rooms at any one time. These 10 units were analyzed as condominiums for the purpose of this study, which is conservative because residential trip generation rates are similar or higher than hotel trip generation rates.

Project Trip Generation

The project includes 60 new residential condominium units, 312 hotel guest rooms, 6,600 square feet of retail space, 12,500 square feet of spa and fitness space, and 19,708 square feet of restaurant space. Based on market conditions and to provide future operational flexibility, the Project proposes to allow owners of condominiums the ability to periodically make their units available for use as hotel guest rooms. A maximum of 10 of the condominium units would be utilized as hotel guest rooms at any one time. These 10 units were analyzed as condominiums for the purpose of this study, which is conservative because residential trip generation rates are similar or higher than hotel trip generation rates. Because the proposed project would redevelop the site with similar hotel, restaurant, lounge and spa-fitness uses, using the empirically-derived trip generation rates for these uses from the existing site is the most accurate means of estimating the future trip generation for the various hotel land uses.

Trip generation rates for the new residential and renovated retail uses are based on Table 14 of the *Santa Monica Travel Demand Forecasting Model Trip Generation Rates*. The inbound-outbound split of trips in each peak period is applied based on *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). The inbound/outbound splits for residential land use are from #220 Multi-Family Housing and the retail use are from #820 Shopping Center. The mix of residential unit sizes assumed is based on information provided by the project applicant.

As shown in Table 4, the proposed project is expected to generate approximately 256 weekday AM peak hour trips, 224 weekday PM peak hour trips and 416 weekend midday peak hour trips. Taking into account the removal of the existing uses, the proposed project is expected to generate a net increase of approximately 85 trips in the weekday AM peak hour, 81 trips in the weekday PM peak hour and 96 trips in the weekend midday peak hour.

Project Traffic Distribution and Trip Assignment

The trip distribution pattern was informed by a select zone analysis of the project site using the City's TDFM. Following consultation with City of Santa Monica staff, it was determined to be appropriate for distributing new trips generated by the proposed project. Figure 4 shows the trip distribution pattern.

The information described above was used to assign the project-generated traffic to the study intersections, as shown in Appendix B.

<u>Project Site Access</u>

The proposed project's Hotel Parcel will have three entrances to a subterranean parking structure. Employees will enter the project site eastbound on California Avenue via a right-in/right-out driveway. The driveway will be located such that only eastbound vehicles can access the driveway and exiting vehicles must turn right onto California Avenue heading eastbound.

Condominium residents will access the proposed project site using a driveway on Ocean Avenue. Residents will also be able to use the valet service by entering the site at the 2nd Street entrance. All other visitors to the Hotel Parcel arriving by motor vehicle will access the site on 2nd Street. The Second Street Parcel vehicular access will be via the 2nd Court alleyway, a two-way north-south located east of 2nd Street.

TRANSPORTATION DEMAND MANAGEMENT PROGRAM REQUIREMENTS

As required by the City's TDM Ordinance, a TDM plan would be required as a condition of approval for the proposed project, and the applicant would be required to conduct yearly monitoring and reporting. The specific TDM strategies to be implemented by the developer would be finalized as part of the Development Agreement process; however, based on the City's TDM ordinance and Downtown Community Plan, the following TDM strategies would be implemented at minimum:

TDM Coordinator – A single transportation coordinator would design, manage and update the project's TDM program. Duties would include:

- Setting up a Transportation Management Association (TMA) on site to administer TDM programs
- Maintaining a Transportation Information Center (TIC)
- Facilitating ride-matching online and through data collection and info boards
- Publishing alerts, resolving emergency issues, evaluating programs, and recommending improvements
- Acting as mechanism to distribute commuter incentives
- Producing promotional and survey materials
- Evaluating TDM program effectiveness
- Advocating for improved transit service
- Developing parking management plans
- Facilitating financial support for formation of vanpools and carpools
- Providing discounted transit fares or passes
- Developing bike-to-work and walk-to-work promotions
- Coordinating emergency rides home
- Managing preferential parking for high occupancy vehicles (HOVs)

This is a common position for programs that serve a large number of employees and/or residents. The position would require, at a minimum, a part-time coordinator.

Areawide Transportation Management Association – Developer shall be required to participate in the establishment of a geographic-based Transportation Demand Management Association (TMA) that may be defined by the City. TMAs provide employees, businesses and visitors of an area with resources to increase the amount of trips taken by transit, walking, bicycling, and ridesharing. If the City adopts a requirement that a TMA be formed for this geographic area, the Developer shall attend organizational meetings and provide traffic demand data to the TMA. This element would

also require the project to provide the TMA with data related to traffic demand, which could help the City to better understand travel behavior at the site.

Transit Pass Subsidy – A transit pass subsidy has the potential to be an effective TDM strategy for the project's employees. Santa Monica's Big Blue Bus and Metro provide frequent local bus and regional rail transit service near the project site. For project employees, the most efficient way to incentivize the use of transit is to subsidize monthly transit passes. To do this, employers participate in an employer pass program and subsidize a portion of the cost of a monthly transit pass.

Ridesharing (Carpool and Vanpools) – Ridesharing is typically a primary focus of employee TDM strategies. By providing preferential parking for carpools, the TDM program should actively encourage carpooling among employees at the site. Most importantly, the TDM program should implement a ridesharing matching service that coordinates potential carpool opportunities. Metro's CommuteSmart.info website can easily facilitate this service. Offering incentives to carpools is another means of increasing carpool participation.

Parking Pricing – Pricing parking would help to decrease trips. Since free parking acts as a subsidy for trip making by car, allowing parking to be priced according to market rates would encourage the replacement of auto trips by transit, bicycle, and pedestrian trips when possible.

Parking cash out is another price-based tool for making walking, bicycling, and transit more attractive travel options compared to driving. In a parking cash out program, employers offer commuters who forgo their parking spaces the monthly value of those parking spaces. Although the proposed project may not be mandated to comply with existing parking cash out legislation, the proposed project could still choose to implement a parking cash out program as part of the TDM plan.

Unbundled Parking – Unbundled parking would mean that parking spaces in the new building would be leased separately from residential units and commercial space, and allow residents of nearby buildings to lease these spaces at comparable rates as nearby building tenants.

Guaranteed Ride Home (GRH) – GRH is a commute trip reduction service that provides emergency rides to participating employees who do not have a private automobile available at the office for use. This may alleviate some of the worries employees may have when considering not having their own automobile available for use at the office.

Bicycle Facilities – Commuter bicycle facilities such as secure bicycle parking (short-term and long-term bike racks and lockers), and shower and personal locker facilities help reduce peak period and daily automobile trips to and from project sites. In light of providing bicycle facilities as a TDM strategy, the proposed project would be subject to the most current zoning code for bike parking requirements which includes short term for visitors, on site bike share for employees, and secure bike parking for employees.

Carshare Service – Make a car sharing service available within the project, if such a service is commercially available from a third party provider on commercially reasonable and feasible terms.

Bicycle Sharing Area – Provide a reasonable amount of publicly-accessible space for a bicycle sharing program station in conjunction with any bicycle sharing program instituted by the City or other operator.

Transportation Information Center and TDM Web Site Information – A TIC is a centrally-located commuter information center where project employees could obtain information regarding commute programs and obtain real-time information for planning travel without using an automobile. A TIC typically provides information about transit schedules, commute planning, ridesharing, telecommuting, bicycle and pedestrian routes and facilities, on-site services, and local-serving businesses.

Wayfinding Signage – Wayfinding signage is visible, useful signage strategically placed in and around a project site that conveniently directs pedestrians to project elements and major external destinations (transit stations, theaters, libraries, etc.) and provides information for transportation options (taxi, transit maps, bike sharing, etc.). Typically, pedestrian-oriented signage is posted at major entrance/exit points to the project and at key internal locations.

Commuter Club – This is a workplace organization that provides incentives for employees to choose alternative modes of transportation to-and-from work. In order to become a member, employees agree to use alternative modes of travel (including walk, bike, transit, carpool or vanpool) to travel to work for a minimum number of days per week (e.g., three days per week). As a member, employees are entitled to various discounts at local businesses, special offers and monthly raffle prizes. These benefits must be determined and negotiated by the project applicant.

The Transit Cooperative Research Program (TCRP) Chapter 19 reports that TDM programs are most effective when people have alternatives to auto travel, such as public transit. There may be some variability between land uses on the proposed project site, but the success of the TDM program will depend on how well it supports those who want to make trips by a means other than driving alone. The proposed project's TDM strategies will be most effective at reducing peak hour trips when worker shifts begin or end during peak hours. Converting these auto trips into transit, bicycle, or pedestrian trips would directly remove cars from the street during the AM and PM rush hours. In this way, the TDM program can reduce trips for all employees on the site—from restaurant workers to retail salespeople to fitness center staff.

Monitoring, Reporting and Enforcement

In compliance with the LUCE, the applicant would be required to implement TDM measures so as to not exceed the trip generation estimates calculated for the Approval Year (2020) and Future Year (2025) as provided in Table 4. In order to ensure that the trip generation estimated in this traffic study would not be exceeded, a period of annual monitoring and reporting would be required as a condition of approval for the project and would be incorporated into the Development Agreement. The applicant would be required to summarize the results of the trip monitoring program, determine whether trip reduction goals and/or Average Vehicle Ridership (AVR) targets are being achieved, and describe the TDM efforts in place to reduce vehicular trip making in an annual report delivered to the City.

The City, at its discretion, would determine the type of enforcement and may require implementation of additional TDM strategies and possible monetary (or other) penalties if annual monitoring determined that the trip generation estimates are being exceeded and/or AVR targets were not being met.

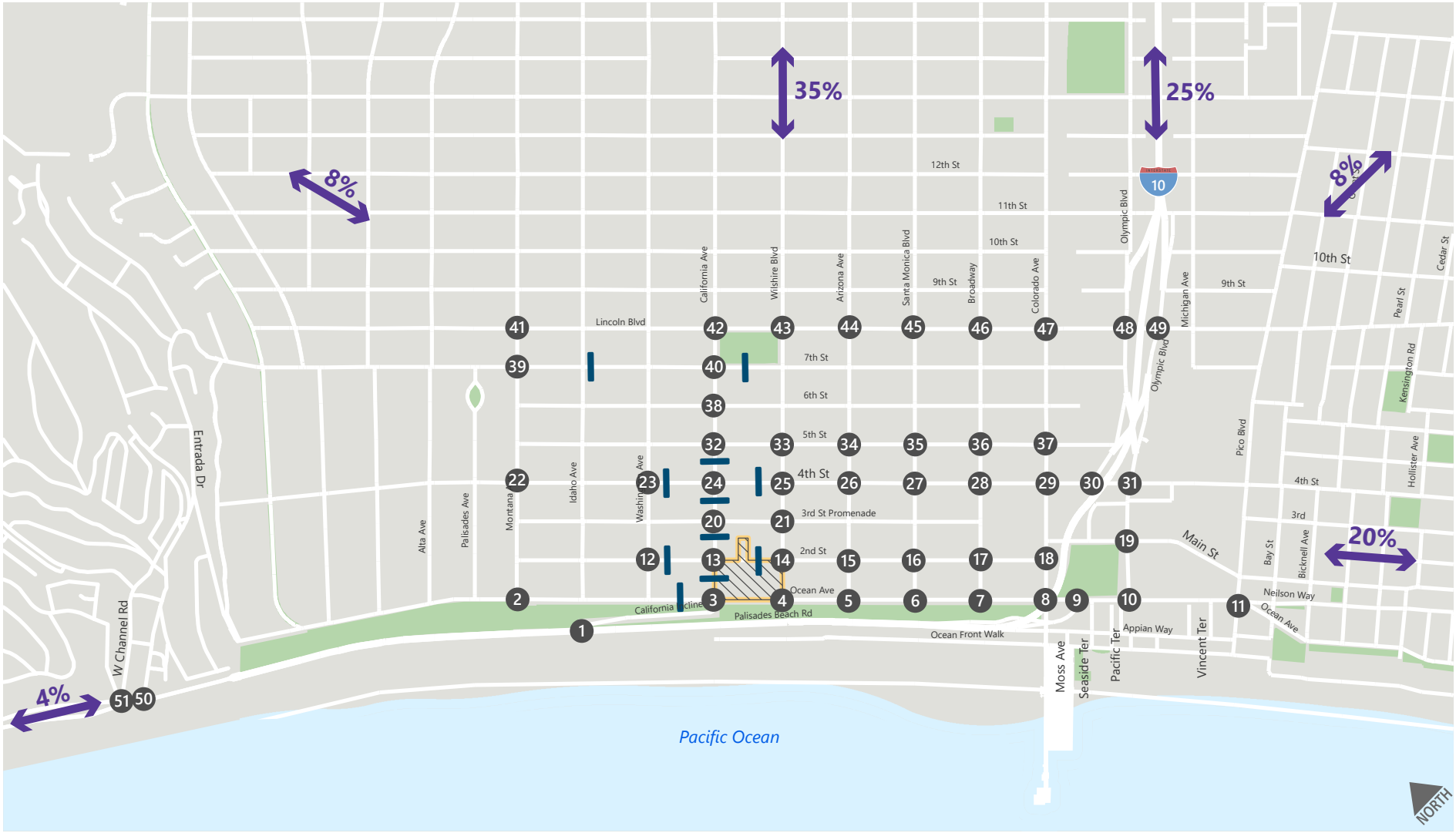


Figure 4

Miramar Hotel Project - Trip Distribution

FUTURE IMPROVEMENTS ASSUMPTIONS

As part of the adopted Downtown Community Plan, the City envisioned that Wilshire Boulevard would be transformed into a more pedestrian-friendly street. The DCP identified the Wilshire Boulevard streetscape project, which would create widened pedestrian space along this street between Ocean Avenue and 4th Street through a reduction in vehicle lane space. This Wilshire Boulevard improvement is still in the conceptual stages, and planning for this improvement has not yet begun. As part of this conceptual improvement, the sidewalk on the south side of Wilshire Boulevard in this segment would be widened to improve the pedestrian environment between the 3rd Street Promenade and Palisades Park on Ocean Avenue.

Consistent with the Downtown Community Plan, the future traffic forecasts assumes that there would be a lane reduction on Wilshire Boulevard from two eastbound through lanes between Ocean Avenue and 4th Street to a single eastbound through or shared through-right lane.

Other Improvements

Signal timings at intersections are optimized under Future Baseline (2025) conditions to balance shifting demand patterns where applicable. Other possible roadway improvements would include the replacement of the Pier Bridge connecting Colorado Avenue with the Santa Monica Pier; however, this pending project has not been finalized, and so no change to the circulation of the Pier area has been assumed.

Bike Improvement Projects

The *City of Santa Monica Bicycle Action Plan* (City of Santa Monica, October 2011) includes recommended bicycle projects for 5-year implementation and 20-year vision plans. As of 2018, the majority of the 5-year implementation projects have been completed, including those nearest the project site. The Downtown Community Plan also identified further potential bike infrastructure improvements. The following projects, including the following projects in the vicinity of the project study area, are planned in the 20-year vision:

<u>Ocean Avenue Cycle Track</u>

- As called for in the Downtown Community Plan, the City is currently exploring the potential of installing a cycle track on the west side of Ocean Avenue.

Santa Monica Pier Improvements

- Short-term shared lane markings on the future Pier Bridge replacement from Ocean Avenue to Santa Monica Pier, which is anticipated within the next several years; Additionally, the City is exploring a connection from the Pier to the Beach Bike Trail.

Santa Monica Boulevard Bikeway

- Shared lane markings (identified in the *Bicycle Action Plan* as a green "super-sharrow) from Ocean Avenue to 6th Street/7th Street.

APPROVAL YEAR (2020) TRAFFIC FORECASTS

For the Approval Year (2020) analysis, weekday AM peak hour, weekday PM peak hour and weekend midday peak hour traffic conditions were developed to provide the baseline against which direct project impacts were evaluated. The land use file in the City's TDFM was modified to reflect anticipated near-term development projects that would be implemented through 2020. The TDFM provides a prediction of traffic pattern changes between the model base year (2013) and the approval year (2020). These changes are applied to the 2017 traffic counts to develop a final Approval Year (2020) No Project traffic forecast. Approval Year (2020) No Project traffic volumes, lane geometry at each intersection and LOS at each intersection are shown in Appendix B for the analyzed peak hours.

As described above, the traffic projections for the proposed project were developed using the following three steps: estimate the trip generation of the project, determine trip distribution, and assign the project traffic to the roadway system.

Project-generated traffic that would occur under each access option were assigned to the street system and added to the Approval Year (Year 2020) No Project traffic forecasts. The resulting traffic volumes represent the projected Approval Year (Year 2020) plus Project peak hour traffic volumes. The Approval Year (Year 2020) plus Project peak hour traffic volumes are shown in Appendix B. The Approval Year (Year 2020) plus Project scenario includes the projected new traffic from the development of the proposed project as well as the removal of existing traffic (shown in Appendix B) and are the basis of the analysis of the 2020 scenario's traffic-related impacts described in the following chapter.

FUTURE YEAR (2025) TRAFFIC FORECASTS

The City's TDFM produces cumulative traffic forecasts for the City of Santa Monica and surrounding areas of the City of Los Angeles for the Future Year 2025 and 2030. For consistency with the LUCE, the TDFM was used to project Future (2025) No Project traffic volumes analyzed in this study. Appendix B shows the Future (2025) No Project traffic volumes for the analyzed peak hours. The Future (2025) No Project traffic volumes incorporates the assumed future reconfiguration of Wilshire Boulevard between Ocean Avenue and 4th Street (as described in the Future Improvements Assumptions).

Future Year (2025) with Project forecasts represents the Future Year 2025 conditions with the addition of the project. The resulting traffic volumes represent the projected Future (Year 2025) peak hour traffic volumes. The Future Year (Year 2025) plus Project peak hour traffic volumes for volumes are shown in Appendix B. The Future Year (Year 2025) plus Project scenario includes the projected incremental traffic from the development of the proposed project scenario as well as the shift in existing traffic (shown in Appendix B) and are the basis of the analysis of the project's traffic-related impacts described in the following chapter.

4. TRAFFIC IMPACT ANALYSIS

The previous chapter described sets of traffic volume forecasts - the Approval Year (2020) No Project and Approval Year (2020) Plus Project, the Future (2025) No Project and Future (2025) Plus Project. These forecasts were analyzed to determine the Approval Year and Future Year operating conditions without and with the additional project-generated traffic and to identify the potential impacts of the proposed project on the surrounding street system. This chapter provides a discussion of the City's impact criteria and methodology used and summarizes the results of the analysis.

CRITERIA FOR DETERMINATION OF A SIGNIFICANT TRAFFIC IMPACT

In 1991, the City of Santa Monica established criteria for assessing whether project-related traffic would result in significant impacts on intersection operating conditions using the measure of automobile delay. The thresholds of significance, summarized in Table 5, depends on the classification of the streets at the intersection (e.g., arterial, collector, or local street) and the operating conditions of the intersection under cumulative plus project traffic conditions. Although street classifications were updated in the 2010 LUCE, for purposes of this report, streets are classified as arterials, collectors and local streets because these are the categories used in the City's adopted intersection thresholds of significance. The potential significance of a project's impact is measured by either the change in average vehicle delay (measured in seconds) or by a change in the intersection operating conditions to undesirable conditions. If the projected LOS is F, however, significance is defined in terms of a change in vehicle to capacity (V/C) ratio (as calculated by the HCM operational method), since the average vehicular delay cannot be calculated using the Highway Capacity Manual operational method if the intersection exhibits oversaturated traffic conditions.

Using the City of Santa Monica significance criteria summarized in Table 5, a project would not be considered to have a significant impact at an intersection if, for example, it is on an arterial street operating at LOS D with the addition of project traffic and the incremental change in the average vehicle delay is less than 15 seconds. If the intersection is operating at LOS E after the addition of project traffic and the average vehicle delay increases by any amount, however, this would be considered a significant project impact. All impacts on intersections projected to operate at LOS F are based on the V/C ratio, with project-related increases of 0.005 or greater considered significant.

At the time of this publication, the City of Santa Monica has not adopted VMT-based impact criteria. Project-level VMT analysis is included later in this report for informational purposes.

TABLE 5
SIGNIFICANT IMPACT CRITERIA
ARTERIAL AND COLLECTOR INTERSECTIONS*

CITY OF SANTA MONICA	
BASE SCENARIO	**PLUS PROJECT SCENARIO**
IF LOS = A, B, OR C	**SIGNIFICANT IMPACT IF:**
== and is a collector street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes D, E, or F
== and is an arterial intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes E or F
IF LOS = D	**SIGNIFICANT IMPACT IF:**
== and is a collector street intersection	Any net increase in average seconds of delay per vehicle
== and is an arterial intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes E or F
IF LOS = E	**SIGNIFICANT IMPACT IF:**
== and is a collector or arterial intersection	Any net increase in average seconds of delay per vehicle
IF LOS = F	**SIGNIFICANT IMPACT IF:**
== and is a collector or arterial intersection	HCM V/C ratio net increase is ≥ 0.005

Notes:

* Functional street classifications for Santa Monica Intersections in this table are from the City's previous Circulation Element. The 2010 Land Use and Circulation Element (LUCE) has adopted a different typology for streets within the City but the significance criteria have not yet been revised.

APPROVAL YEAR (2020) NO PROJECT – INTERSECTION CONDITIONS

The Approval Year (2020) No Project peak hour traffic forecasts described in Chapter 3 and shown in Appendix B were analyzed using the methodologies described in Chapter 2 to forecast LOS at the study intersections during the analyzed peak hours. Table 6 provides a summary of the Approval Year (2020) intersection level of service. Detailed Vistro LOS calculation worksheets are provided in Appendix B2.

As shown in Table 6, of the 51 study intersections, the following eight study intersections are projected to operate at LOS E or F during at least one of the analyzed peak hours:

1. Palisades Beach Road & California Incline (LOS E/F during AM and weekend peak hours)
3. Ocean Avenue & California Avenue (LOS E/F)
14. 2nd Street & Wilshire Boulevard (LOS E/F during the PM and weekend peak hours)
16. 2nd Street & Santa Monica Boulevard (LOS F during the PM and weekend peak hour)
19. Main Street & Olympic Drive (LOS F during the AM and weekend peak hours)
47. Lincoln Boulevard & Colorado Avenue (LOS E during the AM peak hour)
48. Lincoln Boulevard & I-10 Westbound Off-Ramp (LOS F during the AM peak hour)
51. Pacific Coast Highway & Chautauqua Boulevard (LOS E/F)

APPROVAL YEAR (2020) PLUS PROJECT TRAFFIC IMPACT ASSESSMENT

The Approval Year (2020) plus Project peak hour traffic volumes were analyzed to determine future operating conditions at the study intersections and to identify specific traffic impacts resulting from the addition of project-generated traffic. The results of this analysis are summarized in Table 6 for comparison with the Approval Year (2020) No Project intersection conditions. At some intersections, the vehicle delay in the future actually decreases slightly even as project trips are added. Under the HCM 2010 methodology, intersection delay is a calculation whereby the overall delay is not additive, but rather a weighted average of all movements. Adding trips to some movements which are already congested will increase overall delay, but adding trips to movements with available capacity could actually decrease the average delay value slightly.

Of the 51 study intersections, four study intersections were found to be significantly impacted by proposed project:

1. Palisades Beach Road (PCH) & California Incline (LOS E in the AM peak hour)
3. Ocean Avenue & California Avenue (LOS E in the AM peak hour, F in the PM peak hour)
14. 2nd Street & Wilshire Boulevard (LOS F in each peak hour)
42. Lincoln Boulevard & California Avenue (LOS D in the AM peak hour)

TABLE 6
APPROVAL YEAR (2020) INTERSECTION LEVEL OF SERVICE AND IMPACT ANALYSIS
CITY OF SANTA MONICA - HCM 2010 METHODOLOGY

NO.	INTERSECTION	CLASS	PEAK HOUR	APPROVAL NO PROJECT			APPROVAL + PROJECT			V/C OR DELAY CHANGE	SIGNIFICANT IMPACT?
				V/C	DELAY*	LOS	V/C	DELAY*	LOS		
1	PALISADES BEACH ROAD &	A	AM	1.196	69	E	1.205	71	E	2	Yes
	CALIFORNIA INCLINE	A	PM	1.008	47	D	1.008	48	D	1	No
		A	WKND	1.203	88	F	1.204	90	F	0.001	No
2	OCEAN AVENUE &	C	AM	0.370	8	A	0.370	8	A	0	No
	MONTANA AVENUE	C	PM	0.351	10	A	0.352	10	A	0	No
		C	WKND	0.377	10	A	0.378	10	A	0	No
3	OCEAN AVENUE &	A	AM	0.937	72	E	0.936	80	E	8	Yes
	CALIFORNIA AVENUE	A	PM	1.192	**	F	1.264	**	F	0.072	Yes
		A	WKND	1.252	**	F	1.245	**	F	-0.007	No
4	OCEAN AVENUE &	A	AM	0.299	12	B	0.297	12	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.391	22	C	0.393	23	C	1	No
		A	WKND	0.397	28	C	0.386	25	C	-3	No
5	OCEAN AVENUE &	A	AM	0.256	7	A	0.256	7	A	0	No
	ARIZONA AVENUE	A	PM	0.367	13	B	0.368	13	B	0	No
		A	WKND	0.356	13	B	0.357	13	B	0	No
6	OCEAN AVENUE &	A	AM	0.303	9	A	0.303	9	A	0	No
	SANTA MONICA BOULEVARD	A	PM	0.443	31	C	0.444	31	C	0	No
		A	WKND	0.482	42	D	0.482	42	D	0	No
7	OCEAN AVENUE &	A	AM	0.358	8	A	0.357	7	A	-1	No
	BROADWAY	A	PM	0.552	37	D	0.549	35	C	-2	No
		A	WKND	0.581	47	D	0.574	44	D	-3	No
8	OCEAN AVENUE &	A	AM	0.368	25	C	0.369	25	C	0	No
	COLORADO AVENUE	A	PM	0.511	47	D	0.512	47	D	0	No
		A	WKND	0.456	36	D	0.457	36	D	0	No
9	OCEAN AVENUE &	A	AM	0.439	25	C	0.440	25	C	0	No
	MOOMAT AHIKO WAY	A	PM	0.527	24	C	0.528	24	C	0	No
		A	WKND	0.455	25	C	0.456	25	C	0	No
10	OCEAN AVENUE &	A	AM	0.409	11	B	0.410	11	B	0	No
	OLYMPIC DRIVE	A	PM	0.546	14	B	0.546	14	B	0	No
		A	WKND	0.536	36	D	0.538	36	D	0	No
11	OCEAN AVENUE &	A	AM	0.491	20	B	0.492	20	B	0	No
	PICO BOULEVARD	A	PM	0.572	39	D	0.573	39	D	0	No
		A	WKND	0.484	30	C	0.485	30	C	0	No
12	SECOND STREET &	C	AM	0.193	9	A	0.196	9	A	0	No
	WASHINGTON AVENUE	C	PM	0.229	9	A	0.229	9	A	0	No
		C	WKND	0.236	9	A	0.237	9	A	0	No
13	SECOND STREET &	C	AM	0.379	10	A	0.405	11	B	1	No
	CALIFORNIA AVENUE	C	PM	0.467	12	B	0.486	13	B	1	No
		C	WKND	0.504	13	B	0.524	14	B	1	No
14	SECOND STREET &	A	AM	0.364	36	D	1.564	**	F	≥ 1	Yes
	WILSHIRE BOULEVARD	A	PM	0.392	71	E	0.965	**	F	≥ 1	Yes
		A	WKND	0.762	**	F	5.991	**	F	5.229	Yes
15	SECOND STREET &	C	AM	0.327	29	C	0.331	29	C	0	No
	ARIZONA AVENUE	C	PM	0.397	29	C	0.399	29	C	0	No
		C	WKND	0.364	29	C	0.366	29	C	0	No
16	SECOND STREET &	A	AM	0.336	29	C	0.337	29	C	0	No
	SANTA MONICA BOULEVARD	A	PM	1.135	97	F	1.135	97	F	0	No
		A	WKND	1.088	86	F	1.088	86	F	0	No
17	SECOND STREET &	C	AM	0.283	27	C	0.284	27	C	0	No
	BROADWAY	C	PM	0.281	27	C	0.281	27	C	0	No
		C	WKND	0.350	29	C	0.350	29	C	0	No
18	SECOND STREET &	A	AM	0.294	35	C	0.295	35	C	0	No
	COLORADO AVENUE	A	PM	0.320	35	C	0.320	35	C	0	No
		A	WKND	0.374	35	C	0.375	35	C	0	No
19	MAIN STREET &	C	AM	0.690	94	F	0.691	93	F	0.001	No
	OLYMPIC DRIVE	C	PM	0.378	22	C	0.379	22	C	0	No
		C	WKND	0.614	81	F	0.615	81	F	0.001	No
20	THIRD STREET &	C	AM	0.402	11	B	0.426	11	B	0	No
	CALIFORNIA AVENUE	C	PM	0.363	10	A	0.381	10	A	0	No
		C	WKND	0.428	11	B	0.453	12	B	1	No
21	THIRD STREET &	A	AM	0.167	14	B	0.169	14	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.239	20	B	0.247	20	B	0	No
		A	WKND	0.290	16	B	0.295	16	B	0	No
22	FOURTH STREET &	C	AM	0.287	7	A	0.287	7	A	0	No
	MONTANA AVENUE	C	PM	0.325	8	A	0.325	8	A	0	No
		C	WKND	0.295	8	A	0.298	8	A	0	No
23	FOURTH STREET &	C	AM	0.424	11	B	0.426	11	B	0	No
	WASHINGTON AVENUE	C	PM	0.451	12	B	0.453	12	B	0	No
		C	WKND	0.324	10	A	0.329	10	A	0	No
24	FOURTH STREET &	C	AM	0.347	7	A	0.355	7	A	0	No
	CALIFORNIA AVENUE	C	PM	0.344	8	A	0.349	8	A	0	No
		C	WKND	0.325	8	A	0.336	8	A	0	No
25	FOURTH STREET &	A	AM	0.287	28	C	0.288	28	C	0	No
	WILSHIRE BOULEVARD	A	PM	0.293	28	C	0.299	28	C	0	No
		A	WKND	0.324	29	C	0.332	29	C	0	No
26	FOURTH STREET &	A	AM	0.311	26	C	0.313	26	C	0	No
	ARIZONA AVENUE	A	PM	0.372	30	C	0.374	30	C	0	No
		A	WKND	0.381	30	C	0.382	30	C	0	No

27	FOURTH STREET &	A	AM	0.294	23	C	0.296	23	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.274	28	C	0.279	28	C	0	No
		A	WKND	0.304	29	C	0.308	29	C	0	No
28	FOURTH STREET &	A	AM	0.394	35	C	0.399	35	C	0	No
	BROADWAY	A	PM	0.495	41	D	0.496	41	D	0	No
		A	WKND	0.476	41	D	0.475	41	D	0	No
29	FOURTH STREET &	A	AM	0.303	17	B	0.303	17	B	0	No
	COLORADO AVENUE	A	PM	0.429	23	C	0.430	23	C	0	No
		A	WKND	0.423	24	C	0.425	24	C	0	No
30	FOURTH STREET &	A	AM	0.704	39	D	0.707	39	D	0	No
	I-10 WB OFF-RAMP	A	PM	0.574	29	C	0.578	29	C	0	No
		A	WKND	0.467	26	C	0.467	26	C	0	No
31	FOURTH STREET &	A	AM	0.574	41	D	0.575	41	D	0	No
	I-10 EB ON-RAMP	A	PM	0.557	25	C	0.558	25	C	0	No
		A	WKND	0.538	43	D	0.538	43	D	0	No
32	FIFTH STREET &	C	AM	0.340	10	A	0.358	10	A	0	No
	CALIFORNIA AVENUE	C	PM	0.495	12	B	0.512	13	B	1	No
		C	WKND	0.425	11	B	0.446	12	B	1	No
33	FIFTH STREET &	A	AM	0.289	17	B	0.293	17	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.391	18	B	0.399	18	B	0	No
		A	WKND	0.393	16	B	0.399	16	B	0	No
34	FIFTH STREET &	C	AM	0.288	20	B	0.292	20	B	0	No
	ARIZONA AVENUE	C	PM	0.316	21	C	0.320	21	C	0	No
		C	WKND	0.500	25	C	0.500	24	C	-1	No
35	FIFTH STREET &	A	AM	0.287	24	C	0.290	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.373	22	C	0.377	22	C	0	No
		A	WKND	0.369	27	C	0.369	28	C	1	No
36	FIFTH STREET &	C	AM	0.377	24	C	0.383	24	C	0	No
	BROADWAY	C	PM	0.388	23	C	0.393	23	C	0	No
		C	WKND	0.449	22	C	0.450	23	C	1	No
37	FIFTH STREET &	A	AM	0.324	22	C	0.327	22	C	0	No
	COLORADO AVENUE	A	PM	0.426	23	C	0.430	23	C	0	No
		A	WKND	0.417	24	C	0.424	24	C	0	No
38	SIXTH STREET &	C	AM	0.353	10	A	0.370	10	A	0	No
	CALIFORNIA AVENUE	C	PM	0.427	12	B	0.437	12	B	0	No
		C	WKND	0.425	11	B	0.441	11	B	0	No
39	SEVENTH STREET &	C	AM	0.772	35	C	0.774	35	C	0	No
	MONTANA AVENUE	C	PM	0.720	24	C	0.720	24	C	0	No
		C	WKND	0.803	35	C	0.803	35	C	0	No
40	SEVENTH STREET &	C	AM	0.538	14	B	0.544	15	B	1	No
	CALIFORNIA AVENUE	C	PM	0.621	15	B	0.626	16	B	1	No
		C	WKND	0.510	15	B	0.517	15	B	0	No
41	LINCOLN BOULEVARD &	C	AM	0.452	11	B	0.453	11	B	0	No
	MONTANA AVENUE	C	PM	0.502	9	A	0.502	9	A	0	No
		C	WKND	0.484	9	A	0.484	9	A	0	No
42	LINCOLN BOULEVARD &	C	AM	0.861	36	D	0.876	38	D	2	Yes
	CALIFORNIA AVENUE	C	PM	0.886	27	C	0.900	28	C	1	No
		C	WKND	0.931	30	C	0.960	33	C	3	No
43	LINCOLN BOULEVARD &	A	AM	0.451	22	C	0.453	23	C	1	No
	WILSHIRE BOULEVARD	A	PM	0.447	22	C	0.448	22	C	0	No
		A	WKND	0.504	22	C	0.503	22	C	0	No
44	LINCOLN BOULEVARD &	A	AM	0.812	50	D	0.816	50	D	0	No
	ARIZONA AVENUE	A	PM	0.800	38	D	0.801	38	D	0	No
		A	WKND	0.648	30	C	0.647	30	C	0	No
45	LINCOLN BOULEVARD &	A	AM	0.487	24	C	0.489	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.568	27	C	0.570	27	C	0	No
		A	WKND	0.600	31	C	0.600	31	C	0	No
46	LINCOLN BOULEVARD &	A	AM	0.545	30	C	0.546	30	C	0	No
	BROADWAY	A	PM	0.584	31	C	0.585	31	C	0	No
		A	WKND	0.673	38	D	0.677	38	D	0	No
47	LINCOLN BOULEVARD &	A	AM	0.525	70	E	0.523	70	E	0	No
	COLORADO AVENUE	A	PM	0.521	53	D	0.521	53	D	0	No
		A	WKND	0.623	52	D	0.626	54	D	2	No
48	LINCOLN BOULEVARD &	A	AM	0.959	91	F	0.962	90	F	0.003	No
	I-10 WB OFF-RAMP	A	PM	0.703	40	D	0.705	40	D	0	No
		A	WKND	0.840	54	D	0.841	54	D	0	No
49	LINCOLN BOULEVARD &	A	AM	0.807	38	D	0.809	38	D	0	No
	I-10 EB ON-RAMP	A	PM	0.550	30	C	0.551	30	C	0	No
		A	WKND	0.761	36	D	0.763	36	D	0	No
50	PACIFIC COAST HIGHWAY &	A	AM	0.838	20	B	0.839	20	B	0	No
	ENTRADA DRIVE	A	PM	0.707	6	A	0.707	6	A	0	No
		A	WKND	0.616	6	A	0.617	6	A	0	No
51	PACIFIC COAST HIGHWAY &	A	AM	1.024	**	F	1.025	**	F	0.001	No
	CHAUTAUQUA/CHANNEL	A	PM	0.958	82	F	0.958	82	F	0	No
		A	WKND	0.949	80	E	0.949	80	E	0	No

Notes:

* Average stopped delay per vehicle, in seconds.

** Indicates oversaturated conditions. Delay cannot be calculated.

A Arterial intersection

C Collector intersection

FUTURE YEAR (2025) NO PROJECT INTERSECTION CONDITIONS

The Future Year (2025) No Project peak hour traffic volumes described in Chapter 3 and shown in Appendix B were analyzed using the LOS methodologies described in Chapter 2 to project future LOS at the study intersections during the analyzed peak hours. The results of this analysis are summarized in Table 7. Detailed Vistro LOS calculation worksheets are provided in Appendix B.

As shown in Table 7, of the 51 study intersections, the following 16 study intersections are projected to operate at E or F LOS during at least one of the analyzed peak hours:

1. Palisades Beach Road & California Incline (LOS E during the AM peak hour)
3. Ocean Avenue & California Avenue (LOS E/F)
4. Ocean Avenue & Wilshire Boulevard (LOS E during the weekend peak hour)
7. Ocean Avenue & Broadway (LOS E during the weekend peak hour)
14. 2nd Street & Wilshire Boulevard (LOS E/F during the AM and weekend peak hours)
16. 2nd Street & Santa Monica Boulevard (LOS F during the PM and weekend peak hours)
19. Main Street & Olympic Drive (LOS F during the AM and weekend peak hours)
25. 4th Street & Wilshire Boulevard (LOS E during the weekend peak hour)
26. 4th Street & Arizona Avenue (LOS E/F during the PM and weekend peak hours)
31 4th Street & I-10 EB On-Ramp (LOS E during the AM peak hour)
42. Lincoln Boulevard & California Avenue (LOS E during the AM and weekend peak hours)
44. Lincoln Boulevard & Arizona Avenue (LOS E during the PM peak hour)
47. Lincoln Boulevard & Colorado Avenue (LOS E/F during the AM and weekend peak hours)
48. Lincoln Boulevard & I-10 Westbound Off-Ramp (LOS E/F during the AM and weekend peak hours)
49. Lincoln Boulevard & I-10 Eastbound On-Ramp (LOS E during the weekend peak hour)
51. Pacific Coast Highway & Chautauqua Boulevard (LOS F)

TABLE 7
FUTURE YEAR (2025) INTERSECTION LEVEL OF SERVICE AND IMPACT ANALYSIS
CITY OF SANTA MONICA - HCM 2010 METHODOLOGY

NO.	INTERSECTION	CLASS	PEAK HOUR	FUTURE NO PROJECT			FUTURE + PROJECT			V/C OR DELAY CHANGE	SIGNIFICANT IMPACT?
				V/C	DELAY*	LOS	V/C	DELAY*	LOS		
1	PALISADES BEACH ROAD &	A	AM	1.115	67	E	1.125	68	E	1	Yes
	CALIFORNIA INCLINE	A	PM	0.949	49	D	0.949	50	D	1	No
		A	WKND	1.243	54	D	1.243	54	D	0	No
2	OCEAN AVENUE &	C	AM	0.400	10	A	0.400	10	A	0	No
	MONTANA AVENUE	C	PM	0.323	10	A	0.323	10	A	0	No
		C	WKND	0.419	11	B	0.420	11	B	0	No
3	OCEAN AVENUE &	A	AM	0.778	66	E	0.777	68	E	2	Yes
	CALIFORNIA AVENUE	A	PM	1.048	**	F	1.062	**	F	0.014	Yes
		A	WKND	1.981	**	F	1.990	**	F	0.009	Yes
4	OCEAN AVENUE &	A	AM	0.362	14	B	0.361	14	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.498	50	D	0.501	52	D	2	No
		A	WKND	0.458	71	E	0.447	64	E	-7	No
5	OCEAN AVENUE &	A	AM	0.305	8	A	0.305	8	A	0	No
	ARIZONA AVENUE	A	PM	0.358	12	B	0.359	12	B	0	No
		A	WKND	0.354	13	B	0.355	13	B	0	No
6	OCEAN AVENUE &	A	AM	0.330	10	A	0.330	10	A	0	No
	SANTA MONICA BOULEVARD	A	PM	0.488	34	C	0.489	34	C	0	No
		A	WKND	0.516	43	D	0.516	43	D	0	No
7	OCEAN AVENUE &	A	AM	0.408	13	B	0.407	13	B	0	No
	BROADWAY	A	PM	0.605	53	D	0.604	52	D	-1	No
		A	WKND	0.657	61	E	0.658	60	E	-1	No
8	OCEAN AVENUE &	A	AM	0.401	26	C	0.402	26	C	0	No
	COLORADO AVENUE	A	PM	0.545	53	D	0.546	53	D	0	No
		A	WKND	0.588	46	D	0.589	46	D	0	No
9	OCEAN AVENUE &	A	AM	0.447	25	C	0.447	25	C	0	No
	MOOMAT AHIKO WAY	A	PM	0.534	25	C	0.534	25	C	0	No
		A	WKND	0.550	31	C	0.552	31	C	0	No
10	OCEAN AVENUE &	A	AM	0.467	13	B	0.468	13	B	0	No
	OLYMPIC DRIVE	A	PM	0.585	16	B	0.586	16	B	0	No
		A	WKND	0.574	42	D	0.576	42	D	0	No
11	OCEAN AVENUE &	A	AM	0.563	21	C	0.564	21	C	0	No
	PICO BOULEVARD	A	PM	0.551	39	D	0.553	39	D	0	No
		A	WKND	0.581	31	C	0.582	31	C	0	No
12	SECOND STREET &	C	AM	0.142	9	A	0.142	9	A	0	No
	WASHINGTON AVENUE	C	PM	0.196	9	A	0.198	9	A	0	No
		C	WKND	0.163	9	A	0.164	9	A	0	No
13	SECOND STREET &	C	AM	0.280	9	A	0.258	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.422	11	B	0.439	11	B	0	No
		C	WKND	0.240	9	A	0.263	9	A	0	No
14	SECOND STREET &	A	AM	0.577	57	E	0.718	**	F	≥ 1	Yes
	WILSHIRE BOULEVARD	A	PM	0.501	48	D	1.105	**	F	≥ 1	Yes
		A	WKND	0.636	**	F	3.395	**	F	2.759	Yes
15	SECOND STREET &	C	AM	0.279	27	C	0.280	27	C	0	No
	ARIZONA AVENUE	C	PM	0.433	29	C	0.435	29	C	0	No
		C	WKND	0.596	34	C	0.598	34	C	0	No
16	SECOND STREET &	A	AM	0.377	26	C	0.381	27	C	1	No
	SANTA MONICA BOULEVARD	A	PM	1.331	**	F	1.331	**	F	0	No
		A	WKND	1.298	**	F	1.299	**	F	0.001	No
17	SECOND STREET &	C	AM	0.295	28	C	0.295	28	C	0	No
	BROADWAY	C	PM	0.403	29	C	0.405	29	C	0	No
		C	WKND	0.425	33	C	0.425	33	C	0	No
18	SECOND STREET &	A	AM	0.381	39	D	0.381	39	D	0	No
	COLORADO AVENUE	A	PM	0.441	38	D	0.441	38	D	0	No
		A	WKND	0.455	43	D	0.457	44	D	1	No
19	MAIN STREET &	C	AM	0.770	**	F	0.771	**	F	0.001	No
	OLYMPIC DRIVE	C	PM	0.410	18	B	0.410	18	B	0	No
		C	WKND	0.661	100	F	0.663	100	F	0.002	No
20	THIRD STREET &	C	AM	0.260	9	A	0.282	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.293	9	A	0.313	10	A	1	No
		C	WKND	0.525	12	B	0.549	12	B	0	No
21	THIRD STREET &	A	AM	0.359	16	B	0.378	17	B	1	No
	WILSHIRE BOULEVARD	A	PM	0.274	21	C	0.282	21	C	0	No
		A	WKND	0.359	21	C	0.364	21	C	0	No
22	FOURTH STREET &	C	AM	0.267	7	A	0.268	7	A	0	No
	MONTANA AVENUE	C	PM	0.352	8	A	0.353	8	A	0	No
		C	WKND	0.309	8	A	0.311	8	A	0	No
23	FOURTH STREET &	C	AM	0.447	12	B	0.449	12	B	0	No
	WASHINGTON AVENUE	C	PM	0.423	11	B	0.425	11	B	0	No
		C	WKND	0.421	11	B	0.426	11	B	0	No
24	FOURTH STREET &	C	AM	0.349	7	A	0.354	8	A	1	No
	CALIFORNIA AVENUE	C	PM	0.325	8	A	0.331	8	A	0	No
		C	WKND	0.431	9	A	0.443	10	A	1	No
25	FOURTH STREET &	A	AM	0.532	43	D	0.551	48	D	5	No
	WILSHIRE BOULEVARD	A	PM	0.502	38	D	0.510	39	D	1	No
		A	WKND	0.563	44	D	0.575	47	D	3	No
26	FOURTH STREET &	A	AM	0.441	26	C	0.443	26	C	0	No
	ARIZONA AVENUE	A	PM	0.642	71	E	0.647	71	E	0	No
		A	WKND	0.651	83	F	0.655	83	F	0.004	No

27	FOURTH STREET &	A	AM	0.480	24	C	0.483	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.353	27	C	0.359	27	C	0	No
		A	WKND	0.473	36	D	0.477	36	D	0	No
28	FOURTH STREET &	A	AM	0.556	39	D	0.559	39	D	0	No
	BROADWAY	A	PM	0.582	45	D	0.588	45	D	0	No
		A	WKND	0.552	43	D	0.557	43	D	0	No
29	FOURTH STREET &	A	AM	0.404	19	B	0.404	19	B	0	No
	COLORADO AVENUE	A	PM	0.452	24	C	0.453	24	C	0	No
		A	WKND	0.414	26	C	0.416	26	C	0	No
30	FOURTH STREET &	A	AM	0.695	33	C	0.698	33	C	0	No
	I-10 WB OFF-RAMP	A	PM	0.582	27	C	0.583	27	C	0	No
		A	WKND	0.554	27	C	0.554	27	C	0	No
31	FOURTH STREET &	A	AM	0.615	60	E	0.617	60	E	0	No
	I-10 EB ON-RAMP	A	PM	0.553	27	C	0.553	27	C	0	No
		A	WKND	0.581	55	D	0.581	55	D	0	No
32	FIFTH STREET &	C	AM	0.257	9	A	0.269	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.505	12	B	0.521	12	B	0	No
		C	WKND	0.255	9	A	0.282	9	A	0	No
33	FIFTH STREET &	A	AM	0.300	16	B	0.304	16	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.389	17	B	0.399	17	B	0	No
		A	WKND	0.452	17	B	0.456	17	B	0	No
34	FIFTH STREET &	C	AM	0.231	19	B	0.232	19	B	0	No
	ARIZONA AVENUE	C	PM	0.430	21	C	0.434	21	C	0	No
		C	WKND	0.517	27	C	0.524	27	C	0	No
35	FIFTH STREET &	A	AM	0.265	22	C	0.268	22	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.405	21	C	0.409	21	C	0	No
		A	WKND	0.413	24	C	0.413	24	C	0	No
36	FIFTH STREET &	C	AM	0.367	23	C	0.372	23	C	0	No
	BROADWAY	C	PM	0.408	22	C	0.412	22	C	0	No
		C	WKND	0.465	22	C	0.467	22	C	0	No
37	FIFTH STREET &	A	AM	0.371	23	C	0.375	23	C	0	No
	COLORADO AVENUE	A	PM	0.431	24	C	0.435	24	C	0	No
		A	WKND	0.490	25	C	0.497	26	C	1	No
38	SIXTH STREET &	C	AM	0.243	9	A	0.258	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.322	10	A	0.324	10	A	0	No
		C	WKND	0.218	9	A	0.232	9	A	0	No
39	SEVENTH STREET &	C	AM	0.775	31	C	0.777	31	C	0	No
	MONTANA AVENUE	C	PM	0.685	24	C	0.685	24	C	0	No
		C	WKND	0.794	35	C	0.794	35	C	0	No
40	SEVENTH STREET &	C	AM	0.559	14	B	0.566	15	B	1	No
	CALIFORNIA AVENUE	C	PM	0.567	14	B	0.571	14	B	0	No
		C	WKND	0.460	11	B	0.465	12	B	1	No
41	LINCOLN BOULEVARD &	C	AM	0.440	11	B	0.442	11	B	0	No
	MONTANA AVENUE	C	PM	0.482	9	A	0.482	9	A	0	No
		C	WKND	0.456	10	A	0.456	10	A	0	No
42	LINCOLN BOULEVARD &	C	AM	1.135	80	E	1.144	83	F	3	Yes
	CALIFORNIA AVENUE	C	PM	0.909	28	C	0.929	29	C	1	No
		C	WKND	1.144	67	E	1.149	68	E	1	Yes
43	LINCOLN BOULEVARD &	A	AM	0.454	22	C	0.455	22	C	0	No
	WILSHIRE BOULEVARD	A	PM	0.434	21	C	0.435	21	C	0	No
		A	WKND	0.514	23	C	0.516	23	C	0	No
44	LINCOLN BOULEVARD &	A	AM	0.807	43	D	0.806	43	D	0	No
	ARIZONA AVENUE	A	PM	0.930	63	E	0.930	63	E	0	No
		A	WKND	0.618	42	D	0.621	42	D	0	No
45	LINCOLN BOULEVARD &	A	AM	0.483	24	C	0.483	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.600	34	C	0.602	34	C	0	No
		A	WKND	0.661	43	D	0.661	43	D	0	No
46	LINCOLN BOULEVARD &	A	AM	0.585	42	D	0.591	43	D	1	No
	BROADWAY	A	PM	0.595	33	C	0.596	33	C	0	No
		A	WKND	0.643	38	D	0.646	38	D	0	No
47	LINCOLN BOULEVARD &	A	AM	0.582	84	F	0.581	83	F	-1	No
	COLORADO AVENUE	A	PM	0.536	46	D	0.536	45	D	-1	No
		A	WKND	0.863	61	E	0.866	61	E	0	No
48	LINCOLN BOULEVARD &	A	AM	0.974	100	F	0.976	99	F	0.002	No
	I-10 WB OFF-RAMP	A	PM	0.745	44	D	0.747	44	D	0	No
		A	WKND	0.880	67	E	0.882	67	E	0	No
49	LINCOLN BOULEVARD &	A	AM	0.752	28	C	0.754	28	C	0	No
	I-10 EB ON-RAMP	A	PM	0.569	30	C	0.570	30	C	0	No
		A	WKND	0.897	59	E	0.899	59	E	0	No
50	PACIFIC COAST HIGHWAY &	A	AM	0.811	14	B	0.812	14	B	0	No
	ENTRADA DRIVE	A	PM	0.715	6	A	0.715	6	A	0	No
		A	WKND	0.669	7	A	0.669	7	A	0	No
51	PACIFIC COAST HIGHWAY &	A	AM	1.173	**	F	1.173	**	F	0	No
	CHAUTAUQUA/CHANNEL	A	PM	1.212	**	F	1.212	**	F	0	No
		A	WKND	1.002	95	F	1.002	95	F	0	No

Notes:

* Average stopped delay per vehicle, in seconds.

** Indicates oversaturated conditions. Delay cannot be calculated.

A Arterial intersection

C Collector intersection

FUTURE YEAR (2025) PLUS PROJECT TRAFFIC IMPACT ASSESSMENT

The Future Year (2025) plus Project peak hour traffic volumes were analyzed to determine future operating conditions at the study intersections and to identify specific traffic impacts resulting from the addition of project-generated traffic.

Table 7 summarizes the results of the Future (2025) plus Project Scenario A conditions. Of the 51 study intersections, four study intersections were found to be significantly impacted by the proposed project under Scenario A:

1. Palisades Beach Road (PCH) & California Incline (LOS E in the AM peak hour)
3. Ocean Avenue & California Avenue (LOS E/F in each peak hour)
14. 2nd Street & Wilshire Boulevard (LOS F in each peak hour)
42. Lincoln Boulevard & California Avenue (LOS E/F in the AM and weekend peak hours)

VEHICLE MILES TRAVELED (VMT) ANALYSIS

Background

Authorized in September of 2013, Senate Bill (SB) 743 directed the Office of Planning and Research (OPR) to revise the CEQA Guidelines (Title 14 of the California Code of Regulations sections and following to establish new criteria for determining the significance of transportation impacts and define alternative metrics for traffic LOS. Once the CEQA Guidelines are amended to include those alternative criteria, auto delay will no longer be considered a significant impact under CEQA.

OPR adopted final guidelines in December 2018, and the provisions of SB743 are now in effect, with agencies having an opt-in period until July 1, 2020. At the time of this publication, the City of Santa Monica has not adopted VMT-based impact criteria. Project VMT analysis is included in this report for informational purposes.

Screening Thresholds and VMT Significance Thresholds

OPR's CEQA Guidelines includes new Section 15064.3, subdivision (b)(1), which states that "*generally, projects within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor should be presumed to have a less-than-significant impact on VMT*." Per the *Technical Advisory*, this presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For example, the presumption might not be appropriate if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)

Additionally, the Technical Advisory states that agencies may screen out VMT impacts using project size and maps:

- Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.

- Residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with data from a travel survey or travel demand model can illustrate areas that are currently below threshold VMT. Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.

The updated CEQA Guidelines apply prospectively, meaning that projects, such as this one, are not required to incorporate VMT as the primary transportation impact metric. This information is quantified here for informational purposes. No determination of significance is provided since the City of Santa Monica has not yet adopted significance thresholds for VMT or a methodology for determining impacts based on VMT.

The City of Santa Monica is in the process of drafting new VMT guidance for CEQA transportation review of projects and will be adopting new VMT based significance thresholds prior to July 1, 2020 in conformance with the new CEQA guidelines. Should the City adopt new significance thresholds based on VMT, the thresholds would apply prospectively to future projects (i.e., pending projects such as the Miramar Project would not be subject to the new thresholds).

VMT Analysis of Project

The VMT estimates for the proposed project are based on the OPR guidance, which recommend evaluating each component of a mixed-use project independently. Guidance is provided for several broad land use types (residential, office, retail) that account for majority of the development projects that are proposed. The proposed project includes hotel, retail, restaurant (which is fundamentally the same as retail from a travel perspective), and residential.

The estimates of project VMT are based on the total trip generation estimates presented in Table 4. The proposed project is estimated to generate a total of 2,970 daily trips among all of the proposed uses. For office-type uses, the suggested metric is VMT per employee. While there is no office-type land use for this project, employee VMT estimates were calculated using the applicant's own projection of employees – inclusive of the hotel, condominiums, and restaurant space. For residential uses, the suggested metric is VMT per capita. Finally, hotel guests, restaurant and retail visitors VMT are analyzed together and provided for informational purposes.

The following steps were used to estimate project-related VMT, which are compared with citywide averages for context. For each use, the total trips are multiplied by the average trip length for that type of trip from the Santa Monica TDFM TAZs at and around the project site; that number of total miles is divided by the number of people related to that use (employees, residents, other visitors). The following sections detail the assumptions and VMT calculations for each trip type in this project: employees, residents, and all other visitors.

Employee VMT

- <u>For office/employment VMT, determine the number of employees for the project:</u> The project applicant estimates that total employment for the hotel will be 387 employees.
    - As discussed in Chapter 3, employee trips were estimated based on empirical data. The project would generate 303 daily employee trips. Based on the project applicant's survey of employee trip generation, a substantial portion of current employees carpool or use transit to work, which is anticipated to continue under the proposed project.
    - City of Santa Monica's travel demand forecasting model (TDFM), discussed in Chapter 3, includes data on the average daily trips, VMT, and trip length and by trip purpose for each traffic analysis zone (TAZ), as well as the citywide averages. The Proposed Project is located in the Santa Monica TDFM TAZ 78. The average home-based work trip attraction in TAZ 78 is 12.6 miles, which is slightly higher than the Citywide average of 12.1 miles.
- <u>Multiply the estimated employee trips by the trip length, and then divide by the number of employees to calculate average VMT per employee.</u> Thus 303 employee trips of 12.6 miles each

equals 3,818 total miles. Dividing the total miles by 387 employees equates to 9.9 VMT per employee. This is about half of the Citywide average of 19.2 VMT per employee.

Residential VMT

- Estimate the total number of people for all dwelling units for the project. The proposed project is planned to include a total of 108 dwelling units (60 condominiums and 48 affordable housing units).
    - The average household size for this census tract (Census Tract 7014.02) is 1.5. Applying this factor to the total number of dwelling units results in 162 people. In this case, the proposed project dwelling unit mix is primarily 2 or 3-bedroom units or more, which is different from the existing mix of predominantly 1-bedroom housing in the Census tract. Therefore, the citywide 2017 American Community Survey 5-Year Estimates[5] for Santa Monica provides the estimate of project household size for the condominiums. The condominiums are assumed to have an average household size of 2.41 persons. Empirical data on household size of affordable apartments in Santa Monica, provided by the project applicant[6], provides the household size estimate for the affordable housing units. The affordable housing 1-bedroom units are assumed to have an average household size of 1.39 persons, and the 2-3 bedroom units are assumed to have an average household size of 3.43 persons. Applying these factors to the proposed unit mix results in an estimated project population of 275 people.
    - As discussed in Chapter 3, the project would generate 552 daily residential trips.
    - City of Santa Monica's travel demand forecasting model (TDFM), discussed in Chapter 3, includes data on the average daily trips, VMT, and trip length and by trip purpose for each traffic analysis zone (TAZ), as well as the citywide averages. The residential use for the Proposed Project is located in the Santa Monica TDFM TAZ 78 and 79. The average home-based productions trip length in TAZs near to the project site is 5.33, which is slightly lower than the Citywide average of 5.4 miles.

- Multiply the estimated residential trips by the trip length, and divide by the total number of residents to calculate average VMT per capita. Thus 552 residential trips of 5.33 miles each equals

[5] https://www.census.gov/programs-surveys/acs/data.html

[6] *Household size assumptions for affordable apartments in Santa Monica by number of bedrooms was provided in a conversation with the project applicant on December 2, 2019*

2,942 total miles. This equates to 10.7 VMT per capita. This is greater than the Citywide average of 9.0 VMT per capita.

- While residential infill in dense urban areas with good walking, biking, and transit access (non-automotive modes) such as downtown Santa Monica are known to ultimately decrease VMT, as analyzed this project would result in a VMT per capita higher than the Citywide average. The VMT per capita is affected by the assumptions described above, particularly the assumptions of project trip generation and the ultimate residential population of the project (the 'per capita'). The assumptions for project population were developed as described above.
- While the trip lengths for this area are short, reflecting the high degree of non-automotive access, the project trip generation assumption is based on a conservative approach for the purpose of analyzing intersection LOS, which seeks to evaluate a worst-case scenario for traffic operations per the City's current impact assessment methodology. The worst-case scenario assumptions for this project assume a trip generation rate (as shown in Table 4) based on a 2-car-per-household for all units of 2 or more bedrooms.
- Acknowledging the high degree of non-automotive access that downtown Santa Monica enjoys, the project applicant proposes to build no more than one parking space per affordable unit (48 units and 48 or fewer parking spaces), which would significantly lower the actual project trip generation (estimated to be about 481 daily trips compared with the conservatively-estimated 552 shown in Table 4). Using the lower trip generation rate assumptions for the affordable units would reduce the VMT per capita to about 9.3, only slightly higher than the Citywide average.
- Likewise, reducing the parking per unit ratio for the market-rate condominiums would further reduce the estimated trip generation. Even a slight reduction in the market rate parking supply would likely result in a lower project VMT per capita than the City average.

Hotel Visitors and Guests (Non-Employee and Non-Residential) VMT

- Estimate the number of non-employee and non-residential trips to and from the project. If 855 daily project trips are made by employees and residents, then the remaining 2,115 daily trips are made by hotel guests and patrons of the restaurant and retail space who are not otherwise staying at the hotel.
- The average trip length for 'home-based-other' trip attractions and 'non-home-based' trip attraction in TAZ 78 is 7.4 miles. The average trip length for non-home-based trip productions in TAZ 78 is 5.6 miles. These trip types represent all other travel activity that is not directly related to commute trips or home-based trips, which would include hotel visitors. Applying these trip lengths to the estimated non-employee and non-residential inbound and outbound trips yields an estimate of 13,748 miles per day. This likely represents a conservative analysis to estimating VMT for commercial uses since it does not account for the potential that new commercial (i.e., retail and restaurant) development can result in a redistribution of trips rather than the creation of new trips. Thus, it does not account for the potential that some trips would replace trips that would otherwise be made to and from other commercial destinations in the area.

When added to the 3,818 estimated miles of employee trips per day and 2,942 estimated miles of residential trips per day, total daily VMT for the Proposed Project is estimated to be 20,508 miles[7].

[7] Subtracting the existing VMT from the Project VMT, the total net new daily VMT for the project is 7,115 miles.

5. ANALYSIS OF POTENTIAL INTERSECTION MITIGATION MEASURES

An investigation was conducted for potential mitigation measures to reduce or eliminate the significant intersection impacts identified. The emphasis was to identify physical improvements that could be implemented within the existing roadway right-of-way (ROW). At most locations in Santa Monica, the streets are already built to their maximum potential width. Reconfiguring the streets to provide additional capacity for vehicles could have negative secondary impacts such as loss of parking, conflicts with bicycle or pedestrian modes, and would conflict with the LUCE objectives and City policies to decrease vehicle miles traveled.

All four impacted intersections in Future Year (2025) are also impacted in Approval Year (2020). As discussed below, physical improvements were considered to reduce the severity of the proposed project's Approval and Future Year traffic impacts. At two of the four impacted locations, adjustments to signal operation for split phasing, which is a more significant change than simply optimizing timing, could fully mitigate the impact without any likely secondary impacts. At two other intersections, the potential mitigation would require removal of on-street metered parking in order to restripe intersection approaches to add turn lanes. Parking is not considered an impact criteria under CEQA. These matters are discussed as follows for each of the impacted intersections.

APPROVAL YEAR AND FUTURE YEAR PLUS PROJECT MITIGATION MEASURES

Tables 6 and 7 summarize the Approval Year (2020) and Future Year (2025) intersection impacts according to the City's designated impact criteria and further indicate whether the impact can be physically or operationally mitigated. This section describes the potential mitigation measures that were reviewed for the significantly impacted intersections listed below.

1. Palisades Beach Road (PCH) & California Avenue
3. Ocean Avenue & California Avenue
14. 2nd Street & Wilshire Boulevard
42. Lincoln Boulevard & California Avenue

1. Palisades Beach Road (PCH) & California Incline

This intersection would experience a small increase in delay under the Approval and Future with Project conditions during the weekday AM peak period. This signal is on a state highway and controlled by the California Department of Transportation (Caltrans). A small percentage of project trips are forecast to use the California Incline to access the PCH northbound towards Malibu and Ventura, and southbound as the shortest path to reach I-10 eastbound from the project site. The current signal configuration permits eastbound and westbound movements during the same phase. Reconfiguring the signal to operate a split phase eastbound and westbound so that the minimal volumes exiting the Jonathan Club driveway (eastbound approach) are not conflicting with the significantly higher volume turning left from the westbound California Incline would likely reduce the project effect on overall intersection delay. Sometime prior to the reconstruction of the California Incline, this intersection was operated with split phasing. However, signal phasing and timing changes are not considered an appropriate mitigation measure as it conflicts with the City's ability to make future adjustments to signal timing as needed. Therefore, the impact remains significant and unavoidable.

3. Ocean Avenue & California Avenue

This intersection is impacted during the AM and PM peak hours under Approval and Future with Project conditions. Additionally, the intersection is forecast to operate at LOS F during the weekend midday peak hour, although the project does not cause an impact during that period. This intersection is a key location at the northwest corner of the proposed project site and provides access to and from the PCH, I-10 eastbound, and downtown Santa Monica. In 2018, the City of Santa Monica adjusted signal timing at this intersection to implement leading pedestrian intervals (described in Chapter 3), which increases all-red time for vehicles in order to improve pedestrian and bicyclist safety. This intersection is also the connection point between heavily-used north-south bike lanes on Ocean Avenue, east-west bike lanes on California Avenue, and a two-way cycletrack on the California Incline that provides pedestrian and bicycle access to the beach over the PCH.

The addition of project trips at this location increases overall intersection delay. The critical movement is the eastbound through from the California Incline, which shares a lane with left-turning traffic. The westbound approach experiences a similarly saturated condition, with a high volume of left and through movements sharing a lane. Reconfiguring and retiming the traffic signal to operate a split phase eastbound and westbound would remove vehicle conflicts between through and left movements, improving overall delay to LOS E or better in all "with Project" conditions. However, signal phasing and timing changes are not considered an appropriate mitigation measure as it conflicts with the City's ability to make future adjustments to signal timing as needed. Therefore, the impact remains significant and unavoidable.

14. 2nd Street & Wilshire Boulevard

This intersection is impacted during each peak hour under Approval and Future with Project conditions. This intersection is a key location at the southeast corner of the project site. This intersection is anticipated to operate at less-than-satisfactory conditions (LOS D or worse) under the Approval and Future Year without Project conditions, primarily due to the single shared lane on the southbound approach. The southbound approach is impacted by the addition of project trips, due to a single-lane approach to accommodate all movements. A possible mitigation is to remove four to eight on-street metered parking spaces on the westerly side of 2nd Street in order to stripe a two-lane southbound approach with one left-turn lane and one shared through/right-turn lane. Doing so may require the reconfiguration of the southbound bike lane on 2nd Street to possibly include a shared lane conflict marking (hatched green bike lane) similar to the existing configuration of the northbound approach. However, with approximately 25'-30' of width from the existing centerline to the curb, there appears that there would be sufficient space following the removal of parking to accommodate a left-turn pocket, a through lane, and the bike lane. The addition of a left-turn pocket would improve the intersection V/C to better than the without project conditions during all peak hours in the Approval and Future with Project conditions. Therefore, the impact at this location is less-than-significant after mitigation.

The LOS results at 2nd Street & Wilshire Boulevard after mitigation are as follows:

- Approval Year (2020) Plus Project with Mitigation (LOS / Delay / V/C):
    - AM: 33.63 / C / 0.251
    - PM: 88.43 / F / 0.372
    - Weekend Midday: LOS F / 88.43 / 0.372
- Future Year (2025) Plus Project with Mitigation:
    - AM: 29.50 / C / 0.407
    - PM: 106.48 / F / 0.459
    - Weekend Midday: LOS F / >100 / 0.459

42. Lincoln Boulevard & California Avenue

This intersection is impacted during the AM peak hour under Approval plus Project conditions, and additionally during the weekend midday peak hour under Future plus Project conditions, due to the addition of project trips making northbound left turns and eastbound right turns. This unsignalized intersection is controlled in all directions by stop signs with single-lane approaches. A possible mitigation would be to restripe the northbound approach to include a left turn pocket and a shared through-right lane. Doing so would improve LOS to conditions better than the "without Project" condition in each case (LOS F or better). However, the addition of a left turn pocket at a stop-controlled intersection introduces additional conflict points between vehicles and with pedestrians and people riding bicycles or scooters. This location is a busy neighborhood intersection with a high volume of pedestrian and bicycle crossings, and adjacent to a school, a church and Reed Park. The addition of the left-turn pocket could cause a secondary impact to pedestrian safety, inconsistent with City goals and policies including T7.1 of the LUCE to "ensure that walking is safe for everyone, everywhere in Santa Monica." Restriping the travel lanes to include a northbound turn pocket could also encroach on the space required for the southbound bus stop at this intersection. Because increasing pedestrian hazards is inconsistent with City policies, this mitigation is deemed infeasible, and therefore the impact remains significant and unavoidable.

6. STREET SEGMENT ANALYSIS

Because of the project site's location near a residential neighborhood, an analysis of the proposed project's potential impacts on street segments in the project vicinity was conducted. The analysis was conducted for the following 11 street segments:

1. Ocean Avenue north of California Avenue
2. 2nd Street between Wilshire Boulevard and California Avenue
3. 2nd Street between California Avenue and Washington Avenue
4. 4th Street between Wilshire Boulevard and California Avenue
5. 4th Street between California Avenue and Washington Avenue
6. 7th Street between Wilshire Boulevard and California Avenue
7. 7th Street between Washington Avenue and Idaho Avenue
8. California Avenue between Ocean Avenue and 2nd Street
9. California Avenue between 2nd Street and 3rd Street
10. California Avenue between 3rd Street and 4th Street
11. California Avenue between 4th Street and 5th Street

CRITERIA FOR DETERMINATION OF SIGNIFICANT TRAFFIC IMPACTS

The City of Santa Monica impact criteria used to evaluate potential traffic impacts on street segments are based on the existing average daily traffic (ADT) volumes and the projected level of volume increase that can be attributed to the project. The Santa Monica significance criteria have not yet been updated to reflect LUCE street classifications. While Ocean Avenue between California Avenue and Wilshire Boulevard was formerly functionally classified as an Arterial Street, for the purposes of this analysis the impact criteria for Collector streets have been applied. The current significance criteria for collector, feeder, and local streets are provided in Table 8.

TABLE 8 – CITY OF SANTA MONICA SIGNIFICANT IMPACT CRITERIA – SEGMENTS	
COLLECTOR STREETS	
A transportation impact is significant if the Base Average Daily Traffic Volume (ADT) is:	greater than 13,500 and there is a net increase* of one trip or more in ADT due to project related traffic
	greater than 7,500 but less than 13,500 and the project related traffic increases* the ADT by 12.5% or the ADT becomes 13,500 or more
	less than 7,500 and the project related traffic increases* the ADT by 25%
FEEDER STREETS	
A transportation impact is significant if the Base Average Daily Traffic Volume (ADT) is:	greater than 6,750 and there is a net increase* of one trip or more in ADT due to project related traffic
	greater than 3,750 but less than 6,750 and the project related traffic increases* the ADT by 12.5% or the ADT becomes 6,750 or more
	less than 3,750 and the project related traffic increases* the ADT by 25%
LOCAL STREETS	
A transportation impact is significant if the Base Average Daily Traffic Volume (ADT) is:	greater than 2,250 and there is a net increase* of one trip or more in ADT due to project related traffic
	greater than 1,250 but less than 2,250 and the project related traffic increases* the ADT by 12.5% or the ADT becomes 2,250 or more
	less than 1,250 and the project related traffic increases* the ADT by 25%

* Average Daily Traffic Volume "increase" denotes adverse impacts; "decrease" denotes beneficial impacts.

STREET SEGMENT METHODOLOGY

Consistent with the analysis of intersections, weekday and weekend analysis was conducted. Existing weekday and weekend average daily traffic (ADT) volume data was collected at the 11 street segment locations in 2018 and 2019. The existing daily traffic counts are provided in Appendix B. The existing daily traffic volumes on the street segments include the trips generated by hotel employees. Under existing conditions, the majority of employees do not have access to on-site parking. As such, employees arriving by vehicle generally park on streets near the project site. Some of those streets are located in the residential preferential parking zone. In these locations, it is impermissible to park without a residential permit between 6:00PM and 8:00AM. Other roadways have meters for short term (2 hours or less) parking. Existing employee vehicular trips were therefore assigned to locations with either unrestricted parking, generally farther from the site, or at long-term parking meters, which include 5-hour meters along Ocean Avenue and 9-hour meters along the south side of Washington Avenue and the west side of 2nd Street.

In accordance with the City of Santa Monica's adopted methodology, street segment analysis was conducted by assigning the new incremental daily project-generated trips to the street network and determining the percent increase in traffic that would result with the proposed project. Additionally, since the project would provide on-site employee parking (as compared to existing conditions where employees park on nearby streets), existing employee trips would be removed from the local street network, and were removed as part of the plus project analysis.

Table 9 shows the percent change in daily segment volumes for Existing (2019) plus Project conditions.

TABLE 9
NEIGHBORHOOD STREET SEGMENT IMPACT ANALYSIS

WEEKDAY

No.	Segment	Analyzed Classification	Existing ADT	Existing Plus Project				
				Project ADT	ADT	% Change	Significance Threshold	Significant Impact?
	Ocean Avenue							
1	North of California Avenue	Collector	13,592	-114	13,478	-0.8%	1 trip	NO
	2nd Street							
2	Between Wilshire Boulevard and California Avenue	Feeder	4,718	1,335	6,053	28.3%	12.5%	YES
3	between California Avenue and Washington Avenue	Feeder	3,065	16	3,081	0.5%	25%	NO
	4th Street							
4	Between Wilshire Boulevard and California Avenue	Collector	7,045	12	7,057	0.2%	25%	NO
5	between California Avenue and Washington Avenue	Collector	5,536	29	5,565	0.5%	25%	NO
	7th Street							
6	Between Wilshire Boulevard and California Avenue	Collector	5,476	-11	5,465	-0.2%	25%	NO
7	Between Washington Avenue and Idaho Avenue	Collector	5,211	8	5,219	0.2%	25%	NO
	California Avenue							
8	Between Ocean Avenue and 2nd Street	Local	5,611	104	5,715	1.9%	1 trip	YES
9	Between 2nd Street and 3rd Street	Local	5,812	280	6,092	4.8%	1 trip	YES
10	Between 3rd Street and 4th Street	Local	5,653	278	5,931	4.9%	1 trip	YES
11	Between 4th Street and 5th Street	Local	4,717	231	4,948	4.9%	1 trip	YES

WEEKEND

No.	Segment	Analyzed Classification	Existing ADT	Existing Plus Project				
				Project ADT	ADT	% Change	Significance Threshold	Significant Impact?
	Ocean Avenue							
1	North of California Avenue	Collector	13,579	-293	13,286	-2.2%	1 trip	NO
	2nd Street							
2	Between Wilshire Boulevard and California Avenue	Feeder	5,397	2,310	7,707	42.8%	12.5%	YES
3	between California Avenue and Washington Avenue	Feeder	3,347	16	3,363	0.5%	25%	NO
	4th Street							
4	Between Wilshire Boulevard and California Avenue	Collector	5,718	31	5,749	0.5%	25%	NO
5	between California Avenue and Washington Avenue	Collector	4,785	49	4,834	1.0%	25%	NO
	7th Street							
6	Between Wilshire Boulevard and California Avenue	Collector	3,926	-22	3,904	-0.6%	25%	NO
7	Between Washington Avenue and Idaho Avenue	Collector	4,577	10	4,587	0.2%	25%	NO
	California Avenue							
8	Between Ocean Avenue and 2nd Street	Local	6,679	168	6,847	2.5%	1 trip	YES
9	Between 2nd Street and 3rd Street	Local	6,099	442	6,541	7.2%	1 trip	YES
10	Between 3rd Street and 4th Street	Local	5,944	437	6,381	7.4%	1 trip	YES
11	Between 4th Street and 5th Street	Local	5,220	353	5,573	6.8%	1 trip	YES

STREET SEGMENT IMPACT ANALYSIS

As shown in Table 9, the application of the City of Santa Monica significance criteria for neighborhood traffic impacts indicates that the project would create significant traffic impacts at the following five locations for both weekday and weekend scenarios:

- Segment 2 – 2nd Street between Wilshire Boulevard and California Avenue (12.5% trip threshold)
- Segment 8 – California Avenue between Ocean Avenue and 2nd Street (+1 trip threshold)
- Segment 9 – California Avenue between 2nd Street and 3rd Street (+1 trip threshold)
- Segment 10 – California Avenue between 3rd Street and 4th Street (+1 trip threshold)
- Segment 11 – California Avenue between 4th Street and 5th Street (+1 trip threshold)

Given that the existing traffic volume on each of the analyzed California Avenue segments is above the level considered desirable for a local street (2,250 ADT), and that the addition of a single daily trip is considered significant, it is likely that additional segments of California Avenue east of the study area would also be significantly impacted by the proposed project.

NEIGHBORHOOD STREET MITIGATION MEASURES

Various traffic calming strategies were considered, such as the addition of curb extensions at neighborhood intersections and diverters along neighborhood street segments. While these traffic calming measures can reduce and slow traffic along a street, they do not eliminate traffic. Thus, even with traffic calming devices, the project would still contribute to traffic along the analyzed California Avenue neighborhood segments and the single trip threshold would be exceeded on segments 8-11. No feasible mitigation measures are available, including relocating the project's access point or turn restrictions that would limit motorists that arrive or depart the project site from using the public street grid and these street segments. Short of full closure of the affected street segments, which would not be acceptable since these streets serve adjacent land uses and carry vehicles that would then need to shift to other nearby streets, no feasible mitigation measures are available to reduce the number of potential project-related vehicle trips on these four street segments to a less than significant level (less than one trip per day). TDM strategies, identified in Chapter 3, would also reduce project traffic along these streets; however, without fully reducing net-new trips to 0 (or lower than the existing trip production), TDM strategies also would not mitigate impacts on segments where a single daily trip is the impact threshold. Therefore, the project impacts to these street segments would be significant and unavoidable.

The significant impact on segment 2 (on 2nd Street between Wilshire Boulevard and California Avenue) is due to project trips which increase the daily volume by more than 12.5%. The main project driveway access is located on this segment. Possible mitigations for this impact would include other access alternatives that disperse project traffic or fully relocate the main project driveway to another street such as Wilshire Boulevard or Ocean Avenue, and TDM strategies to reduce the overall trip generation. Over half of the daily project traffic estimated to use the project access on 2nd Street would need to be redistributed to one or more other driveways in order to fully mitigate this impact. Depending on the nature of alternative driveways, redistributing project traffic to other roadways could trigger additional intersection impacts and possibly secondary impacts to pedestrian and bicycle networks by adding new curb cuts or increasing the intensity of use at proposed driveways. It is also unknown if TDM strategies alone could reduce the daily trip generation by half so as not to exceed the 12.5% additional trips threshold. Therefore, this impact remains significant and unavoidable.

7. PROJECT ALTERNATIVES

In addition to the No Project, six action alternatives to the project were evaluated to determine their potential impacts on the surrounding transportation system as compared to the proposed project. Trip generation for each of the alternatives was estimated and compared with that of the proposed project, and a qualitative assessment of potential traffic impacts was made. A quantitative analysis of each alternative was not prepared as part of this study. The alternatives to the proposed project are described below:

1. **No Project.** Under the "No Project" alternative, the proposed redevelopment of the Miramar Hotel and the Second Street Parcel would not occur. The existing hotel and surface parking lot would remain and operations would remain the same.
2. **Ocean Ave Transition Zone Tier 2.** Alternative 2 assumes a 50' height limit and 2.25 FAR. The historic Palisades Building would remain and new buildings would be developed in accordance with the height and FAR limits above. This alternative assumes 261 hotel rooms, which is fewer both than the proposed project and the existing hotel, and 50 condo units instead of the proposed 60 units. The Second Street Parcel would include 5 market rate apartments and 14 affordable units at 3 bedrooms each.
3. **Hotel Only on Hotel Parcel (No Condominiums)**. This alternative maintains the proposed hotel configuration of 312 rooms, but does not include any condo units. The Second Street Parcel would include 9 market rate apartments and 3 affordable units at 3 bedrooms each.
4. **Reduced Height and Density.** This alternative assumes a maximum building height of 84'. The proposed hotel would include 226 rooms, which is fewer than the proposed project and the existing hotel. The alternative includes 45 condo units. The Second Street Parcel would include 6 market rate units and 13 affordable units at 3 bedrooms each.
5. **Alternate Massing.** This is a design alternative with the same number of hotel rooms, condos, and programming as the proposed project. The Second Street Parcel remains the same as the proposed project. Access under this alternative remains the same as the proposed project.
6. **Modified Access.** This alternative assumes the same land uses and programming as the proposed project for both the Hotel and Second Street Parcels, but removes the employee entrance to the hotel on California Avenue. Under this alternative, all employee trips are assigned to enter and exit at a driveway north of the proposed 2nd Street driveway and no driveway or associated trips are present on California Avenue.

ESTIMATED TRIP GENERATION FOR PROJECT ALTERNATIVES

The trip generation of each of the alternatives was estimated using the same methodology that was used for the proposed project. The resulting trip generation estimates for each alternative are shown in Tables 10 to 12. Table 13 compares trips generated by the proposed project with the six project alternatives. The estimated trip generation of each alternative is summarized below.

- Alternative 1 – Under this alternative, the project would not be constructed, and there would be no new trips generated to or from the project site. Existing uses would continue to generate trips.

- Alternative 2 – The trip generation for Alternative 2 would be 30 – 45% lower than that of the proposed project during each of the analyzed peak hours. As shown in Table 10, this alternative is expected to generate a net increase of 781 daily weekday trips, 46 trips in the AM peak hour, and 55 trips in the PM peak hour. This alternative is also expected to generate a net increase of 874 weekend daily trips and 63 trips in the weekend midday peak hour.

- Alternative 3 – The trip generation for Alternative 3 would be 35% - 40% lower than that of the proposed project during each of the analyzed peak hours. As shown in Table 11, this alternative is expected to generate a net increase of 631 weekday daily trips, 52 trips in the AM peak hours, and 47 trips in the PM peak hour. This alternative is also expected to generate a net increase of 881 weekend daily trips and 63 trips in the weekend midday peak hour.

- Alternative 4 – The trip generation for Alternative 4 would be considerably lower than that of the proposed project during each of the analyzed peak hours. As shown in Table 12, this alternative is expected to generate a net increase of 641 weekday daily trips, 25 trips in the AM peak hours, and 44 trips in the PM peak hour. This alternative is also expected to generate 628 weekend daily trips and 47 trips in the weekend midday peak hour.

- Alternative 5 – The trip generation for Alternative 5 would be the same to that of the proposed project.

- Alternative 6 – The trip generation for Alternative 6 would be the same to that of the proposed project.

TABLE 10
MIRAMAR HOTEL PROJECT
APPROVAL YEAR (2020) AND FUTURE YEAR (2025) TRIP GENERATION ESTIMATES - ALTERNATIVE 2

Land Use	Size	Weekday	AM Peak Hour			PM Peak Hour			Weekend	Weekend Peak Hour			Trip Rate	Weekday	AM Peak Hour Trips			PM Peak Hour			Weekend	Weekend Peak Hour Trips		
		Daily Rate	Rate	% In	% Out	Rate	% In	% Out	Daily Rate	Rate	% In	% Out	Unit	Daily Trips	In	Out	Total	In	Out	Total	Daily Trips	In	Out	Total
PROPOSED PROJECT																								
Hotel [a]	261 rooms	2.22	0.42	49%	51%	0.11	52%	48%	4.07	0.17	58%	42%	per room	580	54	56	110	15	14	29	1,063	25	19	44
Hotel Employee Trips [a]	324 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	254	24	2	26	22	20	42	566	32	32	64
Hotel Restaurant [a]	12.703 ksf	27.15	3.15	51%	49%	1.57	67%	33%	46.86	2.36	59%	41%	per ksf	345	20	20	40	13	7	20	595	18	12	30
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Retail [b]	6.600 ksf	29.59	1.33	61%	39%	2.01	49%	51%	29.59	2.64	52%	48%	per ksf	195	5	4	9	6	7	13	195	9	8	17
Spa & Fitness [a]	12.500 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	182	3	4	7	6	5	11	222	4	5	9
Condominiums [c] [d]	50 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	274	3	15	18	14	6	20	274	11	8	19
Affordable Housing - 1 bedroom [c]	0 DU	3.20	0.21	19%	81%	0.23	68%	32%	3.20	0.22	56%	44%	per du	0	0	0	0	0	0	0	0	0	0	0
Affordable Housing 2-3 bedrooms [c]	19 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	104	1	6	7	5	2	7	104	4	3	7
Total														**2,634**	**110**	**107**	**217**	**116**	**82**	**198**	**4,429**	**258**	**125**	**383**
EXISTING TO BE REMOVED																								
Hotel [a]	301 rooms	2.22	0.42	62%	38%	0.11	53%	47%	4.07	0.17	56%	44%	per room	669	79	48	127	17	16	33	1,226	29	22	51
Hotel Employee Trips [a]	282 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	221	21	2	23	19	18	37	493	28	28	56
Hotel Restaurant [a]	6.594 ksf	27.15	2.73	51%	49%	1.52	67%	33%	46.86	2.12	59%	41%	per ksf	179	9	9	18	7	3	10	309	8	6	14
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Hotel Retail [a]	1.235 ksf	2.43	0.00	61%	39%	1.23	49%	51%	14.57	1.62	52%	48%	per ksf	3	0	0	0	1	1	2	18	1	1	2
Spa & Fitness [a]	5.569 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	81	1	2	3	3	2	5	99	2	2	4
														(1,853)	**(110)**	**(61)**	**(171)**	**(82)**	**(61)**	**(143)**	**(3,555)**	**(223)**	**(97)**	**(320)**
NET NEW TRIPS														**781**	**0**	**46**	**46**	**34**	**21**	**55**	**874**	**35**	**28**	**63**

Notes:

[a] Rates derived empirically to reflect site-specific conditions, as documented in LLG Memo: "Addendum Trip Generation Report" (July 29, 2019)

[b] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #820 Shopping Center, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[c] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #220 Multifamily Housing, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[d] Based on market conditions and to provide future operational flexibility, the Project proposes to allow owners of condominiums the ability to periodically make their units available for use as hotel guest rooms. A maximum of 10 of the condominium units would be utilized as hotel guest rooms at any one time. These 10 units were analyzed as condominiums for the purpose of this study, which is conservative because residential trip generation rates are similar or higher than hotel trip generation rates.

TABLE 11
MIRAMAR HOTEL PROJECT
APPROVAL YEAR (2020) AND FUTURE YEAR (2025) TRIP GENERATION ESTIMATES - ALTERNATIVE 3

Land Use	Size	Weekday	AM Peak Hour			PM Peak Hour			Weekend	Weekend Peak Hour			Trip Rate	Weekday	AM Peak Hour Trips			PM Peak Hour			Weekend	Weekend Peak Hour Trips		
		Daily Rate	Rate	% In	% Out	Rate	% In	% Out	Daily Rate	Rate	% In	% Out	Unit	Daily Trips	In	Out	Total	In	Out	Total	Daily Trips	In	Out	Total
PROPOSED PROJECT																								
Hotel [a]	312 rooms	2.22	0.42	49%	51%	0.11	52%	48%	4.07	0.17	58%	42%	per room	693	64	68	132	18	16	34	1,271	31	22	53
Hotel Employee Trips [a]	387 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	303	29	2	31	27	24	51	677	39	38	77
Hotel Restaurant [a]	12.703 ksf	27.15	3.15	51%	49%	1.57	67%	33%	46.86	2.36	59%	41%	per ksf	345	20	20	40	13	7	20	595	18	12	30
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Retail [b]	6.600 ksf	29.59	1.33	61%	39%	2.01	49%	51%	29.59	2.64	52%	48%	per ksf	195	5	4	9	6	7	13	195	9	8	17
Spa & Fitness [a]	12.500 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	182	3	4	7	6	5	11	222	4	5	9
Condominiums [c] [d]	0 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	0	0	0	0	0	0	0	0	0	0	0
Affordable Housing - 1 bedroom [c]	0 DU	3.20	0.21	19%	81%	0.23	68%	32%	3.20	0.22	56%	44%	per du	0	0	0	0	0	0	0	0	0	0	0
Affordable Housing 2-3 bedrooms [c]	12 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	66	1	3	4	3	2	5	66	2	2	4
Total														**2,484**	**122**	**101**	**223**	**108**	**82**	**190**	**4,436**	**258**	**125**	**383**
EXISTING TO BE REMOVED																								
Hotel [a]	301 rooms	2.22	0.42	62%	38%	0.11	53%	47%	4.07	0.17	56%	44%	per room	669	79	48	127	17	16	33	1,226	29	22	51
Hotel Employee Trips [a]	282 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	221	21	2	23	19	18	37	493	28	28	56
Hotel Restaurant [a]	6.594 ksf	27.15	2.73	51%	49%	1.52	67%	33%	46.86	2.12	59%	41%	per ksf	179	9	9	18	7	3	10	309	8	6	14
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Hotel Retail [a]	1.235 ksf	2.43	0.00	61%	39%	1.23	49%	51%	14.57	1.62	52%	48%	per ksf	3	0	0	0	1	1	2	18	1	1	2
Spa & Fitness [a]	5.569 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	81	1	2	3	3	2	5	99	2	2	4
														(1,853)	**(110)**	**(61)**	**(171)**	**(82)**	**(61)**	**(143)**	**(3,555)**	**(223)**	**(97)**	**(320)**
NET NEW TRIPS														**631**	**12**	**40**	**52**	**26**	**21**	**47**	**881**	**35**	**28**	**63**

Notes:

[a] Rates derived empirically to reflect site-specific conditions, as documented in LLG Memo: "Addendum Trip Generation Report" (July 29, 2019)

[b] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #820 Shopping Center, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[c] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #220 Multifamily Housing, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[d] Based on market conditions and to provide future operational flexibility, the Project proposes to allow owners of condominiums the ability to periodically make their units available for use as hotel guest rooms. A maximum of 10 of the condominium units would be utilized as hotel guest rooms at any one time. These 10 units were analyzed as condominiums for the purpose of this study, which is conservative because residential trip generation rates are similar or higher than hotel trip generation rates.

TABLE 12
MIRAMAR HOTEL PROJECT
APPROVAL YEAR (2020) AND FUTURE YEAR (2025) TRIP GENERATION ESTIMATES - ALTERNATIVE 4

Land Use	Size	Weekday	AM Peak Hour			PM Peak Hour			Weekend	Weekend Peak Hour			Trip Rate	Weekday	AM Peak Hour Trips			PM Peak Hour			Weekend	Weekend Peak Hour Trips		
		Daily Rate	Rate	% In	% Out	Rate	% In	% Out	Daily Rate	Rate	% In	% Out	Unit	Daily Trips	In	Out	Total	In	Out	Total	Daily Trips	In	Out	Total
PROPOSED PROJECT																								
Hotel [a]	226 rooms	2.22	0.42	49%	51%	0.11	52%	48%	4.07	0.17	58%	42%	per room	502	46	49	95	13	12	25	921	22	16	38
Hotel Employee Trips [a]	280 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	220	20	2	22	19	18	37	490	28	28	56
Hotel Restaurant [a]	12.703 ksf	27.15	3.15	51%	49%	1.57	67%	33%	46.86	2.36	59%	41%	per ksf	345	20	20	40	13	7	20	595	18	12	30
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Retail [b]	6.600 ksf	29.59	1.33	61%	39%	2.01	49%	51%	29.59	2.64	52%	48%	per ksf	195	5	4	9	6	7	13	195	9	8	17
Spa & Fitness [a]	12.500 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	182	3	4	7	6	5	11	222	4	5	9
Condominiums [c] [d]	45 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	246	3	13	16	12	6	18	246	10	7	17
Affordable Housing - 1 bedroom [c]	0 DU	3.20	0.21	19%	81%	0.23	68%	32%	3.20	0.22	56%	44%	per du	0	0	0	0	0	0	0	0	0	0	0
Affordable Housing 2-3 bedrooms [c]	19 DU	5.47	0.36	19%	81%	0.39	68%	32%	5.47	0.37	56%	44%	per du	104	1	6	7	5	2	7	104	4	3	7
Total														**2,494**	**98**	**98**	**196**	**109**	**78**	**187**	**4,183**	**250**	**117**	**367**
EXISTING TO BE REMOVED																								
Hotel [a]	301 rooms	2.22	0.42	62%	38%	0.11	53%	47%	4.07	0.17	56%	44%	per room	669	79	48	127	17	16	33	1,226	29	22	51
Hotel Employee Trips [a]	282 employees	0.78	0.08	92%	8%	0.13	52%	48%	1.75	0.20	50%	50%	per employee	221	21	2	23	19	18	37	493	28	28	56
Hotel Restaurant [a]	6.594 ksf	27.15	2.73	51%	49%	1.52	67%	33%	46.86	2.12	59%	41%	per ksf	179	9	9	18	7	3	10	309	8	6	14
The Bungalow [a]	7.005 ksf	99.93	0.00	67%	33%	7.99	63%	38%	201.28	27.55	80%	20%	per ksf	700	0	0	0	35	21	56	1,410	155	38	193
Hotel Retail [a]	1.235 ksf	2.43	0.00	61%	39%	1.23	49%	51%	14.57	1.62	52%	48%	per ksf	3	0	0	0	1	1	2	18	1	1	2
Spa & Fitness [a]	5.569 ksf	14.54	0.54	45%	55%	0.90	57%	43%	17.78	0.72	45%	55%	per ksf	81	1	2	3	3	2	5	99	2	2	4
														(1,853)	**(110)**	**(61)**	**(171)**	**(82)**	**(61)**	**(143)**	**(3,555)**	**(223)**	**(97)**	**(320)**
NET NEW TRIPS														**641**	**(12)**	**37**	**25**	**27**	**17**	**44**	**628**	**27**	**20**	**47**

Notes:

[a] Rates derived empirically to reflect site-specific conditions, as documented in LLG Memo: "Addendum Trip Generation Report" (July 29, 2019)

[b] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #820 Shopping Center, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[c] Trip generation for project land use in 2020 from TDFM (Area Type 1), without Expo reduction from Table 14 in Santa Monica Travel Demand Forecasting Model Trip Generation Rates, is used so that rates account for LUCE TDM measures and proximity to the Expo LRT; in/out splits are applied from #220 Multifamily Housing, Trip Generation, 10th Edition, Institute of Transportation Engineers (ITE), 2017.

[d] Based on market conditions and to provide future operational flexibility, the Project proposes to allow owners of condominiums the ability to periodically make their units available for use as hotel guest rooms. A maximum of 10 of the condominium units would be utilized as hotel guest rooms at any one time. These 10 units were analyzed as condominiums for the purpose of this study, which is conservative because residential trip generation rates are similar or higher than hotel trip generation rates.

TABLE 13
PROJECT ALTERNATIVES TRIP GENERATION COMPARISON

Land Use	Weekday	AM Peak Hour Trips			PM Peak Hour Trips			Weekend	WKND Peak Hour Trips		
	Daily Trips	In	Out	Total	In	Out	Total	Daily Trips	In	Out	Total
Proposed Project											
NET NEW TRIPS	*1,117*	*18*	*67*	*85*	*50*	*31*	*81*	*1,367*	*53*	*43*	*96*
Alternative 1 - No Project											
NET NEW TRIPS	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
% Change: Alt 1 vs. Proposed Project	100%			100%			100%	100%			100%
Alternative 2 - Ocean Ave Transition Zoning, Tier 2											
NET NEW TRIPS	*781*	*0*	*46*	*46*	*34*	*21*	*55*	*874*	*35*	*28*	*63*
% Change: Alt 2 vs. Proposed Project	-30%			-46%			-32%	-36%			-34%
Alternative 3 - No Condo											
NET NEW TRIPS	*631*	*12*	*40*	*52*	*26*	*21*	*47*	*881*	*35*	*28*	*63*
% Change: Alt 3 vs. Proposed Project	-44%			-39%			-42%	-36%			-34%
Alternative 4 - Reduced Density and Height											
NET NEW TRIPS	*641*	*(12)*	*37*	*25*	*27*	*17*	*44*	*628*	*27*	*20*	*47*
% Change: Alt 4 vs. Proposed Project	-43%			-71%			-46%	-54%			-51%
Alternative 5 - Massing Alternative											
NET NEW TRIPS	*1,117*	*18*	*67*	*85*	*50*	*31*	*81*	*1,367*	*53*	*43*	*96*
% Change: Alt 5 vs. Proposed Project	0%			0%			0%	0%			0%
Alternative 6 - Access Alternative											
NET NEW TRIPS	*1,117*	*18*	*67*	*85*	*50*	*31*	*81*	*1,367*	*53*	*43*	*96*
% Change: Alt 6 vs. Proposed Project	0%			0%			0%	0%			0%

POTENTIAL TRAFFIC IMPACTS OF PROJECT ALTERNATIVES

Based on the projected trip generation of the proposed alternatives and a review of the incremental changes in delay and V/C under the proposed project, the following general conclusions can be made with regard to anticipated traffic impacts:

- Alternative 1 – By definition, no traffic impacts would occur under this alternative, as no new development and associated vehicle trips would occur on the project site.

  No segment impacts would occur under this alternative.

- Alternative 2 – The severity of impacts that would occur under Approval conditions would be slightly less than that of the proposed project. Under Future conditions, the significant impact at the intersection of Palisades Beach Road & California Avenue would not be expected to occur. There would also be one less AM peak hour significant impact. The severity of impacts during the PM and Weekend peak hours would be reduced but still be considered significant. No additional significant traffic impacts would occur under this alternative.

  The same number and location of segment impacts would occur under this alternative. No additional segment impacts would occur.

- Alternative 3 – The severity of impacts that would occur under Approval conditions would be slightly less than that of the proposed project. Under Future conditions, the significant impact at the intersection of Ocean Avenue & California Avenue would not be expected to occur. The Weekend peak hour impact at Lincoln Boulevard & California Avenue is also not expected to occur. The severity of the impacts that occur with the proposed project would be reduced but still be considered significant. No additional significant impacts would occur under this alternative.

  The same number and location of segment impacts would occur under this alternative. No additional segment impacts would occur.

- Alternative 4 –The severity of impacts that would occur under Approval conditions would be slightly less than that of the proposed project. Under Future conditions, the significant impact at the intersection of Palisades Beach Road & California Avenue would not be expected to occur. There would also be one less AM peak hour significant impact. The severity of impacts during the PM and Weekend peak hours would be reduced but still be considered significant. No additional significant traffic impacts would occur under this alternative.

  The same number and location of segment impacts would occur under this alternative. No additional segment impacts would occur.

- Alternative 5 – This alternative would generate the same level of trips as the proposed project for each of the analyzed peak hours, resulting in the same number and location of significant intersection impacts. This alterative would also result in the same number and location of segment impacts.

  The same number and location of segment impacts would occur under this alternative. No additional segment impacts would occur.

- Alternative 6 - This alternative would generate the same level of trips as the proposed project, but access for employees would occur on 2nd Street instead of California Avenue. Each of the significant impacts that would occur with the proposed project would also occur with Alternative 6. However, with all employee trips now accessing the project site on 2nd Street, the severity of the impacts at 2nd Street & Wilshire Boulevard (Intersection 14) would increase under both Approval (2020) and Future Year (2025). Table 14 summarizes the results of the Approval Year (2020) plus Project Alternative 6 conditions and Table 15 summarizes the results of the Future (2025) plus Project Alternative 6 conditions.

  Under this alternative, there would be one less segment impact on California Avenue between Ocean Avenue and 2nd Street due to the shift in employee access from California Avenue to 2nd Street. All other impacts remain the same. Table 16 summarizes the results for Existing plus Project for both weekday and weekend analysis periods.

As summarized in Table 17, Alternative 1 would avoid all of the significant intersection impacts associated with the proposed project. Alternatives 2, 3, and 4, there would be one less significant intersection impact in the Future Year than with the proposed project, though the number and location of significant intersection impacts under Approval conditions would be unchanged. The number and location of significant impacts for Alternative 6 would remain the same under Approval and Future conditions but the severity of the impact at one intersection would increase.

As summarized in Table 18, Alternative 1 would avoid all of the segment impacts associated with the proposed project. Alternatives 2, 3, 4, and 5 would generate the same number of segment impacts as the proposed project. One less segment impact would occur under Alternative 6.

TABLE 14
APPROVAL YEAR (2020) INTERSECTION LEVEL OF SERVICE AND IMPACT ANALYSIS
ALTERNATIVE 6 - ALTERNATE ACCESS
CITY OF SANTA MONICA - HCM 2010 METHODOLOGY

NO.	INTERSECTION	CLASS	PEAK HOUR	APPROVAL NO PROJECT			APPROVAL + PROJECT			V/C OR DELAY CHANGE	SIGNIFICANT IMPACT?
				V/C	DELAY*	LOS	V/C	DELAY*	LOS		
1	PALISADES BEACH ROAD &	A	AM	1.196	69	E	1.205	71	E	2	Yes
	CALIFORNIA INCLINE	A	PM	1.008	47	D	1.008	48	D	1	No
		A	WKND	1.203	88	F	1.204	90	F	0.001	No
2	OCEAN AVENUE &	C	AM	0.370	8	A	0.370	8	A	0	No
	MONTANA AVENUE	C	PM	0.351	10	A	0.352	10	A	0	No
		C	WKND	0.377	10	A	0.378	10	A	0	No
3	OCEAN AVENUE &	A	AM	0.937	72	E	0.937	81	F	9	Yes
	CALIFORNIA AVENUE	A	PM	1.192	**	F	1.292	**	F	0.1	Yes
		A	WKND	1.252	**	F	1.240	**	F	-0.012	No
4	OCEAN AVENUE &	A	AM	0.299	12	B	0.291	12	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.391	22	C	0.381	20	B	-2	No
		A	WKND	0.397	28	C	0.368	20	B	-8	No
5	OCEAN AVENUE &	A	AM	0.256	7	A	0.256	7	A	0	No
	ARIZONA AVENUE	A	PM	0.367	13	B	0.368	13	B	0	No
		A	WKND	0.356	13	B	0.357	13	B	0	No
6	OCEAN AVENUE &	A	AM	0.303	9	A	0.303	9	A	0	No
	SANTA MONICA BOULEVARD	A	PM	0.443	31	C	0.444	31	C	0	No
		A	WKND	0.482	42	D	0.482	42	D	0	No
7	OCEAN AVENUE &	A	AM	0.358	8	A	0.357	7	A	-1	No
	BROADWAY	A	PM	0.552	37	D	0.549	35	C	-2	No
		A	WKND	0.581	47	D	0.574	44	D	-3	No
8	OCEAN AVENUE &	A	AM	0.368	25	C	0.369	25	C	0	No
	COLORADO AVENUE	A	PM	0.511	47	D	0.512	47	D	0	No
		A	WKND	0.456	36	D	0.457	36	D	0	No
9	OCEAN AVENUE &	A	AM	0.439	25	C	0.440	25	C	0	No
	MOOMAT AHIKO WAY	A	PM	0.527	24	C	0.528	24	C	0	No
		A	WKND	0.455	25	C	0.456	25	C	0	No
10	OCEAN AVENUE &	A	AM	0.409	11	B	0.410	11	B	0	No
	OLYMPIC DRIVE	A	PM	0.546	14	B	0.546	14	B	0	No
		A	WKND	0.536	36	D	0.538	36	D	0	No
11	OCEAN AVENUE &	A	AM	0.491	20	B	0.492	20	B	0	No
	PICO BOULEVARD	A	PM	0.572	39	D	0.573	39	D	0	No
		A	WKND	0.484	30	C	0.485	30	C	0	No
12	SECOND STREET &	C	AM	0.193	9	A	0.193	9	A	0	No
	WASHINGTON AVENUE	C	PM	0.229	9	A	0.229	9	A	0	No
		C	WKND	0.236	9	A	0.236	9	A	0	No
13	SECOND STREET &	C	AM	0.379	10	A	0.403	10	A	0	No
	CALIFORNIA AVENUE	C	PM	0.467	12	B	0.497	13	B	1	No
		C	WKND	0.504	13	B	0.525	14	B	1	No
14	SECOND STREET &	A	AM	0.364	36	D	1.565	**	F	≥ 1	Yes
	WILSHIRE BOULEVARD	A	PM	0.392	71	E	1.007	**	F	≥ 1	Yes
		A	WKND	0.762	**	F	7.563	**	F	6.801	Yes
15	SECOND STREET &	C	AM	0.327	29	C	0.331	29	C	0	No
	ARIZONA AVENUE	C	PM	0.397	29	C	0.399	29	C	0	No
		C	WKND	0.364	29	C	0.366	29	C	0	No
16	SECOND STREET &	A	AM	0.336	29	C	0.337	29	C	0	No
	SANTA MONICA BOULEVARD	A	PM	1.135	97	F	1.135	97	F	0	No
		A	WKND	1.088	86	F	1.088	86	F	0	No
17	SECOND STREET &	C	AM	0.283	27	C	0.284	27	C	0	No
	BROADWAY	C	PM	0.281	27	C	0.281	27	C	0	No
		C	WKND	0.350	29	C	0.350	29	C	0	No
18	SECOND STREET &	A	AM	0.294	35	C	0.295	35	C	0	No
	COLORADO AVENUE	A	PM	0.320	35	C	0.320	35	C	0	No
		A	WKND	0.374	35	C	0.375	35	C	0	No
19	MAIN STREET &	C	AM	0.690	94	F	0.691	93	F	0.001	No
	OLYMPIC DRIVE	C	PM	0.378	22	C	0.379	22	C	0	No
		C	WKND	0.614	81	F	0.615	81	F	0.001	No
20	THIRD STREET &	C	AM	0.402	11	B	0.426	11	B	0	No
	CALIFORNIA AVENUE	C	PM	0.363	10	A	0.375	10	A	0	No
		C	WKND	0.428	11	B	0.447	12	B	1	No
21	THIRD STREET &	A	AM	0.167	14	B	0.169	14	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.239	20	B	0.247	20	B	0	No
		A	WKND	0.290	16	B	0.295	18	B	2	No
22	FOURTH STREET &	C	AM	0.287	7	A	0.287	7	A	0	No
	MONTANA AVENUE	C	PM	0.325	8	A	0.325	8	A	0	No
		C	WKND	0.295	8	A	0.298	8	A	0	No
23	FOURTH STREET &	C	AM	0.424	11	B	0.426	11	B	0	No
	WASHINGTON AVENUE	C	PM	0.451	12	B	0.452	12	B	0	No
		C	WKND	0.324	10	A	0.328	10	A	0	No
24	FOURTH STREET &	C	AM	0.347	7	A	0.355	7	A	0	No
	CALIFORNIA AVENUE	C	PM	0.344	8	A	0.346	8	A	0	No
		C	WKND	0.325	8	A	0.332	8	A	0	No
25	FOURTH STREET &	A	AM	0.287	28	C	0.287	28	C	0	No
	WILSHIRE BOULEVARD	A	PM	0.293	28	C	0.297	28	C	0	No
		A	WKND	0.324	29	C	0.331	29	C	0	No

26	FOURTH STREET &	A	AM	0.311	26	C	0.313	26	C	0	No
	ARIZONA AVENUE	A	PM	0.372	30	C	0.374	30	C	0	No
		A	WKND	0.381	30	C	0.382	30	C	0	No
27	FOURTH STREET &	A	AM	0.294	23	C	0.296	23	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.274	28	C	0.279	28	C	0	No
		A	WKND	0.304	29	C	0.308	29	C	0	No
28	FOURTH STREET &	A	AM	0.394	35	C	0.399	35	C	0	No
	BROADWAY	A	PM	0.495	41	D	0.496	41	D	0	No
		A	WKND	0.476	41	D	0.475	41	D	0	No
29	FOURTH STREET &	A	AM	0.303	17	B	0.303	17	B	0	No
	COLORADO AVENUE	A	PM	0.429	23	C	0.430	23	C	0	No
		A	WKND	0.423	24	C	0.425	24	C	0	No
30	FOURTH STREET &	A	AM	0.704	39	D	0.707	39	D	0	No
	I-10 WB OFF-RAMP	A	PM	0.574	29	C	0.578	29	C	0	No
		A	WKND	0.467	26	C	0.467	26	C	0	No
31	FOURTH STREET &	A	AM	0.574	41	D	0.575	41	D	0	No
	I-10 EB ON-RAMP	A	PM	0.557	25	C	0.558	25	C	0	No
		A	WKND	0.538	43	D	0.538	43	D	0	No
32	FIFTH STREET &	C	AM	0.340	10	A	0.358	10	A	0	No
	CALIFORNIA AVENUE	C	PM	0.495	12	B	0.512	13	B	1	No
		C	WKND	0.425	11	B	0.446	12	B	1	No
33	FIFTH STREET &	A	AM	0.289	17	B	0.292	17	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.391	18	B	0.398	18	B	0	No
		A	WKND	0.393	16	B	0.398	16	B	0	No
34	FIFTH STREET &	C	AM	0.288	20	B	0.292	20	B	0	No
	ARIZONA AVENUE	C	PM	0.316	21	C	0.320	21	C	0	No
		C	WKND	0.500	25	C	0.500	24	C	-1	No
35	FIFTH STREET &	A	AM	0.287	24	C	0.290	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.373	22	C	0.377	22	C	0	No
		A	WKND	0.369	27	C	0.369	28	C	1	No
36	FIFTH STREET &	C	AM	0.377	24	C	0.383	24	C	0	No
	BROADWAY	C	PM	0.388	23	C	0.393	23	C	0	No
		C	WKND	0.449	22	C	0.450	23	C	1	No
37	FIFTH STREET &	A	AM	0.324	22	C	0.327	22	C	0	No
	COLORADO AVENUE	A	PM	0.426	23	C	0.430	23	C	0	No
		A	WKND	0.417	24	C	0.424	24	C	0	No
38	SIXTH STREET &	C	AM	0.353	10	A	0.370	10	A	0	No
	CALIFORNIA AVENUE	C	PM	0.427	12	B	0.437	12	B	0	No
		C	WKND	0.425	11	B	0.442	11	B	0	No
39	SEVENTH STREET &	C	AM	0.772	35	C	0.774	35	C	0	No
	MONTANA AVENUE	C	PM	0.720	24	C	0.720	24	C	0	No
		C	WKND	0.803	35	C	0.803	35	C	0	No
40	SEVENTH STREET &	C	AM	0.538	14	B	0.544	15	B	1	No
	CALIFORNIA AVENUE	C	PM	0.621	15	B	0.627	16	B	1	No
		C	WKND	0.510	15	B	0.518	15	B	0	No
41	LINCOLN BOULEVARD &	C	AM	0.452	11	B	0.453	11	B	0	No
	MONTANA AVENUE	C	PM	0.502	9	A	0.502	9	A	0	No
		C	WKND	0.484	9	A	0.484	9	A	0	No
42	LINCOLN BOULEVARD &	C	AM	0.861	36	D	0.878	38	D	2	Yes
	CALIFORNIA AVENUE	C	PM	0.886	27	C	0.902	28	C	1	No
		C	WKND	0.931	30	C	0.965	34	C	4	No
43	LINCOLN BOULEVARD &	A	AM	0.451	22	C	0.453	23	C	1	No
	WILSHIRE BOULEVARD	A	PM	0.447	22	C	0.448	22	C	0	No
		A	WKND	0.504	22	C	0.503	22	C	0	No
44	LINCOLN BOULEVARD &	A	AM	0.812	50	D	0.816	50	D	0	No
	ARIZONA AVENUE	A	PM	0.800	38	D	0.801	38	D	0	No
		A	WKND	0.648	30	C	0.647	30	C	0	No
45	LINCOLN BOULEVARD &	A	AM	0.487	24	C	0.489	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.568	27	C	0.570	27	C	0	No
		A	WKND	0.600	31	C	0.600	31	C	0	No
46	LINCOLN BOULEVARD &	A	AM	0.545	30	C	0.546	30	C	0	No
	BROADWAY	A	PM	0.584	31	C	0.585	31	C	0	No
		A	WKND	0.673	38	D	0.677	38	D	0	No
47	LINCOLN BOULEVARD &	A	AM	0.525	70	E	0.523	70	E	0	No
	COLORADO AVENUE	A	PM	0.521	53	D	0.521	53	D	0	No
		A	WKND	0.623	52	D	0.626	54	D	2	No
48	LINCOLN BOULEVARD &	A	AM	0.959	91	F	0.962	90	F	0.003	No
	I-10 WB OFF-RAMP	A	PM	0.703	40	D	0.705	40	D	0	No
		A	WKND	0.840	54	D	0.841	54	D	0	No
49	LINCOLN BOULEVARD &	A	AM	0.807	38	D	0.809	38	D	0	No
	I-10 EB ON-RAMP	A	PM	0.550	30	C	0.551	30	C	0	No
		A	WKND	0.761	36	D	0.763	36	D	0	No
50	PACIFIC COAST HIGHWAY &	A	AM	0.838	20	B	0.839	20	B	0	No
	ENTRADA DRIVE	A	PM	0.707	6	A	0.707	6	A	0	No
		A	WKND	0.616	6	A	0.616	6	A	0	No
51	PACIFIC COAST HIGHWAY &	A	AM	1.024	**	F	1.025	**	F	0.001	No
	CHAUTAUQUA/CHANNEL	A	PM	0.958	82	F	0.958	82	F	0	No
		A	WKND	0.949	80	E	0.949	80	E	0	No

Notes:

* Average stopped delay per vehicle, in seconds.

** Indicates oversaturated conditions. Delay cannot be calculated.

A Arterial intersection

C Collector intersection

TABLE 15
FUTURE YEAR (2025) INTERSECTION LEVEL OF SERVICE AND IMPACT ANALYSIS
ALTERNATIVE 6 - ALTERNATE ACCESS
CITY OF SANTA MONICA - HCM 2010 METHODOLOGY

NO.	INTERSECTION	CLASS	PEAK HOUR	FUTURE NO PROJECT			FUTURE + PROJECT			V/C OR DELAY CHANGE	SIGNIFICANT IMPACT?
				V/C	DELAY*	LOS	V/C	DELAY*	LOS		
1	PALISADES BEACH ROAD &	A	AM	1.115	67	E	1.125	68	E	1	Yes
	CALIFORNIA INCLINE	A	PM	0.949	49	D	0.949	50	D	1	No
		A	WKND	1.243	54	D	1.243	54	D	0	No
2	OCEAN AVENUE &	C	AM	0.400	10	A	0.400	10	A	0	No
	MONTANA AVENUE	C	PM	0.323	10	A	0.323	10	A	0	No
		C	WKND	0.419	11	B	0.420	11	B	0	No
3	OCEAN AVENUE &	A	AM	0.778	66	E	0.777	69	E	3	Yes
	CALIFORNIA AVENUE	A	PM	1.048	**	F	1.080	**	F	0.032	Yes
		A	WKND	1.981	**	F	1.999	**	F	0.018	Yes
4	OCEAN AVENUE &	A	AM	0.362	14	B	0.355	13	B	-1	No
	WILSHIRE BOULEVARD	A	PM	0.498	50	D	0.489	45	D	-5	No
		A	WKND	0.458	71	E	0.428	51	D	-20	No
5	OCEAN AVENUE &	A	AM	0.305	8	A	0.305	8	A	0	No
	ARIZONA AVENUE	A	PM	0.358	12	B	0.359	12	B	0	No
		A	WKND	0.354	13	B	0.355	13	B	0	No
6	OCEAN AVENUE &	A	AM	0.330	10	A	0.330	10	A	0	No
	SANTA MONICA BOULEVARD	A	PM	0.488	34	C	0.489	34	C	0	No
		A	WKND	0.516	43	D	0.516	43	D	0	No
7	OCEAN AVENUE &	A	AM	0.408	13	B	0.407	13	B	0	No
	BROADWAY	A	PM	0.605	53	D	0.604	52	D	-1	No
		A	WKND	0.657	61	E	0.658	60	E	-1	No
8	OCEAN AVENUE &	A	AM	0.401	26	C	0.402	26	C	0	No
	COLORADO AVENUE	A	PM	0.545	53	D	0.546	53	D	0	No
		A	WKND	0.588	46	D	0.589	46	D	0	No
9	OCEAN AVENUE &	A	AM	0.447	25	C	0.447	25	C	0	No
	MOOMAT AHIKO WAY	A	PM	0.534	25	C	0.534	25	C	0	No
		A	WKND	0.550	31	C	0.552	31	C	0	No
10	OCEAN AVENUE &	A	AM	0.467	13	B	0.468	13	B	0	No
	OLYMPIC DRIVE	A	PM	0.585	16	B	0.586	16	B	0	No
		A	WKND	0.574	42	D	0.584	42	D	0	No
11	OCEAN AVENUE &	A	AM	0.563	21	C	0.564	21	C	0	No
	PICO BOULEVARD	A	PM	0.551	39	D	0.553	39	D	0	No
		A	WKND	0.581	31	C	0.582	31	C	0	No
12	SECOND STREET &	C	AM	0.142	9	A	0.142	9	A	0	No
	WASHINGTON AVENUE	C	PM	0.196	9	A	0.195	9	A	0	No
		C	WKND	0.163	9	A	0.163	9	A	0	No
13	SECOND STREET &	C	AM	0.280	9	A	0.259	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.422	11	B	0.450	11	B	0	No
		C	WKND	0.240	9	A	0.266	9	A	0	No
14	SECOND STREET &	A	AM	0.577	57	E	0.724	**	F	≥ 1	Yes
	WILSHIRE BOULEVARD	A	PM	0.501	48	D	1.154	**	F	≥ 1	Yes
		A	WKND	0.636	**	F	4.051	**	F	3.415	Yes
15	SECOND STREET &	C	AM	0.279	27	C	0.280	27	C	0	No
	ARIZONA AVENUE	C	PM	0.433	29	C	0.435	29	C	0	No
		C	WKND	0.596	34	C	0.598	34	C	0	No
16	SECOND STREET &	A	AM	0.377	26	C	0.381	27	C	1	No
	SANTA MONICA BOULEVARD	A	PM	1.331	**	F	1.331	**	F	0	No
		A	WKND	1.298	**	F	1.299	**	F	0.001	No
17	SECOND STREET &	C	AM	0.295	28	C	0.295	28	C	0	No
	BROADWAY	C	PM	0.403	29	C	0.405	29	C	0	No
		C	WKND	0.425	33	C	0.425	33	C	0	No
18	SECOND STREET &	A	AM	0.381	39	D	0.381	39	D	0	No
	COLORADO AVENUE	A	PM	0.441	38	D	0.441	38	D	0	No
		A	WKND	0.455	43	D	0.457	44	D	1	No
19	MAIN STREET &	C	AM	0.770	**	F	0.771	**	F	0.001	No
	OLYMPIC DRIVE	C	PM	0.410	18	B	0.410	18	B	0	No
		C	WKND	0.661	100	F	0.663	100	F	0.002	No
20	THIRD STREET &	C	AM	0.260	9	A	0.282	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.293	9	A	0.314	10	A	1	No
		C	WKND	0.525	12	B	0.543	12	B	0	No
21	THIRD STREET &	A	AM	0.359	16	B	0.378	17	B	1	No
	WILSHIRE BOULEVARD	A	PM	0.274	21	C	0.282	21	C	0	No
		A	WKND	0.359	21	C	0.364	21	C	0	No
22	FOURTH STREET &	C	AM	0.267	7	A	0.268	7	A	0	No
	MONTANA AVENUE	C	PM	0.352	8	A	0.353	8	A	0	No
		C	WKND	0.309	8	A	0.311	8	A	0	No
23	FOURTH STREET &	C	AM	0.447	12	B	0.449	12	B	0	No
	WASHINGTON AVENUE	C	PM	0.423	11	B	0.424	11	B	0	No
		C	WKND	0.421	11	B	0.425	11	B	0	No
24	FOURTH STREET &	C	AM	0.349	7	A	0.356	8	A	1	No
	CALIFORNIA AVENUE	C	PM	0.325	8	A	0.331	8	A	0	No
		C	WKND	0.431	9	A	0.440	10	A	1	No
25	FOURTH STREET &	A	AM	0.532	43	D	0.552	49	D	6	No
	WILSHIRE BOULEVARD	A	PM	0.502	38	D	0.511	40	D	2	No
		A	WKND	0.563	44	D	0.575	48	D	4	No

26	FOURTH STREET &	A	AM	0.441	26	C	0.443	26	C	0	No
	ARIZONA AVENUE	A	PM	0.642	71	E	0.647	71	E	0	No
		A	WKND	0.651	83	F	0.655	83	F	0.004	No
27	FOURTH STREET &	A	AM	0.480	24	C	0.483	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.353	27	C	0.359	27	C	0	No
		A	WKND	0.473	36	D	0.477	36	D	0	No
28	FOURTH STREET &	A	AM	0.556	39	D	0.559	39	D	0	No
	BROADWAY	A	PM	0.582	45	D	0.588	45	D	0	No
		A	WKND	0.552	43	D	0.557	43	D	0	No
29	FOURTH STREET &	A	AM	0.404	19	B	0.404	19	B	0	No
	COLORADO AVENUE	A	PM	0.452	24	C	0.453	24	C	0	No
		A	WKND	0.414	26	C	0.416	26	C	0	No
30	FOURTH STREET &	A	AM	0.695	33	C	0.698	33	C	0	No
	I-10 WB OFF-RAMP	A	PM	0.582	27	C	0.583	27	C	0	No
		A	WKND	0.554	27	C	0.554	27	C	0	No
31	FOURTH STREET &	A	AM	0.615	60	E	0.617	60	E	0	No
	I-10 EB ON-RAMP	A	PM	0.553	27	C	0.553	27	C	0	No
		A	WKND	0.581	55	D	0.581	55	D	0	No
32	FIFTH STREET &	C	AM	0.257	9	A	0.269	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.505	12	B	0.522	12	B	0	No
		C	WKND	0.255	9	A	0.283	9	A	0	No
33	FIFTH STREET &	A	AM	0.300	16	B	0.303	16	B	0	No
	WILSHIRE BOULEVARD	A	PM	0.389	17	B	0.399	17	B	0	No
		A	WKND	0.452	17	B	0.455	17	B	0	No
34	FIFTH STREET &	C	AM	0.231	19	B	0.232	19	B	0	No
	ARIZONA AVENUE	C	PM	0.430	21	C	0.434	21	C	0	No
		C	WKND	0.517	27	C	0.524	27	C	0	No
35	FIFTH STREET &	A	AM	0.265	22	C	0.268	22	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.405	21	C	0.409	21	C	0	No
		A	WKND	0.413	24	C	0.413	24	C	0	No
36	FIFTH STREET &	C	AM	0.367	23	C	0.372	23	C	0	No
	BROADWAY	C	PM	0.408	22	C	0.412	22	C	0	No
		C	WKND	0.465	22	C	0.467	22	C	0	No
37	FIFTH STREET &	A	AM	0.371	23	C	0.375	23	C	0	No
	COLORADO AVENUE	A	PM	0.431	24	C	0.435	24	C	0	No
		A	WKND	0.490	25	C	0.497	26	C	1	No
38	SIXTH STREET &	C	AM	0.243	9	A	0.258	9	A	0	No
	CALIFORNIA AVENUE	C	PM	0.322	10	A	0.324	10	A	0	No
		C	WKND	0.218	9	A	0.232	9	A	0	No
39	SEVENTH STREET &	C	AM	0.775	31	C	0.777	31	C	0	No
	MONTANA AVENUE	C	PM	0.685	24	C	0.685	24	C	0	No
		C	WKND	0.794	35	C	0.794	35	C	0	No
40	SEVENTH STREET &	C	AM	0.559	14	B	0.566	15	B	1	No
	CALIFORNIA AVENUE	C	PM	0.567	14	B	0.572	14	B	0	No
		C	WKND	0.460	11	B	0.466	12	B	1	No
41	LINCOLN BOULEVARD &	C	AM	0.440	11	B	0.442	11	B	0	No
	MONTANA AVENUE	C	PM	0.482	9	A	0.482	9	A	0	No
		C	WKND	0.456	10	A	0.456	10	A	0	No
42	LINCOLN BOULEVARD &	C	AM	1.135	80	E	1.144	83	F	3	Yes
	CALIFORNIA AVENUE	C	PM	0.909	28	C	0.932	29	C	1	No
		C	WKND	1.144	67	E	1.157	69	E	2	Yes
43	LINCOLN BOULEVARD &	A	AM	0.454	22	C	0.455	22	C	0	No
	WILSHIRE BOULEVARD	A	PM	0.434	21	C	0.435	21	C	0	No
		A	WKND	0.514	23	C	0.516	23	C	0	No
44	LINCOLN BOULEVARD &	A	AM	0.807	43	D	0.806	43	D	0	No
	ARIZONA AVENUE	A	PM	0.930	63	E	0.930	63	E	0	No
		A	WKND	0.618	42	D	0.621	42	D	0	No
45	LINCOLN BOULEVARD &	A	AM	0.483	24	C	0.483	24	C	0	No
	SANTA MONICA BOULEVARD	A	PM	0.600	34	C	0.602	34	C	0	No
		A	WKND	0.661	43	D	0.661	43	D	0	No
46	LINCOLN BOULEVARD &	A	AM	0.585	42	D	0.591	43	D	1	No
	BROADWAY	A	PM	0.595	33	C	0.596	33	C	0	No
		A	WKND	0.643	38	D	0.646	38	D	0	No
47	LINCOLN BOULEVARD &	A	AM	0.582	84	F	0.581	83	F	-1	No
	COLORADO AVENUE	A	PM	0.536	46	D	0.536	45	D	-1	No
		A	WKND	0.863	61	E	0.866	61	E	0	No
48	LINCOLN BOULEVARD &	A	AM	0.974	100	F	0.977	99	F	0.003	No
	I-10 WB OFF-RAMP	A	PM	0.745	44	D	0.747	44	D	0	No
		A	WKND	0.880	67	E	0.882	67	E	0	No
49	LINCOLN BOULEVARD &	A	AM	0.752	28	C	0.754	28	C	0	No
	I-10 EB ON-RAMP	A	PM	0.569	30	C	0.570	30	C	0	No
		A	WKND	0.897	59	E	0.899	59	E	0	No
50	PACIFIC COAST HIGHWAY &	A	AM	0.811	14	B	0.812	14	B	0	No
	ENTRADA DRIVE	A	PM	0.715	6	A	0.715	6	A	0	No
		A	WKND	0.669	7	A	0.669	7	A	0	No
51	PACIFIC COAST HIGHWAY &	A	AM	1.173	**	F	1.173	**	F	0	No
	CHAUTAUQUA/CHANNEL	A	PM	1.212	**	F	1.212	**	F	0	No
		A	WKND	1.002	95	F	1.002	95	F	0	No

Notes:

* Average stopped delay per vehicle, in seconds.

** Indicates oversaturated conditions. Delay cannot be calculated.

A Arterial intersection

C Collector intersection

TABLE 16
NEIGHBORHOOD STREET SEGMENT IMPACT ANALYSIS
ALTERNATIVE 6 - ALTERNATE ACCESS

WEEKDAY

No.	Segment	Analyzed Classification	Existing ADT	Existing Plus Project				
				Project ADT	ADT	% Change	Significance Threshold	Significant Impact?
	Ocean Avenue							
1	North of California Avenue	Collector	13,592	-121	13,471	-0.9%	1 trip	NO
	2nd Street							
2	Between Wilshire Boulevard and California Avenue	Feeder	4,718	1,452	6,170	30.8%	12.5%	YES
3	between California Avenue and Washington Avenue	Feeder	3,065	16	3,081	0.5%	25%	NO
	4th Street							
4	Between Wilshire Boulevard and California Avenue	Collector	7,045	-13	7,032	-0.2%	25%	NO
5	between California Avenue and Washington Avenue	Collector	5,536	22	5,558	0.4%	25%	NO
	7th Street							
6	Between Wilshire Boulevard and California Avenue	Collector	5,476	-11	5,465	-0.2%	25%	NO
7	Between Washington Avenue and Idaho Avenue	Collector	5,211	8	5,219	0.2%	25%	NO
	California Avenue							
8	Between Ocean Avenue and 2nd Street	Local	5,611	-3	5,608	-0.1%	1 trip	NO
9	Between 2nd Street and 3rd Street	Local	5,812	269	6,081	4.6%	1 trip	YES
10	Between 3rd Street and 4th Street	Local	5,653	267	5,920	4.7%	1 trip	YES
11	Between 4th Street and 5th Street	Local	4,717	238	4,955	5.0%	1 trip	YES

WEEKEND

No.	Segment	Analyzed Classification	Existing ADT	Existing Plus Project				
				Project ADT	ADT	% Change	Significance Threshold	Significant Impact?
	Ocean Avenue							
1	North of California Avenue	Collector	13,579	-309	13,270	-2.3%	1 trip	NO
	2nd Street							
2	Between Wilshire Boulevard and California Avenue	Feeder	5,397	2,572	7,969	47.7%	12.5%	YES
3	between California Avenue and Washington Avenue	Feeder	3,347	16	3,363	0.5%	25%	NO
	4th Street							
4	Between Wilshire Boulevard and California Avenue	Collector	5,718	-25	5,693	-0.4%	25%	NO
5	between California Avenue and Washington Avenue	Collector	4,785	34	4,819	0.7%	25%	NO
	7th Street							
6	Between Wilshire Boulevard and California Avenue	Collector	3,926	-22	3,904	-0.6%	25%	NO
7	Between Washington Avenue and Idaho Avenue	Collector	4,577	10	4,587	0.2%	25%	NO
	California Avenue							
8	Between Ocean Avenue and 2nd Street	Local	6,679	-70	6,609	-1.0%	1 trip	NO
9	Between 2nd Street and 3rd Street	Local	6,099	416	6,515	6.8%	1 trip	YES
10	Between 3rd Street and 4th Street	Local	5,944	413	6,357	6.9%	1 trip	YES
11	Between 4th Street and 5th Street	Local	5,220	368	5,588	7.0%	1 trip	YES

TABLE 17
SUMMARY OF PROJECT AND ALTERNATIVES INTERSECTION IMPACTS

No.	INTERSECTION	PEAK HOUR	APPROVAL YEAR (2020)					FUTURE YEAR (2025)				
			Proposed Project	Alt. 2	Alt. 3	Alt. 4	Alt. 6	Proposed Project	Alt. 2	Alt. 3	Alt. 4	Alt. 6
1	PALISADES BEACH ROAD & CALIFORNIA AVENUE	AM	X	X	X	X	X	X		X		X
		PM										
		WKND										
3	OCEAN AVENUE & CALIFORNIA AVENUE	AM	X	X	X	X	X	X				X
		PM	X	X	X	X	X	X	X		X	X
		WKND						X	X		X	X
14	SECOND STREET & WILSHIRE BOULEVARD	AM	X	X	X	X	X	X	X	X	X	X
		PM	X	X	X	X	X	X	X	X	X	X
		WKND	X	X	X	X	X	X	X	X	X	X
42	LINCOLN BOULEVARD & CALIFORNIA AVENUE	AM	X	X	X	X	X	X	X	X	X	X
		PM										
		WKND						X	X		X	X
Total Impacted Intersections:			**4**	**4**	**4**	**4**	**4**	**4**	**3**	**3**	**3**	**4**

TABLE 18
SUMMARY OF PROJECT AND ALTERNATIVES SEGMENT IMPACTS

No.	SEGMENT	PEAK HOUR	EXISTING				
			Proposed Project	Alt. 2	Alt. 3	Alt. 4	Alt. 6
2	2nd Street	Weekday	X	X	X	X	X
	Between Wilshire Boulevard and California Avenue	Weekend	X	X	X	X	X
8	California Avenue	Weekday	X	X	X	X	
	Between Ocean Avenue and 2nd Street	Weekend	X	X	X	X	
9	California Avenue	Weekday	X	X	X	X	X
	Between 2nd Street and 3rd Street	Weekend	X	X	X	X	X
10	California Avenue	Weekday	X	X	X	X	X
	Between 3rd Street and 4th Street	Weekend	X	X	X	X	X
11	California Avenue	Weekday	X	X	X	X	X
	Between 4th Street and 5th Street	Weekend	X	X	X	X	X
		Total Impacted Segments:	**5**	**5**	**5**	**5**	**4**

REFERENCES

Addendum Trip Generation Study Conducted in Conjunction with the Proposed Miramar Hotel Redevelopment, Linscott, Law & Greenspan, Engineers, July 29, 2019

City of Santa Monica Bicycle Action Plan, City of Santa Monica, October 2011.

Highway Capacity Manual, Transportation Research Board, 2010.

Santa Monica Land Use & Circulation Element, revised July 25, 2017.

Santa Monica Travel Demand Forecasting Model Trip Generation Rates, October 2011.

TCRP 95 Chapter 19 Employer and Institutional TDM Strategies, Transportation Research Board, 2010.

Technical Advisory On Evaluating Transportation Impacts in CEQA, California Governor's Offices of Planning and Research, December 2018

Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

APPENDIX A:
CITY OF SANTA MONICA TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	001
	EAST & WEST:	California Incline	CONTROL:	SIGNAL

NOTES:

PM NB queue. NR illegal

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OTHER

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		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND California Incline			WESTBOUND California Incline			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	3	X	1	3	0	0	1	0	0.5	0.5	1	
AM	7:30 AM	2	733	0	72	832	3	2	0	3	63	3	61	1,774
	7:45 AM	4	690	2	67	933	5	2	0	3	67	1	69	1,843
	8:00 AM	3	566	0	71	839	3	0	1	1	65	4	53	1,606
	8:15 AM	1	580	0	87	848	12	0	3	2	54	5	57	1,649
	8:30 AM	4	554	0	108	835	6	0	5	3	52	2	45	1,614
	8:45 AM	6	535	0	120	790	7	1	2	7	60	4	50	1,582
	9:00 AM	7	464	0	92	784	4	1	0	5	43	2	53	1,455
	9:15 AM	3	486	0	87	832	2	2	4	7	45	5	68	1,541
	VOLUMES	30	4,608	2	704	6,693	42	8	15	31	449	26	456	13,064
	APPROACH %	1%	99%	0%	9%	90%	1%	15%	28%	57%	48%	3%	49%	
	APP/DEPART	4,640	/	5,072	7,439	/	7,174	54	/	721	931	/	97	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	10	2,569	2	297	3,452	23	4	4	9	249	13	240	6,872
	APPROACH %	0%	100%	0%	8%	92%	1%	24%	24%	53%	50%	3%	48%	
	PEAK HR FACTOR		0.878			0.938			0.850			0.916		0.932
	APP/DEPART	2,581	/	2,813	3,772	/	3,711	17	/	303	502	/	45	0
PM	5:00 PM	12	488	0	70	556	6	7	1	6	31	3	93	1,273
	5:15 PM	10	659	0	51	553	9	3	1	2	21	3	63	1,375
	5:30 PM	5	659	0	49	637	10	2	2	3	15	5	42	1,429
	5:45 PM	8	636	1	107	529	2	3	0	4	15	8	82	1,395
	6:00 PM	6	555	0	73	555	3	0	1	4	26	5	94	1,322
	6:15 PM	6	635	0	78	514	5	0	0	2	28	7	67	1,342
	6:30 PM	10	688	0	85	510	3	3	0	2	23	1	62	1,387
	6:45 PM	4	577	0	76	518	4	4	1	2	28	0	96	1,310
	VOLUMES	61	4,897	1	589	4,372	42	22	6	25	187	32	599	10,833
	APPROACH %	1%	99%	0%	12%	87%	1%	42%	11%	47%	23%	4%	73%	
	APP/DEPART	4,959	/	5,518	5,003	/	4,585	53	/	596	818	/	134	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	29	2,509	1	280	2,274	24	8	4	13	77	21	281	5,521
	APPROACH %	1%	99%	0%	11%	88%	1%	32%	16%	52%	20%	6%	74%	
	PEAK HR FACTOR		0.949			0.926			0.893			0.758		0.966
	APP/DEPART	2,539	/	2,798	2,578	/	2,364	25	/	285	379	/	74	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	Ocean	LOCATION #:	357
THURSDAY	EAST & WEST:	Montana	CONTROL:	SIGNAL

NOTES:

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Montana			WESTBOUND Montana			
	LANES:	NL X	NT 2	NR 0	SL 1	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:30 AM	0	110	22	5	82	0	0	0	0	23	0	8	250
	7:45 AM	0	84	23	6	108	0	0	0	0	28	0	11	260
	8:00 AM	0	86	37	6	130	0	0	0	0	35	0	13	307
	8:15 AM	0	75	36	14	128	0	0	0	0	30	0	14	297
	8:30 AM	0	56	22	4	100	0	0	0	0	35	0	20	237
	8:45 AM	0	79	28	10	116	0	0	0	0	45	0	7	285
	9:00 AM	0	57	25	12	119	0	0	0	0	34	0	18	265
	9:15 AM	0	54	33	3	117	0	0	0	0	38	0	13	258
	VOLUMES	0	601	226	60	900	0	0	0	0	268	0	104	2,159
	APPROACH %	0%	73%	27%	6%	94%	0%	0%	0%	0%	72%	0%	28%	
	APP/DEPART	827	/	705	960	/	1,168	0	/	286	372	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	296	123	34	474	0	0	0	0	145	0	54	1,126
	APPROACH %	0%	71%	29%	7%	93%	0%	0%	0%	0%	73%	0%	27%	
	PEAK HR FACTOR		0.852			0.894			0.000			0.975		0.926
	APP/DEPART	419	/	350	508	/	619	0	/	157	199	/	0	0
PM	5:00 PM	0	122	19	11	71	0	0	0	0	13	0	16	252
	5:15 PM	0	119	20	12	90	0	0	0	0	21	0	22	284
	5:30 PM	0	129	33	9	94	0	0	0	0	31	0	21	317
	5:45 PM	0	118	19	20	89	0	0	0	0	28	0	20	294
	6:00 PM	1	107	35	13	82	0	0	0	0	28	0	20	286
	6:15 PM	0	116	38	13	85	0	0	0	0	31	0	16	299
	6:30 PM	0	105	24	12	102	0	0	0	0	19	0	13	275
	6:45 PM	0	102	20	6	72	0	0	0	0	21	0	22	243
	VOLUMES	1	918	208	96	685	0	0	0	0	192	0	150	2,250
	APPROACH %	0%	81%	18%	12%	88%	0%	0%	0%	0%	56%	0%	44%	
	APP/DEPART	1,127	/	1,068	781	/	878	0	/	304	342	/	0	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	1	470	125	55	350	0	0	0	0	118	0	77	1,196
	APPROACH %	0%	79%	21%	14%	86%	0%	0%	0%	0%	61%	0%	39%	
	PEAK HR FACTOR		0.920			0.929			0.000			1.016		0.955
	APP/DEPART	596	/	547	405	/	469	0	/	180	195	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	Ocean	LOCATION #:	002
TUESDAY	EAST & WEST:	California	CONTROL:	SIGNAL

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	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND California			WESTBOUND California			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0.5	0.5	1	0	2	0	
7:30 AM	44	107	19	4	83	49	6	30	47	5	30	2	426
7:45 AM	57	116	37	3	93	47	5	13	47	11	33	13	475
8:00 AM	33	110	25	2	100	47	8	19	49	5	40	15	453
8:15 AM	31	87	18	2	126	54	8	25	60	13	36	11	471
8:30 AM	33	79	16	2	118	48	12	25	69	9	38	5	454
8:45 AM	34	93	12	3	128	37	14	32	72	12	26	16	479
9:00 AM	36	88	22	1	118	44	11	28	56	11	26	10	451
9:15 AM	42	75	10	5	112	41	14	33	47	9	33	9	430
VOLUMES	310	755	159	22	878	367	78	205	447	75	262	81	3,639
APPROACH %	25%	62%	13%	2%	69%	29%	11%	28%	61%	18%	63%	19%	
APP/DEPART	1,224	/	914	1,267	/	1,400	730	/	386	418	/	939	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	131	369	71	9	472	186	42	101	250	39	140	47	1,857
APPROACH %	23%	65%	12%	1%	71%	28%	11%	26%	64%	17%	62%	21%	
PEAK HR FACTOR		0.850			0.916			0.833			0.942		0.969
APP/DEPART	571	/	458	667	/	761	393	/	181	226	/	457	0
5:00 PM	66	123	22	4	103	20	8	22	34	22	29	17	470
5:15 PM	63	119	25	6	136	7	11	14	34	16	21	18	470
5:30 PM	63	136	21	6	100	17	12	14	21	15	14	15	434
5:45 PM	56	132	22	4	105	16	16	26	56	13	24	25	495
6:00 PM	60	148	33	5	103	12	18	23	35	20	29	17	503
6:15 PM	49	128	16	10	124	27	11	28	48	10	31	16	498
6:30 PM	60	118	33	7	102	19	14	36	49	11	29	11	489
6:45 PM	67	123	29	4	80	18	16	23	34	13	20	16	443
VOLUMES	484	1,027	201	46	853	136	106	186	311	120	197	135	3,802
APPROACH %	28%	60%	12%	4%	82%	13%	18%	31%	52%	27%	44%	30%	
APP/DEPART	1,712	/	1,268	1,035	/	1,285	603	/	433	452	/	816	0
BEGIN PEAK HR		5:45 PM											
VOLUMES	225	526	104	26	434	74	59	113	188	54	113	69	1,985
APPROACH %	26%	62%	12%	5%	81%	14%	16%	31%	52%	23%	48%	29%	
PEAK HR FACTOR		0.887			0.829			0.909			0.894		0.987
APP/DEPART	855	/	654	534	/	677	360	/	243	236	/	411	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	Ocean	LOCATION #:	003
TUESDAY	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Wilshire			WESTBOUND Wilshire			
	LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1.5	WT X	WR 1.5	TOTAL
AM	7:30 AM	1	148	41	45	93	0	0	0	0	15	0	33	376
	7:45 AM	0	165	45	39	109	0	0	0	0	33	0	42	433
	8:00 AM	0	135	57	43	117	0	0	0	0	49	0	25	426
	8:15 AM	0	103	54	58	141	0	0	0	0	29	0	33	418
	8:30 AM	0	99	68	55	135	0	0	0	0	45	0	30	432
	8:45 AM	0	114	68	56	164	0	0	0	0	33	0	23	458
	9:00 AM	0	114	44	47	133	0	0	0	0	32	0	36	406
	9:15 AM	0	89	46	49	120	0	0	0	0	40	0	46	390
	VOLUMES	1	967	423	392	1,012	0	0	0	0	276	0	268	3,339
	APPROACH %	0%	70%	30%	28%	72%	0%	0%	0%	0%	51%	0%	49%	
	APP/DEPART	1,391	/	1,236	1,404	/	1,289	0	/	814	544	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	451	247	212	557	0	0	0	0	156	0	111	1,734
	APPROACH %	0%	65%	35%	28%	72%	0%	0%	0%	0%	58%	0%	42%	
	PEAK HR FACTOR		0.909			0.874			0.000			0.890		0.947
	APP/DEPART	698	/	563	769	/	713	0	/	458	267	/	0	0
PM	5:00 PM	0	149	30	31	134	0	0	0	0	57	0	53	454
	5:15 PM	0	148	34	31	162	0	0	0	0	59	0	65	499
	5:30 PM	0	158	35	14	108	0	0	0	0	57	0	62	434
	5:45 PM	0	161	49	30	142	0	0	0	0	60	0	57	499
	6:00 PM	0	157	36	29	132	0	0	0	0	58	0	85	497
	6:15 PM	0	142	47	49	145	0	0	0	0	50	0	63	496
	6:30 PM	0	142	29	40	124	0	0	0	0	38	0	61	434
	6:45 PM	0	150	43	26	96	0	0	0	0	39	0	72	426
	VOLUMES	0	1,207	303	250	1,043	0	0	0	0	418	0	518	3,739
	APPROACH %	0%	80%	20%	19%	81%	0%	0%	0%	0%	45%	0%	55%	
	APP/DEPART	1,510	/	1,726	1,293	/	1,461	0	/	552	936	/	0	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	0	624	154	104	544	0	0	0	0	234	0	269	1,929
	APPROACH %	0%	80%	20%	16%	84%	0%	0%	0%	0%	47%	0%	53%	
	PEAK HR FACTOR		0.926			0.839			0.000			0.879		0.966
	APP/DEPART	778	/	894	648	/	778	0	/	257	503	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Ocean	LOCATION #:	004
	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Arizona			WESTBOUND Arizona			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2	0	1	2	X	X	X	X	0	X	0	
AM	7:30 AM	0	188	17	13	92	0	0	0	0	5	0	12	327
	7:45 AM	0	199	19	14	119	0	0	0	0	5	0	13	369
	8:00 AM	0	188	25	11	144	0	0	0	0	12	0	11	391
	8:15 AM	0	158	34	17	151	0	0	0	0	5	0	4	369
	8:30 AM	0	152	34	23	151	0	0	0	0	2	0	14	376
	8:45 AM	0	164	28	38	149	0	0	0	0	11	0	11	401
	9:00 AM	0	143	32	25	139	0	0	0	0	14	0	19	372
	9:15 AM	0	116	20	21	140	0	0	0	0	13	0	21	331
	VOLUMES	0	1,308	209	162	1,085	0	0	0	0	67	0	105	2,936
	APPROACH %	0%	86%	14%	13%	87%	0%	0%	0%	0%	39%	0%	61%	
	APP/DEPART	1,517	/	1,416	1,247	/	1,152	0	/	368	172	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	662	121	89	595	0	0	0	0	30	0	40	1,537
	APPROACH %	0%	85%	15%	13%	87%	0%	0%	0%	0%	43%	0%	57%	
	PEAK HR FACTOR		0.919			0.914			0.000			0.761		0.958
	APP/DEPART	783	/	703	684	/	625	0	/	209	70	/	0	0
PM	5:00 PM	1	150	19	13	187	0	0	0	0	35	0	27	432
	5:15 PM	0	152	26	10	208	0	0	0	0	22	0	24	442
	5:30 PM	0	156	20	20	151	0	0	0	0	23	0	26	396
	5:45 PM	0	168	32	24	172	0	0	0	0	26	0	32	454
	6:00 PM	1	156	33	17	168	0	0	0	0	29	0	26	430
	6:15 PM	0	170	25	17	178	0	0	0	0	28	0	22	440
	6:30 PM	1	142	26	19	150	0	0	0	0	27	0	25	390
	6:45 PM	0	156	36	21	121	0	0	0	0	24	0	36	394
	VOLUMES	3	1,250	217	141	1,335	0	0	0	0	214	0	218	3,378
	APPROACH %	0%	85%	15%	10%	90%	0%	0%	0%	0%	50%	0%	50%	
	APP/DEPART	1,470	/	1,469	1,476	/	1,552	0	/	357	432	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	1	626	97	67	718	0	0	0	0	106	0	109	1,724
	APPROACH %	0%	86%	13%	9%	91%	0%	0%	0%	0%	49%	0%	51%	
	PEAK HR FACTOR		0.905			0.900			0.000			0.867		0.949
	APP/DEPART	724	/	735	785	/	825	0	/	164	215	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Ocean	LOCATION #:	005
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2	0	1	2	X	X	X	X	1	X	1	
AM	7:30 AM	0	195	30	14	84	0	0	0	0	11	0	13	347
	7:45 AM	0	205	29	12	113	0	0	0	0	10	0	11	380
	8:00 AM	0	201	37	12	144	0	0	0	0	17	0	24	435
	8:15 AM	0	177	37	18	137	0	0	0	0	21	0	8	398
	8:30 AM	0	186	32	19	128	0	0	0	0	13	0	17	395
	8:45 AM	0	169	40	30	138	0	0	0	0	15	0	14	406
	9:00 AM	0	164	47	22	127	0	0	0	0	19	0	17	396
	9:15 AM	2	125	41	22	135	0	0	0	0	26	0	13	364
	VOLUMES	2	1,422	293	149	1,006	0	0	0	0	132	0	117	3,121
	APPROACH %	0%	83%	17%	13%	87%	0%	0%	0%	0%	53%	0%	47%	
	APP/DEPART	1,717	/	1,539	1,155	/	1,140	0	/	442	249	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	733	146	79	547	0	0	0	0	66	0	63	1,634
	APPROACH %	0%	83%	17%	13%	87%	0%	0%	0%	0%	51%	0%	49%	
	PEAK HR FACTOR		0.923			0.932			0.000			0.787		0.939
	APP/DEPART	879	/	796	626	/	613	0	/	225	129	/	0	0
PM	5:00 PM	0	149	41	23	205	0	0	0	0	38	0	24	480
	5:15 PM	0	155	33	23	205	0	0	0	0	26	0	26	468
	5:30 PM	1	157	24	11	165	0	0	0	0	34	0	21	413
	5:45 PM	0	177	45	23	172	0	0	0	0	39	0	31	487
	6:00 PM	0	165	40	21	190	0	0	0	0	40	0	35	491
	6:15 PM	0	167	49	26	172	0	0	0	0	43	0	25	482
	6:30 PM	1	143	67	26	156	0	0	0	0	36	0	28	457
	6:45 PM	1	152	44	21	126	0	0	0	0	34	0	44	422
	VOLUMES	3	1,265	343	174	1,391	0	0	0	0	290	0	234	3,700
	APPROACH %	0%	79%	21%	11%	89%	0%	0%	0%	0%	55%	0%	45%	
	APP/DEPART	1,611	/	1,500	1,565	/	1,684	0	/	516	524	/	0	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	1	652	201	96	690	0	0	0	0	158	0	119	1,917
	APPROACH %	0%	76%	24%	12%	88%	0%	0%	0%	0%	57%	0%	43%	
	PEAK HR FACTOR		0.962			0.931			0.000			0.923		0.976
	APP/DEPART	854	/	772	786	/	849	0	/	296	277	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Nov 7, 17	NORTH & SOUTH:	Ocean	LOCATION #:	170
TUESDAY	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Broadway			WESTBOUND Broadway			
	LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:30 AM	0	187	23	9	94	0	0	0	0	6	0	15	334
	7:45 AM	0	238	36	22	136	0	0	0	0	9	0	18	459
	8:00 AM	0	193	32	7	159	0	0	0	0	6	0	16	413
	8:15 AM	0	200	28	12	131	0	0	0	0	14	0	21	406
	8:30 AM	0	199	31	12	135	0	0	0	0	10	0	23	410
	8:45 AM	0	186	45	24	137	0	0	0	0	18	0	28	438
	9:00 AM	0	196	33	17	130	0	0	0	0	7	0	19	402
	9:15 AM	0	170	32	12	124	0	0	0	0	16	0	31	385
	VOLUMES	0	1,569	260	115	1,046	0	0	0	0	86	0	171	3,247
	APPROACH %	0%	86%	14%	10%	90%	0%	0%	0%	0%	33%	0%	67%	
	APP/DEPART	1,829	/	1,741	1,161	/	1,132	0	/	374	257	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	830	127	53	561	0	0	0	0	39	0	78	1,688
	APPROACH %	0%	87%	13%	9%	91%	0%	0%	0%	0%	33%	0%	67%	
	PEAK HR FACTOR		0.873			0.925			0.000			0.836		0.919
	APP/DEPART	957	/	908	614	/	600	0	/	180	117	/	0	0
PM	5:00 PM	0	160	54	35	181	0	0	0	0	23	0	28	481
	5:15 PM	1	154	58	31	166	0	0	0	0	26	0	43	479
	5:30 PM	0	175	52	13	170	0	0	0	0	19	0	28	457
	5:45 PM	0	198	62	26	203	0	0	0	0	27	0	45	561
	6:00 PM	0	176	64	10	199	0	0	0	0	33	0	51	533
	6:15 PM	0	167	65	21	177	0	0	0	0	30	0	46	506
	6:30 PM	1	155	58	26	191	0	0	0	0	20	0	32	483
	6:45 PM	1	111	59	25	193	0	0	0	0	39	0	35	463
	VOLUMES	3	1,296	472	187	1,480	0	0	0	0	217	0	308	3,963
	APPROACH %	0%	73%	27%	11%	89%	0%	0%	0%	0%	41%	0%	59%	
	APP/DEPART	1,771	/	1,604	1,667	/	1,700	0	/	659	525	/	0	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	1	696	249	83	770	0	0	0	0	110	0	174	2,083
	APPROACH %	0%	74%	26%	10%	90%	0%	0%	0%	0%	39%	0%	61%	
	PEAK HR FACTOR		0.910			0.931			0.000			0.845		0.928
	APP/DEPART	946	/	870	853	/	881	0	/	332	284	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	Ocean	LOCATION #:	006
TUESDAY	EAST & WEST:	Colorado	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Colorado			WESTBOUND Colorado			
	LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL 0.5	ET X	ER 1.5	WL 0.5	WT 0.5	WR 1	TOTAL
AM	7:30 AM	2	218	0	0	100	1	1	0	1	12	1	21	357
	7:45 AM	0	219	0	0	105	3	1	0	0	15	0	40	383
	8:00 AM	4	204	0	0	147	2	5	0	4	17	2	33	418
	8:15 AM	0	215	0	0	161	3	3	0	2	25	1	26	436
	8:30 AM	0	187	0	0	133	1	0	0	2	34	4	32	393
	8:45 AM	8	203	0	0	143	2	6	0	2	20	9	35	428
	9:00 AM	3	203	0	0	133	1	3	0	3	18	5	27	396
	9:15 AM	1	173	0	0	151	1	0	0	4	20	2	28	380
	VOLUMES	18	1,622	0	0	1,073	14	19	0	18	161	24	242	3,191
	APPROACH %	1%	99%	0%	0%	99%	1%	51%	0%	49%	38%	6%	57%	
	APP/DEPART	1,640	/	1,882	1,087	/	1,252	37	/	0	427	/	57	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	12	809	0	0	584	8	14	0	10	96	16	126	1,675
	APPROACH %	1%	99%	0%	0%	99%	1%	58%	0%	42%	40%	7%	53%	
	PEAK HR FACTOR		0.955			0.902			0.667			0.850		0.960
	APP/DEPART	821	/	948	592	/	690	24	/	0	238	/	37	0
PM	5:00 PM	8	168	0	0	218	23	6	0	13	28	3	22	489
	5:15 PM	14	174	0	0	188	26	6	0	14	35	8	32	497
	5:30 PM	14	185	0	0	214	22	5	0	17	28	15	41	541
	5:45 PM	16	203	0	0	198	25	12	0	18	27	11	29	539
	6:00 PM	5	193	0	0	217	20	9	0	27	34	8	30	543
	6:15 PM	8	194	0	0	217	16	9	0	36	33	4	34	551
	6:30 PM	4	201	0	0	196	14	11	0	22	43	12	45	548
	6:45 PM	7	188	0	0	173	6	10	0	18	31	8	32	473
	VOLUMES	76	1,506	0	0	1,621	152	68	0	165	259	69	265	4,181
	APPROACH %	5%	95%	0%	0%	91%	9%	29%	0%	71%	44%	12%	45%	
	APP/DEPART	1,582	/	1,839	1,773	/	2,046	233	/	0	593	/	296	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	33	791	0	0	828	75	41	0	103	137	35	138	2,181
	APPROACH %	4%	96%	0%	0%	92%	8%	28%	0%	72%	44%	11%	45%	
	PEAK HR FACTOR		0.941			0.953			0.800			0.775		0.990
	APP/DEPART	824	/	970	903	/	1,069	144	/	0	310	/	142	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Ocean	LOCATION #:	007
	EAST & WEST:	Moomat Ahiko	CONTROL:	SIGNAL

NOTES:

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Moomat Ahiko			WESTBOUND Moomat Ahiko			
	LANES:	NL 2	NT 2	NR X	SL X	ST 2	SR 1	EL 1	ET X	ER 2	WL X	WT X	WR X	TOTAL
AM	7:30 AM	115	226	0	0	95	2	5	0	79	0	0	0	522
	7:45 AM	81	211	0	0	116	6	12	0	78	0	0	0	504
	8:00 AM	130	211	0	0	178	13	15	0	87	0	0	0	634
	8:15 AM	110	187	0	0	169	6	13	0	123	0	0	0	608
	8:30 AM	129	183	0	0	164	7	12	0	112	0	0	0	607
	8:45 AM	96	194	0	0	170	4	16	0	134	0	0	0	614
	9:00 AM	94	188	0	0	142	7	10	0	100	0	0	0	541
	9:15 AM	80	171	0	0	174	11	13	0	108	0	0	0	557
	VOLUMES	835	1,571	0	0	1,208	56	96	0	821	0	0	0	4,587
	APPROACH %	35%	65%	0%	0%	96%	4%	10%	0%	90%	0%	0%	0%	
	APP/DEPART	2,406	/	1,662	1,264	/	2,029	917	/	0	0	/	896	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	465	775	0	0	681	30	56	0	456	0	0	0	2,463
	APPROACH %	38%	63%	0%	0%	96%	4%	11%	0%	89%	0%	0%	0%	
	PEAK HR FACTOR		0.909			0.931			0.853			0.000		0.971
	APP/DEPART	1,240	/	829	711	/	1,137	512	/	0	0	/	497	0
PM	5:00 PM	82	152	0	0	256	12	24	0	191	0	0	0	717
	5:15 PM	91	170	0	0	202	12	30	0	177	0	0	0	682
	5:30 PM	88	180	0	0	243	12	24	0	177	0	0	0	724
	5:45 PM	67	178	0	0	232	5	30	0	153	0	0	0	665
	6:00 PM	63	175	0	0	246	22	28	0	159	0	0	0	693
	6:15 PM	82	167	0	0	274	24	22	0	162	0	0	0	731
	6:30 PM	93	165	0	0	238	31	37	0	147	0	0	0	711
	6:45 PM	73	155	0	0	204	15	27	0	135	0	0	0	609
	VOLUMES	639	1,342	0	0	1,895	133	222	0	1,301	0	0	0	5,532
	APPROACH %	32%	68%	0%	0%	93%	7%	15%	0%	85%	0%	0%	0%	
	APP/DEPART	1,981	/	1,555	2,028	/	3,196	1,523	/	0	0	/	781	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	300	700	0	0	995	63	104	0	651	0	0	0	2,813
	APPROACH %	30%	70%	0%	0%	94%	6%	14%	0%	86%	0%	0%	0%	
	PEAK HR FACTOR		0.933			0.888			0.939			0.000		0.962
	APP/DEPART	1,000	/	799	1,058	/	1,646	755	/	0	0	/	368	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 19, 17	NORTH & SOUTH:	Ocean	LOCATION #:	675
THURSDAY	EAST & WEST:	Olympic	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Olympic			WESTBOUND Olympic			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 0.5	WT X	WR 0.5	TOTAL
AM	7:30 AM	7	266	50	41	148	0	0	0	0	4	0	8	524
	7:45 AM	5	285	56	46	167	0	0	0	0	7	0	8	574
	8:00 AM	14	275	58	70	200	0	0	0	0	11	0	12	640
	8:15 AM	7	301	55	45	208	0	0	0	0	10	0	12	638
	8:30 AM	4	249	60	43	229	0	0	0	0	18	0	9	612
	8:45 AM	7	260	36	26	238	0	0	0	0	7	0	10	584
	9:00 AM	10	258	37	31	227	0	0	0	0	11	0	9	583
	9:15 AM	13	271	49	34	214	0	0	0	0	8	0	12	601
	VOLUMES	67	2,165	401	336	1,631	0	0	0	0	76	0	80	4,756
	APPROACH %	3%	82%	15%	17%	83%	0%	0%	0%	0%	49%	0%	51%	
	APP/DEPART	2,633	/	2,246	1,967	/	1,773	0	/	737	156	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	32	1,085	209	184	875	0	0	0	0	46	0	43	2,474
	APPROACH %	2%	82%	16%	17%	83%	0%	0%	0%	0%	52%	0%	48%	
	PEAK HR FACTOR		0.913			0.973			0.000			0.824		0.966
	APP/DEPART	1,326	/	1,128	1,059	/	952	0	/	394	89	/	0	0
PM	5:00 PM	6	177	12	39	364	0	0	0	0	25	0	16	639
	5:15 PM	20	215	19	38	323	0	0	0	0	14	0	13	642
	5:30 PM	13	234	22	33	374	0	0	0	0	12	0	12	700
	5:45 PM	6	215	13	49	347	0	0	0	0	24	0	33	687
	6:00 PM	8	206	23	39	343	0	0	0	0	21	0	25	665
	6:15 PM	9	219	17	54	328	0	0	0	0	16	0	20	663
	6:30 PM	11	229	16	49	357	0	0	0	0	13	0	19	694
	6:45 PM	10	228	26	44	338	0	0	0	0	7	0	13	666
	VOLUMES	83	1,723	148	345	2,774	0	0	0	0	132	0	151	5,356
	APPROACH %	4%	88%	8%	11%	89%	0%	0%	0%	0%	47%	0%	53%	
	APP/DEPART	1,954	/	1,888	3,119	/	2,989	0	/	479	283	/	0	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	36	874	75	175	1,392	0	0	0	0	73	0	90	2,715
	APPROACH %	4%	89%	8%	11%	89%	0%	0%	0%	0%	45%	0%	55%	
	PEAK HR FACTOR		0.915			0.963			0.000			0.715		0.970
	APP/DEPART	985	/	970	1,567	/	1,501	0	/	244	163	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	Ocean	LOCATION #:	008A
THURSDAY	EAST & WEST:	Pico	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Pico			WESTBOUND Pico			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:30 AM	13	296	39	26	91	2	7	24	4	27	15	28	572
	7:45 AM	20	311	59	18	128	4	9	25	4	15	25	47	665
	8:00 AM	6	292	54	19	142	1	8	26	4	21	31	48	652
	8:15 AM	10	308	40	25	167	5	6	24	3	19	34	50	691
	8:30 AM	13	258	36	37	139	5	10	28	3	24	23	40	616
	8:45 AM	20	278	49	29	159	9	10	25	5	34	29	41	688
	9:00 AM	7	254	45	26	113	3	5	17	5	35	25	42	577
	9:15 AM	11	275	46	37	171	8	7	20	5	30	27	47	684
	VOLUMES	100	2,272	368	217	1,110	37	62	189	33	205	209	343	5,145
	APPROACH %	4%	83%	13%	16%	81%	3%	22%	67%	12%	27%	28%	45%	
	APP/DEPART	2,740	/	2,676	1,364	/	1,348	284	/	774	757	/	347	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	49	1,136	179	110	607	20	34	103	15	98	117	179	2,647
	APPROACH %	4%	83%	13%	15%	82%	3%	22%	68%	10%	25%	30%	45%	
	PEAK HR FACTOR		0.953			0.935			0.927			0.947		0.958
	APP/DEPART	1,364	/	1,349	737	/	720	152	/	392	394	/	186	0
PM	5:00 PM	17	191	18	28	246	8	11	21	16	61	43	64	724
	5:15 PM	5	177	19	34	288	13	11	19	13	68	44	52	743
	5:30 PM	14	173	33	35	271	7	19	25	15	63	47	45	747
	5:45 PM	12	184	32	42	318	12	11	21	18	66	41	46	803
	6:00 PM	11	194	22	28	286	7	17	19	10	62	47	59	762
	6:15 PM	5	185	24	32	285	10	9	26	9	65	42	61	753
	6:30 PM	15	160	43	35	243	8	15	30	7	65	41	55	717
	6:45 PM	8	208	30	34	276	6	18	26	8	59	27	59	759
	VOLUMES	87	1,472	221	268	2,213	71	111	187	96	509	332	441	6,008
	APPROACH %	5%	83%	12%	11%	87%	3%	28%	47%	24%	40%	26%	34%	
	APP/DEPART	1,780	/	2,026	2,552	/	2,818	394	/	674	1,282	/	490	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	42	736	111	137	1,160	36	56	91	52	256	177	211	3,065
	APPROACH %	5%	83%	12%	10%	87%	3%	28%	46%	26%	40%	27%	33%	
	PEAK HR FACTOR		0.975			0.896			0.843			0.958		0.954
	APP/DEPART	889	/	1,005	1,333	/	1,468	199	/	337	644	/	255	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	Ocean	LOCATION #:	008B
THURSDAY	EAST & WEST:	Pico	CONTROL:	SIGNAL

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		NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Pico			WESTBOUND Pico			
	LANES:	NL X	NT X	NR X	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:30 AM	0	0	0	0	10	0	0	0	0	23	0	0	33
	7:45 AM	1	0	0	0	12	0	0	0	0	14	0	0	27
	8:00 AM	0	0	0	0	16	0	0	0	1	17	0	0	34
	8:15 AM	0	0	0	0	12	0	0	0	0	20	0	0	32
	8:30 AM	1	0	0	0	7	0	0	0	1	21	0	0	30
	8:45 AM	0	0	0	0	23	0	0	0	2	22	0	0	47
	9:00 AM	0	0	0	0	23	0	0	0	0	14	0	0	37
	9:15 AM	0	0	0	0	13	0	0	0	0	12	0	0	25
	VOLUMES	2	0	0	0	116	0	0	0	4	143	0	0	265
	APPROACH %	100%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	
	APP/DEPART	2	/	0	116	/	265	4	/	0	143	/	0	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	1	0	0	0	65	0	0	0	3	77	0	0	146
	APPROACH %	100%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	
	PEAK HR FACTOR		0.250			0.707			0.375			0.875		0.777
	APP/DEPART	1	/	0	65	/	146	3	/	0	77	/	0	0
PM	5:00 PM	0	0	0	0	32	0	0	0	0	17	0	0	49
	5:15 PM	0	0	0	0	33	0	0	0	5	29	0	0	67
	5:30 PM	0	0	0	0	25	0	0	0	5	12	0	0	42
	5:45 PM	2	0	0	0	25	0	0	0	5	18	0	0	50
	6:00 PM	4	0	0	0	20	0	0	0	5	22	0	0	51
	6:15 PM	0	0	0	0	21	0	0	0	3	10	0	0	34
	6:30 PM	0	0	0	0	16	0	0	0	5	15	0	0	36
	6:45 PM	0	0	0	0	17	0	0	0	2	13	0	0	32
	VOLUMES	6	0	0	0	189	0	0	0	30	136	0	0	361
	APPROACH %	100%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	
	APP/DEPART	6	/	0	189	/	361	30	/	0	136	/	0	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	6	0	0	0	103	0	0	0	20	81	0	0	210
	APPROACH %	100%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	
	PEAK HR FACTOR		0.375			0.780			1.000			0.698		0.784
	APP/DEPART	6	/	0	103	/	210	20	/	0	81	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	2nd	LOCATION #:	203
THURSDAY	EAST & WEST:	Washington	CONTROL:	STOP ALL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Washington			WESTBOUND Washington			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	4	6	4	0	4	1	1	13	1	6	14	3	57
	7:45 AM	6	18	8	0	11	6	4	13	7	7	17	6	103
	8:00 AM	2	14	9	2	2	1	2	11	4	11	19	3	80
	8:15 AM	5	12	5	1	0	0	1	20	4	11	18	2	79
	8:30 AM	5	10	8	1	1	0	1	14	4	11	15	3	73
	8:45 AM	6	16	16	0	0	0	0	14	9	7	9	3	80
	9:00 AM	6	10	12	0	0	0	3	10	6	13	14	6	80
	9:15 AM	5	10	6	1	0	0	0	14	4	10	28	3	81
	VOLUMES	39	96	68	5	18	8	12	109	39	76	134	29	633
	APPROACH %	19%	47%	33%	16%	58%	26%	8%	68%	24%	32%	56%	12%	
	APP/DEPART	203	/	134	31	/	141	160	/	182	239	/	176	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	18	54	30	4	14	7	8	58	19	40	69	14	335
	APPROACH %	18%	53%	29%	16%	56%	28%	9%	68%	22%	33%	56%	11%	
	PEAK HR FACTOR		0.797			0.368			0.850			0.932		0.813
	APP/DEPART	102	/	73	25	/	77	85	/	91	123	/	94	0
PM	5:00 PM	9	22	8	4	10	2	1	10	12	9	15	3	105
	5:15 PM	6	21	9	4	13	2	2	11	3	13	22	5	111
	5:30 PM	8	25	7	3	18	2	4	13	5	3	18	5	111
	5:45 PM	5	17	6	3	8	6	1	16	4	4	19	2	91
	6:00 PM	11	10	13	1	13	0	6	13	6	1	16	5	95
	6:15 PM	10	20	7	3	10	2	2	21	5	6	18	4	108
	6:30 PM	7	24	5	3	14	2	2	9	1	4	12	11	94
	6:45 PM	2	19	11	0	10	1	0	9	6	4	8	11	81
	VOLUMES	58	158	66	21	96	17	18	102	42	44	128	46	796
	APPROACH %	21%	56%	23%	16%	72%	13%	11%	63%	26%	20%	59%	21%	
	APP/DEPART	282	/	224	134	/	202	162	/	187	218	/	183	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	28	85	30	14	49	12	8	50	24	29	74	15	418
	APPROACH %	20%	59%	21%	19%	65%	16%	10%	61%	29%	25%	63%	13%	
	PEAK HR FACTOR		0.894			0.815			0.891			0.738		0.941
	APP/DEPART	143	/	109	75	/	114	82	/	93	118	/	102	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 26, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
THURSDAY	NORTH & SOUTH:	2nd	LOCATION #:	205
	EAST & WEST:	California	CONTROL:	STOP ALL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND California			WESTBOUND California			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	4	7	5	3	5	4	2	24	4	3	30	3	94
	7:45 AM	5	21	16	10	14	4	3	39	5	3	40	13	173
	8:00 AM	8	11	4	12	8	8	3	28	2	6	40	10	140
	8:15 AM	5	9	8	7	3	6	6	21	8	9	41	6	129
	8:30 AM	3	16	12	3	10	8	1	45	0	7	43	4	152
	8:45 AM	6	18	14	5	12	6	2	48	6	8	38	19	182
	9:00 AM	7	12	7	5	5	9	1	29	6	4	50	8	143
	9:15 AM	4	15	9	1	6	7	2	35	4	10	38	8	139
	VOLUMES	42	109	75	46	63	52	20	269	35	50	320	71	1,152
	APPROACH %	19%	48%	33%	29%	39%	32%	6%	83%	11%	11%	73%	16%	
	APP/DEPART	226	/	202	161	/	149	324	/	390	441	/	411	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	20	61	42	14	33	30	6	157	16	29	169	39	616
	APPROACH %	16%	50%	34%	18%	43%	39%	3%	88%	9%	12%	71%	16%	
	PEAK HR FACTOR		0.809			0.837			0.799			0.912		0.846
	APP/DEPART	123	/	106	77	/	77	179	/	214	237	/	219	0
PM	5:00 PM	21	31	23	6	22	4	4	25	24	7	40	3	210
	5:15 PM	14	32	14	1	25	6	3	37	15	6	32	4	189
	5:30 PM	16	23	16	3	23	5	7	36	21	12	31	10	203
	5:45 PM	16	28	14	1	11	5	2	25	18	14	32	7	173
	6:00 PM	15	25	14	3	15	6	2	42	20	4	38	5	189
	6:15 PM	13	24	12	6	17	7	4	28	28	2	44	3	188
	6:30 PM	17	28	18	1	14	5	4	45	23	6	43	4	208
	6:45 PM	15	29	18	5	15	3	3	26	10	6	30	8	168
	VOLUMES	127	220	129	26	142	41	29	264	159	57	290	44	1,528
	APPROACH %	27%	46%	27%	12%	68%	20%	6%	58%	35%	15%	74%	11%	
	APP/DEPART	476	/	290	209	/	358	452	/	419	391	/	461	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	67	114	67	11	81	20	16	123	78	39	135	24	775
	APPROACH %	27%	46%	27%	10%	72%	18%	7%	57%	36%	20%	68%	12%	
	PEAK HR FACTOR		0.827			0.875			0.848			0.934		0.923
	APP/DEPART	248	/	151	112	/	197	217	/	203	198	/	224	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	2nd	LOCATION #:	011
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Wilshire			WESTBOUND Wilshire			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	1	0	0	1	0	1	2	0	1	2	0	
AM	7:30 AM	4	6	20	3	14	5	4	65	3	9	52	8	193
	7:45 AM	7	12	22	1	11	9	8	75	3	14	76	9	247
	8:00 AM	2	23	19	8	9	10	7	78	5	14	74	10	259
	8:15 AM	7	11	21	5	7	9	9	74	10	20	64	13	250
	8:30 AM	2	11	16	6	15	11	5	77	13	17	79	7	259
	8:45 AM	7	19	28	2	24	7	10	96	11	19	59	17	299
	9:00 AM	8	20	31	6	15	11	4	56	17	14	63	8	253
	9:15 AM	16	24	46	5	15	10	10	64	13	21	63	14	301
	VOLUMES	53	126	203	36	110	72	57	585	75	128	530	86	2,061
	APPROACH %	14%	33%	53%	17%	50%	33%	8%	82%	10%	17%	71%	12%	
	APP/DEPART	382	/	269	218	/	310	717	/	827	744	/	655	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	33	74	121	19	69	39	29	293	54	71	264	46	1,112
	APPROACH %	14%	32%	53%	15%	54%	31%	8%	78%	14%	19%	69%	12%	
	PEAK HR FACTOR		0.663			0.962			0.803			0.925		0.924
	APP/DEPART	228	/	149	127	/	194	376	/	433	381	/	336	0
PM	5:00 PM	14	18	34	8	20	10	3	57	10	26	78	8	286
	5:15 PM	16	18	27	5	19	7	3	55	7	22	104	10	293
	5:30 PM	21	30	45	6	12	15	2	46	11	25	91	9	313
	5:45 PM	14	32	34	6	12	15	5	58	20	28	93	18	335
	6:00 PM	12	24	45	6	18	23	2	57	11	26	107	16	347
	6:15 PM	19	33	41	2	13	19	3	78	15	28	83	17	351
	6:30 PM	18	29	51	6	25	21	5	62	16	33	68	10	344
	6:45 PM	17	25	56	5	13	21	7	49	14	28	77	18	330
	VOLUMES	131	209	333	44	132	131	30	462	104	216	701	106	2,599
	APPROACH %	19%	31%	49%	14%	43%	43%	5%	78%	17%	21%	69%	10%	
	APP/DEPART	673	/	345	307	/	449	596	/	844	1,023	/	961	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	63	118	171	20	68	78	15	255	62	115	351	61	1,377
	APPROACH %	18%	34%	49%	12%	41%	47%	5%	77%	19%	22%	67%	12%	
	PEAK HR FACTOR		0.898			0.798			0.865			0.884		0.981
	APP/DEPART	352	/	194	166	/	244	332	/	448	527	/	491	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	2nd	LOCATION #:	012
TUESDAY	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Arizona			WESTBOUND Arizona			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	6	32	6	2	16	5	4	12	8	2	10	19	122
	7:45 AM	8	30	5	2	18	6	14	7	3	1	17	18	129
	8:00 AM	11	34	8	1	16	5	8	14	5	3	14	10	129
	8:15 AM	5	41	17	1	23	5	9	23	7	4	9	24	168
	8:30 AM	7	30	8	4	18	14	21	15	10	6	9	27	169
	8:45 AM	6	51	19	9	30	14	22	20	5	5	7	41	229
	9:00 AM	10	44	15	7	18	15	16	25	9	9	19	27	214
	9:15 AM	6	45	11	6	34	8	14	15	5	3	19	20	186
	VOLUMES	59	307	89	32	173	72	108	131	52	33	104	186	1,346
	APPROACH %	13%	67%	20%	12%	62%	26%	37%	45%	18%	10%	32%	58%	
	APP/DEPART	455	/	607	277	/	260	291	/	245	323	/	234	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	29	170	53	26	100	51	73	75	29	23	54	115	798
	APPROACH %	12%	67%	21%	15%	56%	29%	41%	42%	16%	12%	28%	60%	
	PEAK HR FACTOR		0.829			0.835			0.885			0.873		0.871
	APP/DEPART	252	/	364	177	/	154	177	/	148	192	/	132	0
PM	5:00 PM	30	44	32	11	39	12	8	22	12	14	16	12	252
	5:15 PM	17	38	36	6	36	5	8	21	12	11	26	21	237
	5:30 PM	17	54	35	4	31	8	9	23	11	11	19	28	250
	5:45 PM	24	54	30	11	37	10	17	19	15	17	26	27	287
	6:00 PM	15	51	27	6	36	9	13	20	16	11	32	16	252
	6:15 PM	20	55	43	7	36	5	13	20	11	18	24	28	280
	6:30 PM	25	53	28	6	43	14	9	19	16	21	16	19	269
	6:45 PM	29	57	36	6	33	7	9	21	17	11	20	16	262
	VOLUMES	177	406	267	57	291	70	86	165	110	114	179	167	2,089
	APPROACH %	21%	48%	31%	14%	70%	17%	24%	46%	30%	25%	39%	36%	
	APP/DEPART	850	/	664	418	/	517	361	/	484	460	/	424	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	84	213	128	30	152	38	52	78	58	67	98	90	1,088
	APPROACH %	20%	50%	30%	14%	69%	17%	28%	41%	31%	26%	38%	35%	
	PEAK HR FACTOR		0.900			0.873			0.922			0.911		0.948
	APP/DEPART	425	/	359	220	/	279	188	/	232	255	/	218	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	2nd	LOCATION #:	013
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 2	ER 0	WL 0	WT 1	WR 1	TOTAL
AM	7:30 AM	7	29	14	8	22	4	12	24	4	2	21	12	159
	7:45 AM	4	32	15	5	16	6	13	22	6	4	19	24	166
	8:00 AM	11	35	16	12	18	7	14	28	1	14	31	25	212
	8:15 AM	7	44	23	11	15	5	13	29	4	6	20	33	210
	8:30 AM	6	46	18	7	29	10	10	31	8	9	21	32	227
	8:45 AM	11	57	18	7	14	7	22	27	8	8	21	43	243
	9:00 AM	16	50	29	9	21	2	18	32	7	5	24	35	248
	9:15 AM	11	55	20	13	17	5	14	29	14	8	37	30	253
	VOLUMES	73	348	153	72	152	46	116	222	52	56	194	234	1,718
	APPROACH %	13%	61%	27%	27%	56%	17%	30%	57%	13%	12%	40%	48%	
	APP/DEPART	574	/	699	270	/	261	390	/	446	484	/	312	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	44	208	85	36	81	24	64	119	37	30	103	140	971
	APPROACH %	13%	62%	25%	26%	57%	17%	29%	54%	17%	11%	38%	51%	
	PEAK HR FACTOR		0.887			0.766			0.965			0.910		0.959
	APP/DEPART	337	/	413	141	/	148	220	/	239	273	/	171	0
PM	5:00 PM	24	36	32	11	30	9	20	24	13	26	32	38	295
	5:15 PM	13	41	28	8	39	3	11	40	15	21	43	31	293
	5:30 PM	22	49	36	7	37	9	16	31	14	17	33	40	311
	5:45 PM	18	43	37	9	44	7	12	37	13	19	42	60	341
	6:00 PM	23	53	46	16	34	11	17	26	17	16	47	44	350
	6:15 PM	18	46	34	20	31	17	16	32	16	15	41	61	347
	6:30 PM	19	53	42	14	43	17	26	48	21	13	36	47	379
	6:45 PM	15	54	55	18	37	22	19	27	14	15	41	47	364
	VOLUMES	152	375	310	103	295	95	137	265	123	142	315	368	2,680
	APPROACH %	18%	45%	37%	21%	60%	19%	26%	50%	23%	17%	38%	45%	
	APP/DEPART	837	/	881	493	/	562	525	/	676	825	/	561	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	75	206	177	68	145	67	78	133	68	59	165	199	1,440
	APPROACH %	16%	45%	39%	24%	52%	24%	28%	48%	24%	14%	39%	47%	
	PEAK HR FACTOR		0.923			0.909			0.734			0.904		0.950
	APP/DEPART	458	/	485	280	/	272	279	/	376	423	/	307	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	2nd	LOCATION #:	014
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Broadway			WESTBOUND Broadway			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	1	1	1	1	0	1	1	0	1	1	0	
AM	7:30 AM	4	37	10	6	24	2	15	18	4	8	12	21	161
	7:45 AM	1	41	9	3	18	4	19	18	10	9	15	26	173
	8:00 AM	10	31	16	8	21	4	9	37	15	9	16	22	198
	8:15 AM	7	53	12	5	21	4	13	25	4	8	19	26	197
	8:30 AM	10	56	7	18	21	1	12	25	10	16	21	33	230
	8:45 AM	5	74	22	5	22	1	22	22	14	14	37	44	282
	9:00 AM	6	65	17	2	25	5	18	28	15	7	21	29	238
	9:15 AM	5	57	25	9	26	2	22	20	9	14	24	35	248
	VOLUMES	48	414	118	56	178	23	130	193	81	85	165	236	1,727
	APPROACH %	8%	71%	20%	22%	69%	9%	32%	48%	20%	17%	34%	49%	
	APP/DEPART	580	/	784	257	/	344	404	/	363	486	/	236	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	26	252	71	34	94	9	74	95	48	51	103	141	998
	APPROACH %	7%	72%	20%	25%	69%	7%	34%	44%	22%	17%	35%	48%	
	PEAK HR FACTOR		0.864			0.856			0.889			0.776		0.885
	APP/DEPART	349	/	470	137	/	193	217	/	197	295	/	138	0
PM	5:00 PM	7	45	34	18	47	6	24	33	22	14	30	40	320
	5:15 PM	6	49	31	17	54	3	13	40	14	10	35	30	302
	5:30 PM	4	44	19	13	49	4	15	31	27	15	37	39	297
	5:45 PM	13	46	20	16	47	9	15	38	24	11	38	49	326
	6:00 PM	15	49	27	16	31	16	16	33	21	19	34	51	328
	6:15 PM	12	51	25	16	36	9	20	28	17	11	40	46	311
	6:30 PM	8	53	18	17	53	6	13	41	23	15	32	44	323
	6:45 PM	8	52	22	19	45	7	20	33	33	16	41	51	347
	VOLUMES	73	389	196	132	362	60	136	277	181	111	287	350	2,554
	APPROACH %	11%	59%	30%	24%	65%	11%	23%	47%	30%	15%	38%	47%	
	APP/DEPART	658	/	881	554	/	654	594	/	599	748	/	420	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	43	205	92	68	165	38	69	135	94	61	147	192	1,309
	APPROACH %	13%	60%	27%	25%	61%	14%	23%	45%	32%	15%	37%	48%	
	PEAK HR FACTOR		0.934			0.891			0.866			0.926		0.943
	APP/DEPART	340	/	469	271	/	320	298	/	292	400	/	228	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	2nd	LOCATION #:	015
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

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		NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Colorado			WESTBOUND Colorado			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	1	X	X	1	1	X	X	X	0.5	1	0.5	
AM	7:30 AM	1	38	0	1	29	4	0	0	0	5	28	17	123
	7:45 AM	5	40	0	0	21	7	0	0	0	5	32	20	130
	8:00 AM	7	45	0	0	29	8	0	0	0	5	32	23	149
	8:15 AM	2	61	0	0	23	8	0	0	0	5	35	31	165
	8:30 AM	4	66	0	0	22	12	0	0	0	4	44	38	190
	8:45 AM	3	73	0	0	28	10	0	0	0	4	45	40	203
	9:00 AM	7	78	0	0	30	8	0	0	0	7	36	31	197
	9:15 AM	5	64	0	0	27	11	0	0	0	3	32	37	179
	VOLUMES	34	465	0	1	209	68	0	0	0	38	284	237	1,336
	APPROACH %	7%	93%	0%	0%	75%	24%	0%	0%	0%	7%	51%	42%	
	APP/DEPART	499	/	703	278	/	247	0	/	0	559	/	386	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	19	281	0	0	107	41	0	0	0	18	157	146	769
	APPROACH %	6%	94%	0%	0%	72%	28%	0%	0%	0%	6%	49%	45%	
	PEAK HR FACTOR		0.882			0.974			0.000			0.902		0.947
	APP/DEPART	300	/	427	148	/	125	0	/	0	321	/	217	0
PM	5:00 PM	5	70	0	0	95	10	0	0	0	10	26	21	237
	5:15 PM	6	47	0	0	71	13	0	0	0	21	50	33	241
	5:30 PM	3	47	0	0	86	18	0	0	0	27	46	30	257
	5:45 PM	2	42	0	0	62	18	0	0	0	21	42	27	214
	6:00 PM	4	66	0	0	76	12	0	0	0	21	54	37	270
	6:15 PM	5	50	0	1	70	12	0	0	0	29	31	30	228
	6:30 PM	4	57	0	1	86	16	0	0	0	18	58	32	272
	6:45 PM	4	63	0	0	79	11	0	0	0	20	53	15	245
	VOLUMES	33	442	0	2	625	110	0	0	0	167	360	225	1,964
	APPROACH %	7%	93%	0%	0%	85%	15%	0%	0%	0%	22%	48%	30%	
	APP/DEPART	475	/	669	737	/	792	0	/	0	752	/	503	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	17	236	0	2	311	51	0	0	0	88	196	114	1,015
	APPROACH %	7%	93%	0%	1%	85%	14%	0%	0%	0%	22%	49%	29%	
	PEAK HR FACTOR		0.904			0.883			0.000			0.888		0.933
	APP/DEPART	253	/	352	364	/	399	0	/	0	398	/	264	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 19, 17	NORTH & SOUTH:	Main	LOCATION #:	659
THURSDAY	EAST & WEST:	Olympic	CONTROL:	SIGNAL

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		NORTHBOUND Main			SOUTHBOUND Main			EASTBOUND Olympic			WESTBOUND Olympic			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:30 AM	4	43	79	29	31	2	5	70	13	19	9	6	310
	7:45 AM	1	39	106	16	23	0	1	74	11	24	13	7	315
	8:00 AM	7	39	110	22	20	3	7	106	21	27	14	4	380
	8:15 AM	9	51	97	13	16	2	0	89	15	28	14	5	339
	8:30 AM	5	59	90	17	23	4	10	81	13	28	13	7	350
	8:45 AM	6	76	86	11	12	3	5	50	15	27	10	3	304
	9:00 AM	6	62	94	13	13	0	0	59	8	23	14	9	301
	9:15 AM	5	54	96	19	12	3	12	67	9	19	12	4	312
	VOLUMES	43	423	758	140	150	17	40	596	105	195	99	45	2,611
	APPROACH %	4%	35%	62%	46%	49%	6%	5%	80%	14%	58%	29%	13%	
	APP/DEPART	1,224	/	508	307	/	450	741	/	1,494	339	/	159	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	22	188	403	68	82	9	18	350	60	107	54	23	1,384
	APPROACH %	4%	31%	66%	43%	52%	6%	4%	82%	14%	58%	29%	13%	
	PEAK HR FACTOR		0.976			0.883			0.799			0.958		0.911
	APP/DEPART	613	/	229	159	/	249	428	/	821	184	/	85	0
PM	5:00 PM	12	34	31	28	56	5	6	31	7	20	22	3	255
	5:15 PM	6	46	31	19	62	3	5	36	16	20	22	6	272
	5:30 PM	7	46	28	25	77	1	10	35	17	28	15	3	292
	5:45 PM	13	40	33	18	56	2	13	34	11	26	44	4	294
	6:00 PM	7	60	27	32	62	2	13	34	11	19	36	3	306
	6:15 PM	8	44	35	35	57	5	8	44	17	15	25	8	301
	6:30 PM	3	47	36	24	61	4	4	47	17	14	22	7	286
	6:45 PM	4	31	28	22	46	4	8	52	7	9	14	8	233
	VOLUMES	60	348	249	203	477	26	67	313	103	151	200	42	2,239
	APPROACH %	9%	53%	38%	29%	68%	4%	14%	65%	21%	38%	51%	11%	
	APP/DEPART	657	/	458	706	/	731	483	/	764	393	/	286	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	35	190	123	110	252	10	44	147	56	88	120	18	1,193
	APPROACH %	10%	55%	35%	30%	68%	3%	18%	60%	23%	39%	53%	8%	
	PEAK HR FACTOR		0.926			0.903			0.895			0.764		0.975
	APP/DEPART	348	/	253	372	/	396	247	/	379	226	/	165	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	3rd	LOCATION #:	666
THURSDAY	EAST & WEST:	California	CONTROL:	STOP ALL

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		NORTHBOUND 3rd			SOUTHBOUND 3rd			EASTBOUND California			WESTBOUND California			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	3	9	3	6	5	8	3	22	2	2	24	5	92
	7:45 AM	4	13	4	8	11	12	11	49	5	3	39	3	162
	8:00 AM	3	10	9	5	4	12	5	37	2	3	40	6	136
	8:15 AM	7	13	5	6	3	10	6	26	8	6	33	8	131
	8:30 AM	6	12	5	6	14	9	4	46	6	2	38	10	158
	8:45 AM	5	8	2	2	18	19	12	47	12	3	42	9	179
	9:00 AM	1	7	1	10	8	15	7	31	4	2	40	3	129
	9:15 AM	2	13	3	5	9	14	3	36	5	3	34	5	132
	VOLUMES	31	85	32	48	72	99	51	294	44	24	290	49	1,119
	APPROACH %	21%	57%	22%	22%	33%	45%	13%	76%	11%	7%	80%	13%	
	APP/DEPART	148	/	183	219	/	135	389	/	377	363	/	424	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	21	43	21	19	39	50	27	156	28	14	153	33	604
	APPROACH %	25%	51%	25%	18%	36%	46%	13%	74%	13%	7%	77%	17%	
	PEAK HR FACTOR		0.850			0.692			0.743			0.926		0.844
	APP/DEPART	85	/	104	108	/	79	211	/	196	200	/	225	0
PM	5:00 PM	4	10	11	7	9	4	5	39	8	6	48	7	158
	5:15 PM	7	20	7	6	14	0	2	51	10	4	38	6	165
	5:30 PM	5	7	11	3	10	4	5	38	6	3	42	3	137
	5:45 PM	10	9	6	1	4	5	3	37	7	4	41	2	129
	6:00 PM	5	12	8	5	15	5	3	50	10	3	31	10	157
	6:15 PM	4	16	10	5	7	2	4	44	6	3	47	8	156
	6:30 PM	4	11	9	4	9	6	10	45	9	3	43	5	158
	6:45 PM	4	8	9	3	9	4	5	32	11	3	38	7	133
	VOLUMES	43	93	71	34	77	30	37	336	67	29	328	48	1,193
	APPROACH %	21%	45%	34%	24%	55%	21%	8%	76%	15%	7%	81%	12%	
	APP/DEPART	207	/	176	141	/	168	440	/	444	405	/	405	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	17	47	36	17	40	17	22	171	36	12	159	30	604
	APPROACH %	17%	47%	36%	23%	54%	23%	10%	75%	16%	6%	79%	15%	
	PEAK HR FACTOR		0.833			0.740			0.895			0.866		0.956
	APP/DEPART	100	/	97	74	/	87	229	/	224	201	/	196	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	3rd	LOCATION #:	023
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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		NORTHBOUND 3rd			SOUTHBOUND 3rd			EASTBOUND Wilshire			WESTBOUND Wilshire			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	1	X	1	1	2	X	X	2	0	
AM	7:30 AM	0	0	0	14	0	3	7	86	0	0	94	14	218
	7:45 AM	0	0	0	13	0	4	5	102	0	0	90	17	231
	8:00 AM	0	0	0	14	0	7	6	93	0	2	94	24	240
	8:15 AM	0	0	0	9	0	4	6	93	0	0	97	30	239
	8:30 AM	0	0	0	8	0	4	8	111	0	0	89	25	245
	8:45 AM	0	0	0	10	0	4	4	106	0	1	86	19	230
	9:00 AM	0	0	0	8	0	8	2	107	0	1	83	31	240
	9:15 AM	0	0	0	5	0	9	3	104	0	0	100	20	241
	VOLUMES	0	0	0	81	0	43	41	802	0	4	733	180	1,884
	APPROACH %	0%	0%	0%	65%	0%	35%	5%	95%	0%	0%	80%	20%	
	APP/DEPART	0	/	220	124	/	0	843	/	887	917	/	777	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	0	0	0	31	0	25	17	428	0	2	358	95	956
	APPROACH %	0%	0%	0%	55%	0%	45%	4%	96%	0%	0%	79%	21%	
	PEAK HR FACTOR		0.000			0.875			0.935			0.948		0.976
	APP/DEPART	0	/	111	56	/	0	445	/	461	455	/	384	0
PM	5:00 PM	0	0	0	13	0	6	2	103	0	0	101	16	241
	5:15 PM	0	0	0	12	0	9	4	85	0	0	117	27	254
	5:30 PM	0	0	0	11	0	13	4	105	0	1	121	23	278
	5:45 PM	0	0	0	17	0	18	8	97	0	1	119	27	287
	6:00 PM	0	0	0	19	0	14	3	104	0	1	132	21	294
	6:15 PM	0	0	0	21	0	7	4	129	0	0	114	22	297
	6:30 PM	0	0	0	15	0	9	6	102	0	0	103	17	252
	6:45 PM	0	0	0	19	0	9	4	137	0	0	103	25	297
	VOLUMES	0	0	0	127	0	85	35	862	0	3	910	178	2,200
	APPROACH %	0%	0%	0%	60%	0%	40%	4%	96%	0%	0%	83%	16%	
	APP/DEPART	0	/	211	212	/	0	897	/	992	1,091	/	997	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	0	0	0	68	0	52	19	435	0	3	486	93	1,156
	APPROACH %	0%	0%	0%	57%	0%	43%	4%	96%	0%	1%	84%	16%	
	PEAK HR FACTOR		0.000			0.857			0.853			0.945		0.973
	APP/DEPART	0	/	111	120	/	0	454	/	506	582	/	539	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	4th	LOCATION #:	028
THURSDAY	EAST & WEST:	Montana	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Montana			WESTBOUND Montana			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	5	31	8	14	24	8	5	34	5	6	27	17	184
	7:45 AM	1	34	4	11	28	3	8	57	3	13	35	20	217
	8:00 AM	1	26	14	16	27	9	3	61	7	4	36	12	216
	8:15 AM	4	23	5	13	22	7	10	70	1	6	47	15	223
	8:30 AM	6	30	7	15	34	10	7	44	5	6	63	15	242
	8:45 AM	2	21	8	14	34	15	6	59	5	18	43	12	237
	9:00 AM	5	32	6	14	31	10	8	49	6	12	44	16	233
	9:15 AM	5	17	15	21	36	7	6	57	5	9	43	14	235
	VOLUMES	29	214	67	118	236	69	53	431	37	74	338	121	1,787
	APPROACH %	9%	69%	22%	28%	56%	16%	10%	83%	7%	14%	63%	23%	
	APP/DEPART	310	/	389	423	/	347	521	/	615	533	/	436	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	18	100	36	64	135	42	27	209	21	45	193	57	947
	APPROACH %	12%	65%	23%	27%	56%	17%	11%	81%	8%	15%	65%	19%	
	PEAK HR FACTOR		0.895			0.941			0.918			0.878		0.978
	APP/DEPART	154	/	184	241	/	201	257	/	309	295	/	253	0
PM	5:00 PM	4	37	10	16	38	13	5	48	4	12	45	12	244
	5:15 PM	6	31	19	17	33	8	6	69	1	12	52	22	276
	5:30 PM	6	43	15	20	28	11	3	61	4	8	56	20	275
	5:45 PM	9	45	9	20	40	11	5	45	2	13	58	13	270
	6:00 PM	4	33	15	14	32	9	8	50	6	11	55	18	255
	6:15 PM	3	29	8	23	28	13	13	60	9	6	50	26	268
	6:30 PM	5	29	9	9	24	10	9	47	2	6	57	19	226
	6:45 PM	1	27	12	7	23	9	7	40	2	12	49	18	207
	VOLUMES	38	274	97	126	246	84	56	420	30	80	422	148	2,021
	APPROACH %	9%	67%	24%	28%	54%	18%	11%	83%	6%	12%	65%	23%	
	APP/DEPART	409	/	478	456	/	360	506	/	643	650	/	540	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	25	152	58	71	133	39	22	225	13	44	221	73	1,076
	APPROACH %	11%	65%	25%	29%	55%	16%	8%	87%	5%	13%	65%	22%	
	PEAK HR FACTOR		0.918			0.856			0.855			0.983		0.975
	APP/DEPART	235	/	247	243	/	191	260	/	354	338	/	284	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	4th	LOCATION #:	204
THURSDAY	EAST & WEST:	Washington	CONTROL:	STOP ALL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Washington			WESTBOUND Washington			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:30 AM	4	27	3	3	30	1	0	16	4	2	18	1	109
	7:45 AM	6	34	4	7	51	1	3	23	5	13	24	7	178
	8:00 AM	5	29	4	4	42	2	5	24	6	12	17	4	154
	8:15 AM	4	30	1	6	44	6	5	25	13	8	26	6	174
	8:30 AM	6	33	2	5	45	5	4	27	6	8	17	6	164
	8:45 AM	2	26	3	4	65	2	5	18	13	9	13	6	166
	9:00 AM	9	29	3	5	56	8	6	20	7	8	31	6	188
	9:15 AM	5	24	5	3	50	3	3	10	10	3	26	5	147
	VOLUMES	41	232	25	37	383	28	31	163	64	63	172	41	1,280
	APPROACH %	14%	78%	8%	8%	85%	6%	12%	63%	25%	23%	62%	15%	
	APP/DEPART	298	/	303	448	/	510	258	/	225	276	/	242	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	21	118	9	20	210	21	20	90	39	33	87	24	692
	APPROACH %	14%	80%	6%	8%	84%	8%	13%	60%	26%	23%	60%	17%	
	PEAK HR FACTOR		0.902			0.884			0.866			0.800		0.920
	APP/DEPART	148	/	162	251	/	283	149	/	118	144	/	129	0
PM	5:00 PM	2	41	2	7	37	6	3	23	3	5	28	10	167
	5:15 PM	5	59	5	6	51	7	2	17	3	3	33	7	198
	5:30 PM	3	50	5	6	31	6	2	29	3	2	37	9	183
	5:45 PM	7	53	3	4	43	5	0	17	7	3	30	16	188
	6:00 PM	10	48	8	6	43	2	4	13	3	4	27	10	178
	6:15 PM	7	36	4	7	40	0	0	28	3	2	29	7	163
	6:30 PM	4	33	4	2	29	1	0	16	7	9	28	12	145
	6:45 PM	5	45	6	1	40	2	4	23	7	7	27	3	170
	VOLUMES	43	365	37	39	314	29	15	166	36	35	239	74	1,392
	APPROACH %	10%	82%	8%	10%	82%	8%	7%	76%	17%	10%	69%	21%	
	APP/DEPART	445	/	454	382	/	386	217	/	242	348	/	310	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	25	210	21	22	168	20	8	76	16	12	127	42	747
	APPROACH %	10%	82%	8%	10%	80%	10%	8%	76%	16%	7%	70%	23%	
	PEAK HR FACTOR		0.928			0.820			0.735			0.923		0.943
	APP/DEPART	256	/	260	210	/	197	100	/	119	181	/	171	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	4th	LOCATION #:	029
THURSDAY	EAST & WEST:	California	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND California			WESTBOUND California			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	3	25	5	3	32	2	2	20	14	2	25	9	142
	7:45 AM	6	37	4	0	69	8	3	48	13	6	30	8	232
	8:00 AM	9	32	3	2	53	6	5	29	18	4	34	4	199
	8:15 AM	6	27	5	1	55	6	2	19	14	10	31	3	179
	8:30 AM	8	28	4	2	55	5	3	36	25	15	34	9	224
	8:45 AM	2	23	3	3	71	14	4	30	20	13	35	4	222
	9:00 AM	3	34	3	3	62	12	6	29	12	3	29	8	204
	9:15 AM	5	29	3	3	56	5	2	30	11	5	37	7	193
	VOLUMES	42	235	30	17	453	58	27	241	127	58	255	52	1,595
	APPROACH %	14%	77%	10%	3%	86%	11%	7%	61%	32%	16%	70%	14%	
	APP/DEPART	307	/	310	528	/	635	395	/	292	365	/	358	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	18	114	13	11	244	36	15	125	68	36	135	28	843
	APPROACH %	12%	79%	9%	4%	84%	12%	7%	60%	33%	18%	68%	14%	
	PEAK HR FACTOR		0.906			0.827			0.813			0.858		0.941
	APP/DEPART	145	/	154	291	/	346	208	/	151	199	/	192	0
PM	5:00 PM	9	40	11	3	40	3	5	30	21	7	41	10	220
	5:15 PM	14	52	10	1	55	5	6	47	14	5	31	19	259
	5:30 PM	16	43	13	5	35	1	8	38	9	6	33	9	216
	5:45 PM	14	53	14	2	49	7	3	33	12	7	30	11	235
	6:00 PM	17	50	16	4	40	4	5	47	13	7	29	16	248
	6:15 PM	10	31	8	2	44	1	2	44	10	5	47	12	216
	6:30 PM	10	37	7	6	36	6	4	39	14	5	34	6	204
	6:45 PM	7	43	5	1	41	7	4	24	14	5	33	6	190
	VOLUMES	97	349	84	24	340	34	37	302	107	47	278	89	1,788
	APPROACH %	18%	66%	16%	6%	85%	9%	8%	68%	24%	11%	67%	21%	
	APP/DEPART	530	/	474	398	/	491	446	/	413	414	/	410	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	61	198	53	12	179	17	22	165	48	25	123	55	958
	APPROACH %	20%	63%	17%	6%	86%	8%	9%	70%	20%	12%	61%	27%	
	PEAK HR FACTOR		0.940			0.852			0.877			0.923		0.925
	APP/DEPART	312	/	274	208	/	251	235	/	231	203	/	202	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	4th	LOCATION #:	030
TUESDAY	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Wilshire			WESTBOUND Wilshire			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:30 AM	6	24	10	19	47	1	7	82	6	20	71	25	318
	7:45 AM	9	30	13	15	65	2	4	86	13	27	94	29	387
	8:00 AM	11	40	23	14	48	9	5	99	13	27	104	33	426
	8:15 AM	7	34	18	10	48	3	5	84	12	34	99	26	380
	8:30 AM	14	31	12	13	56	6	11	83	11	27	118	31	413
	8:45 AM	9	22	7	15	53	4	14	90	16	25	96	52	403
	9:00 AM	9	35	15	25	47	1	4	78	16	21	97	42	390
	9:15 AM	7	20	15	20	49	4	6	93	19	25	111	33	402
	VOLUMES	72	236	113	131	413	30	56	695	106	206	790	271	3,119
	APPROACH %	17%	56%	27%	23%	72%	5%	7%	81%	12%	16%	62%	21%	
	APP/DEPART	421	/	562	574	/	724	857	/	941	1,267	/	892	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	41	127	60	52	205	22	35	356	52	113	417	142	1,622
	APPROACH %	18%	56%	26%	19%	73%	8%	8%	80%	12%	17%	62%	21%	
	PEAK HR FACTOR		0.770			0.930			0.923			0.955		0.952
	APP/DEPART	228	/	303	279	/	369	443	/	469	672	/	481	0
PM	5:00 PM	6	27	23	24	50	7	7	85	18	33	97	16	393
	5:15 PM	12	34	27	26	41	10	4	89	16	34	125	19	437
	5:30 PM	9	36	21	29	58	16	5	85	19	26	125	28	457
	5:45 PM	10	29	20	19	36	16	3	96	15	36	128	29	437
	6:00 PM	10	29	25	29	39	12	5	97	29	25	134	29	463
	6:15 PM	10	25	29	23	44	18	4	91	23	19	119	23	428
	6:30 PM	3	21	18	15	33	10	4	124	20	28	107	29	412
	6:45 PM	15	35	29	22	36	9	2	95	18	23	117	27	428
	VOLUMES	75	236	192	187	337	98	34	762	158	224	952	200	3,455
	APPROACH %	15%	47%	38%	30%	54%	16%	4%	80%	17%	16%	69%	15%	
	APP/DEPART	503	/	469	622	/	720	954	/	1,141	1,376	/	1,125	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	41	128	93	103	174	54	17	367	79	121	512	105	1,794
	APPROACH %	16%	49%	35%	31%	53%	16%	4%	79%	17%	16%	69%	14%	
	PEAK HR FACTOR		0.897			0.803			0.884			0.956		0.969
	APP/DEPART	262	/	249	331	/	375	463	/	563	738	/	607	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	4th	LOCATION #:	031
TUESDAY	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Arizona			WESTBOUND Arizona			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	4	39	7	1	61	5	3	14	3	6	25	7	175
	7:45 AM	3	51	6	3	86	5	3	7	3	9	25	5	206
	8:00 AM	6	57	9	1	90	3	5	24	8	7	20	17	247
	8:15 AM	10	67	8	2	66	7	4	17	11	6	26	12	236
	8:30 AM	8	49	12	3	77	8	0	16	11	9	37	13	243
	8:45 AM	11	41	13	3	66	9	3	24	11	10	49	11	251
	9:00 AM	12	59	13	6	66	9	2	29	11	12	33	17	269
	9:15 AM	3	29	18	2	79	8	4	23	8	7	38	15	234
	VOLUMES	57	392	86	21	591	54	24	154	66	66	253	97	1,861
	APPROACH %	11%	73%	16%	3%	89%	8%	10%	63%	27%	16%	61%	23%	
	APP/DEPART	535	/	513	666	/	723	244	/	261	416	/	364	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	41	216	46	14	275	33	9	86	44	37	145	53	999
	APPROACH %	14%	71%	15%	4%	85%	10%	6%	62%	32%	16%	62%	23%	
	PEAK HR FACTOR		0.891			0.915			0.827			0.839		0.928
	APP/DEPART	303	/	278	322	/	356	139	/	146	235	/	219	0
PM	5:00 PM	3	22	11	19	71	17	5	43	24	16	30	16	277
	5:15 PM	7	33	15	12	65	15	9	31	27	14	34	13	275
	5:30 PM	11	44	17	12	77	15	4	43	25	14	38	6	306
	5:45 PM	13	45	8	12	72	7	4	35	21	15	58	7	297
	6:00 PM	4	37	13	10	74	14	4	40	19	8	54	20	297
	6:15 PM	7	42	9	3	58	14	6	46	18	10	40	11	264
	6:30 PM	6	29	14	22	59	9	5	37	17	11	41	8	258
	6:45 PM	5	41	15	5	57	8	8	41	17	18	39	17	271
	VOLUMES	56	293	102	95	533	99	45	316	168	106	334	98	2,245
	APPROACH %	12%	65%	23%	13%	73%	14%	9%	60%	32%	20%	62%	18%	
	APP/DEPART	451	/	438	727	/	808	529	/	511	538	/	488	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	35	159	53	46	288	51	21	149	92	51	184	46	1,175
	APPROACH %	14%	64%	21%	12%	75%	13%	8%	57%	35%	18%	65%	16%	
	PEAK HR FACTOR		0.858			0.925			0.910			0.857		0.960
	APP/DEPART	247	/	227	385	/	431	262	/	247	281	/	270	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	4th	LOCATION #:	032
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

NOTES:

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	1	0	1	2	0	X	1	1	X	2	0	
AM	7:30 AM	9	52	13	2	67	1	0	36	17	1	24	2	224
	7:45 AM	11	58	25	9	93	1	0	35	11	1	48	15	307
	8:00 AM	7	78	14	10	92	3	1	46	14	0	46	9	320
	8:15 AM	13	92	17	9	70	0	0	43	21	0	55	11	331
	8:30 AM	13	64	18	11	74	6	0	50	16	1	49	15	317
	8:45 AM	13	67	10	7	69	5	0	43	14	0	51	12	291
	9:00 AM	9	73	22	6	62	4	0	56	18	0	48	12	310
	9:15 AM	15	51	12	5	82	6	0	54	22	1	55	11	314
	VOLUMES	90	535	131	59	609	26	1	363	133	4	376	87	2,414
	APPROACH %	12%	71%	17%	9%	88%	4%	0%	73%	27%	1%	81%	19%	
	APP/DEPART	756	/	623	694	/	747	497	/	553	467	/	491	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	44	292	74	39	329	10	1	174	62	2	198	50	1,275
	APPROACH %	11%	71%	18%	10%	87%	3%	0%	73%	26%	1%	79%	20%	
	PEAK HR FACTOR		0.840			0.900			0.898			0.947		0.963
	APP/DEPART	410	/	343	378	/	394	237	/	287	250	/	251	0
PM	5:00 PM	5	37	13	17	83	9	0	55	26	1	77	22	345
	5:15 PM	9	44	23	16	85	12	0	63	23	2	76	18	371
	5:30 PM	14	59	17	18	86	11	0	56	24	1	72	20	378
	5:45 PM	11	48	21	18	73	10	1	65	30	0	89	13	379
	6:00 PM	12	43	22	13	83	8	1	67	25	1	96	14	385
	6:15 PM	18	42	18	20	78	10	0	60	33	2	74	19	374
	6:30 PM	17	41	16	16	72	2	0	81	35	0	90	22	392
	6:45 PM	14	53	15	18	72	7	0	71	32	0	77	10	369
	VOLUMES	100	367	145	136	632	69	2	518	228	7	651	138	2,993
	APPROACH %	16%	60%	24%	16%	76%	8%	0%	69%	30%	1%	82%	17%	
	APP/DEPART	612	/	508	837	/	867	748	/	798	796	/	820	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	58	174	77	67	306	30	2	273	123	3	349	68	1,530
	APPROACH %	19%	56%	25%	17%	76%	7%	1%	69%	31%	1%	83%	16%	
	PEAK HR FACTOR		0.966			0.933			0.858			0.938		0.976
	APP/DEPART	309	/	245	403	/	432	398	/	416	420	/	437	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	4th	LOCATION #:	033
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Broadway			WESTBOUND Broadway			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 2	SR 0	EL X	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL
AM	7:30 AM	25	73	19	1	65	5	0	26	6	23	26	7	276
	7:45 AM	21	97	23	4	93	6	0	22	8	24	36	8	342
	8:00 AM	21	100	30	5	87	11	0	38	11	44	27	9	383
	8:15 AM	22	119	46	2	78	6	0	38	8	24	34	10	387
	8:30 AM	28	101	28	5	68	9	0	41	9	31	55	8	383
	8:45 AM	42	100	40	2	63	15	0	34	5	15	62	8	386
	9:00 AM	30	89	39	2	72	12	0	30	21	31	49	17	392
	9:15 AM	43	90	37	5	75	9	0	32	10	21	47	10	379
	VOLUMES	232	769	262	26	601	73	0	261	78	213	336	77	2,928
	APPROACH %	18%	61%	21%	4%	86%	10%	0%	77%	23%	34%	54%	12%	
	APP/DEPART	1,263	/	846	700	/	892	339	/	549	626	/	641	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	122	409	153	11	281	42	0	143	43	101	200	43	1,548
	APPROACH %	18%	60%	22%	3%	84%	13%	0%	77%	23%	29%	58%	13%	
	PEAK HR FACTOR		0.914			0.971			0.912			0.887		0.987
	APP/DEPART	684	/	452	334	/	425	186	/	307	344	/	364	0
PM	5:00 PM	20	43	20	14	94	10	0	50	29	41	61	12	394
	5:15 PM	35	68	19	17	110	23	0	55	37	46	73	16	499
	5:30 PM	36	72	21	17	112	25	0	46	17	45	71	20	482
	5:45 PM	38	68	20	15	95	14	0	51	30	40	80	22	473
	6:00 PM	36	69	29	25	97	16	0	45	31	38	88	20	494
	6:15 PM	47	70	18	22	107	18	0	51	20	38	70	19	480
	6:30 PM	28	68	22	18	81	19	0	48	29	36	94	18	461
	6:45 PM	29	80	26	12	95	18	0	58	26	36	95	23	498
	VOLUMES	269	538	175	140	791	143	0	404	219	320	632	150	3,781
	APPROACH %	27%	55%	18%	13%	74%	13%	0%	65%	35%	29%	57%	14%	
	APP/DEPART	982	/	688	1,074	/	1,329	623	/	720	1,102	/	1,044	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	145	277	89	74	414	78	0	197	115	169	312	78	1,948
	APPROACH %	28%	54%	17%	13%	73%	14%	0%	63%	37%	30%	56%	14%	
	PEAK HR FACTOR		0.953			0.919			0.848			0.957		0.976
	APP/DEPART	511	/	355	566	/	698	312	/	360	559	/	535	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	4th	LOCATION #:	034
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Colorado			WESTBOUND Colorado			
	LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL X	ET X	ER X	WL 0.5	WT 1	WR 0.5	TOTAL
AM	7:30 AM	41	110	0	0	88	3	0	0	0	9	10	4	265
	7:45 AM	43	154	0	0	116	6	0	0	0	26	14	2	361
	8:00 AM	38	146	0	0	133	6	0	0	0	17	15	2	357
	8:15 AM	64	198	0	0	108	7	0	0	0	22	9	7	415
	8:30 AM	64	158	0	0	93	4	0	0	0	15	21	6	361
	8:45 AM	84	197	0	0	83	6	0	0	0	22	14	6	412
	9:00 AM	49	154	0	0	100	13	0	0	0	12	22	12	362
	9:15 AM	64	172	0	0	110	7	0	0	0	13	16	4	386
	VOLUMES	447	1,289	0	0	831	52	0	0	0	136	121	43	2,919
	APPROACH %	26%	74%	0%	0%	94%	6%	0%	0%	0%	45%	40%	14%	
	APP/DEPART	1,736	/	1,332	883	/	968	0	/	0	300	/	619	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	261	707	0	0	384	30	0	0	0	71	66	31	1,550
	APPROACH %	27%	73%	0%	0%	93%	7%	0%	0%	0%	42%	39%	18%	
	PEAK HR FACTOR		0.861			0.900			0.000			0.913		0.934
	APP/DEPART	968	/	738	414	/	455	0	/	0	168	/	357	0
PM	5:00 PM	19	84	0	0	188	18	0	0	0	36	24	5	374
	5:15 PM	51	112	0	0	191	26	0	0	0	35	35	9	459
	5:30 PM	37	123	0	0	191	21	0	0	0	32	32	5	441
	5:45 PM	42	128	0	0	180	22	0	0	0	40	37	3	452
	6:00 PM	54	142	0	0	156	30	0	0	0	42	21	10	455
	6:15 PM	43	114	0	0	167	19	0	0	0	33	35	6	417
	6:30 PM	46	116	0	0	147	26	0	0	0	11	27	5	378
	6:45 PM	49	132	0	0	152	15	0	0	0	28	28	9	413
	VOLUMES	341	951	0	0	1,372	177	0	0	0	257	239	52	3,389
	APPROACH %	26%	74%	0%	0%	89%	11%	0%	0%	0%	47%	44%	9%	
	APP/DEPART	1,292	/	1,003	1,549	/	1,630	0	/	0	548	/	756	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	184	505	0	0	718	99	0	0	0	149	125	27	1,807
	APPROACH %	27%	73%	0%	0%	88%	12%	0%	0%	0%	50%	42%	9%	
	PEAK HR FACTOR		0.879			0.941			0.000			0.941		0.984
	APP/DEPART	689	/	532	817	/	868	0	/	0	301	/	407	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	4th	LOCATION #:	035
	EAST & WEST:	I-10 WB OFF-Ramp	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND I-10 WB OFF-Ramp			WESTBOUND I-10 WB OFF-Ramp			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2	X	X	2	X	X	X	X	2	X	1	
AM	7:30 AM	0	64	0	0	91	0	0	0	0	169	0	94	418
	7:45 AM	0	92	0	0	120	0	0	0	0	189	0	106	507
	8:00 AM	0	95	0	0	161	0	0	0	0	236	0	106	598
	8:15 AM	0	116	0	0	152	0	0	0	0	210	0	132	610
	8:30 AM	0	97	0	0	101	0	0	0	0	190	0	141	529
	8:45 AM	0	112	0	0	122	0	0	0	0	205	0	152	591
	9:00 AM	0	103	0	0	107	0	0	0	0	186	0	113	509
	9:15 AM	0	87	0	0	129	0	0	0	0	170	0	134	520
	VOLUMES	0	766	0	0	983	0	0	0	0	1,555	0	978	4,282
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	61%	0%	39%	
	APP/DEPART	766	/	1,744	983	/	2,538	0	/	0	2,533	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	420	0	0	536	0	0	0	0	841	0	531	2,328
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	61%	0%	39%	
	PEAK HR FACTOR		0.905			0.832			0.000			0.961		0.954
	APP/DEPART	420	/	951	536	/	1,377	0	/	0	1,372	/	0	0
PM	5:00 PM	0	61	0	0	195	0	0	0	0	121	0	44	421
	5:15 PM	0	81	0	0	226	0	0	0	0	203	0	95	605
	5:30 PM	0	69	0	0	222	0	0	0	0	227	0	93	611
	5:45 PM	0	76	0	0	220	0	0	0	0	205	0	93	594
	6:00 PM	0	74	0	0	214	0	0	0	0	217	0	125	630
	6:15 PM	0	57	0	0	188	0	0	0	0	216	0	94	555
	6:30 PM	0	60	0	0	169	0	0	0	0	232	0	109	570
	6:45 PM	0	76	0	0	186	0	0	0	0	228	0	100	590
	VOLUMES	0	554	0	0	1,620	0	0	0	0	1,649	0	753	4,576
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	69%	0%	31%	
	APP/DEPART	554	/	1,307	1,620	/	3,269	0	/	0	2,402	/	0	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	0	300	0	0	882	0	0	0	0	852	0	406	2,440
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	68%	0%	32%	
	PEAK HR FACTOR		0.926			0.976			0.000			0.920		0.968
	APP/DEPART	300	/	706	882	/	1,734	0	/	0	1,258	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	4th	LOCATION #:	036
	EAST & WEST:	I-10 EB ON-Ramp	CONTROL:	SIGNAL

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		NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND I-10 EB ON-Ramp			WESTBOUND I-10 EB ON-Ramp			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	1	1	2	2	0	0.5	2	0.5	X	X	X	
AM	7:30 AM	6	53	99	58	162	29	10	152	12	0	0	0	581
	7:45 AM	6	85	88	63	167	38	8	141	9	0	0	0	605
	8:00 AM	4	82	94	70	194	56	12	149	18	0	0	0	679
	8:15 AM	7	103	122	74	223	50	14	178	16	0	0	0	787
	8:30 AM	8	85	106	53	183	46	10	101	19	0	0	0	611
	8:45 AM	5	104	109	47	218	55	9	105	14	0	0	0	666
	9:00 AM	7	95	113	74	174	34	8	149	6	0	0	0	660
	9:15 AM	2	79	114	72	173	53	7	166	5	0	0	0	671
	VOLUMES	45	686	845	511	1,494	361	78	1,141	99	0	0	0	5,260
	APPROACH %	3%	44%	54%	22%	63%	15%	6%	87%	8%	0%	0%	0%	
	APP/DEPART	1,576	/	764	2,366	/	1,594	1,318	/	2,497	0	/	405	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	24	374	431	244	818	207	45	533	67	0	0	0	2,743
	APPROACH %	3%	45%	52%	19%	64%	16%	7%	83%	10%	0%	0%	0%	
	PEAK HR FACTOR		0.893			0.914			0.775			0.000		0.871
	APP/DEPART	829	/	419	1,269	/	886	645	/	1,208	0	/	230	0
PM	5:00 PM	6	50	46	85	196	23	11	102	18	0	0	0	537
	5:15 PM	4	77	62	83	297	40	4	86	15	0	0	0	668
	5:30 PM	3	60	38	79	322	29	8	94	21	0	0	0	654
	5:45 PM	6	67	37	71	302	40	9	66	4	0	0	0	602
	6:00 PM	1	67	53	74	297	45	8	111	20	0	0	0	676
	6:15 PM	5	48	63	61	285	42	8	87	9	0	0	0	608
	6:30 PM	4	44	50	67	281	35	15	96	15	0	0	0	607
	6:45 PM	6	70	72	66	297	35	8	98	7	0	0	0	659
	VOLUMES	35	483	421	586	2,277	289	71	740	109	0	0	0	5,011
	APPROACH %	4%	51%	45%	19%	72%	9%	8%	80%	12%	0%	0%	0%	
	APP/DEPART	939	/	554	3,152	/	2,386	920	/	1,747	0	/	324	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	14	271	190	307	1,218	154	29	357	60	0	0	0	2,600
	APPROACH %	3%	57%	40%	18%	73%	9%	7%	80%	13%	0%	0%	0%	
	PEAK HR FACTOR		0.830			0.976			0.802			0.000		0.962
	APP/DEPART	475	/	300	1,679	/	1,278	446	/	854	0	/	168	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 26, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
THURSDAY	NORTH & SOUTH:	5th	LOCATION #:	206
	EAST & WEST:	California	CONTROL:	STOP ALL

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		NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND California			WESTBOUND California			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:30 AM	8	27	6	1	13	0	1	31	4	5	24	0	120
	7:45 AM	12	28	10	2	16	5	2	46	13	3	29	1	167
	8:00 AM	16	25	2	0	21	1	4	36	5	6	23	1	140
	8:15 AM	10	36	1	1	18	3	1	20	2	6	31	3	132
	8:30 AM	19	18	2	0	16	1	2	38	8	2	35	1	142
	8:45 AM	13	23	4	0	15	5	2	34	5	1	26	2	130
	9:00 AM	14	24	2	2	19	1	2	31	7	4	29	0	135
	9:15 AM	13	23	7	3	13	2	1	29	8	4	31	3	137
	VOLUMES	105	204	34	9	131	18	15	265	52	31	228	11	1,103
	APPROACH %	31%	59%	10%	6%	83%	11%	5%	80%	16%	11%	84%	4%	
	APP/DEPART	343	/	229	158	/	211	332	/	311	270	/	352	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	57	107	15	3	71	10	9	140	28	17	118	6	581
	APPROACH %	32%	60%	8%	4%	85%	12%	5%	79%	16%	12%	84%	4%	
	PEAK HR FACTOR		0.895			0.913			0.725			0.881		0.870
	APP/DEPART	179	/	122	84	/	116	177	/	158	141	/	185	0
PM	5:00 PM	14	41	7	0	11	1	3	37	6	5	39	0	164
	5:15 PM	26	48	5	1	9	6	5	45	9	4	26	2	186
	5:30 PM	9	45	4	3	13	4	4	42	12	9	34	4	183
	5:45 PM	15	49	5	1	13	1	1	38	16	4	32	3	178
	6:00 PM	19	45	3	4	9	0	2	59	11	1	35	6	194
	6:15 PM	21	43	9	2	15	2	7	39	9	3	45	4	199
	6:30 PM	21	34	4	4	14	2	3	37	11	3	25	4	162
	6:45 PM	12	29	7	0	5	1	1	28	7	1	23	2	116
	VOLUMES	137	334	44	15	89	17	26	325	81	30	259	25	1,382
	APPROACH %	27%	65%	9%	12%	74%	14%	6%	75%	19%	10%	82%	8%	
	APP/DEPART	515	/	381	121	/	199	432	/	385	314	/	417	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	64	182	21	10	50	7	14	178	48	17	146	17	754
	APPROACH %	24%	68%	8%	15%	75%	10%	6%	74%	20%	9%	81%	9%	
	PEAK HR FACTOR		0.914			0.838			0.833			0.865		0.947
	APP/DEPART	267	/	211	67	/	115	240	/	209	180	/	219	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Nov 7, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	5th	LOCATION #:	038
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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		NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Wilshire			WESTBOUND Wilshire			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:30 AM	19	28	13	7	14	6	2	109	6	15	90	7	316
	7:45 AM	22	39	11	16	22	2	5	96	5	10	134	13	375
	8:00 AM	28	23	15	9	13	4	4	130	4	7	129	9	375
	8:15 AM	30	38	16	14	9	0	2	104	5	18	140	10	386
	8:30 AM	29	33	21	13	21	4	3	103	2	15	145	11	400
	8:45 AM	31	28	29	18	22	3	8	105	5	15	133	5	402
	9:00 AM	41	20	27	10	15	1	5	117	5	14	133	10	398
	9:15 AM	29	27	25	10	19	2	2	111	7	15	139	6	392
	VOLUMES	229	236	157	97	135	22	31	875	39	109	1,043	71	3,044
	APPROACH %	37%	38%	25%	38%	53%	9%	3%	93%	4%	9%	85%	6%	
	APP/DEPART	622	/	339	254	/	279	945	/	1,132	1,223	/	1,294	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	130	108	102	51	77	10	18	436	19	59	550	32	1,592
	APPROACH %	38%	32%	30%	37%	56%	7%	4%	92%	4%	9%	86%	5%	
	PEAK HR FACTOR		0.966			0.802			0.931			0.937		0.990
	APP/DEPART	340	/	159	138	/	154	473	/	589	641	/	690	0
PM	5:00 PM	19	43	27	6	13	4	3	148	11	20	144	15	453
	5:15 PM	24	41	38	14	19	6	7	141	9	22	130	18	469
	5:30 PM	13	63	28	8	24	4	6	137	17	12	166	22	500
	5:45 PM	23	73	24	9	12	11	2	111	7	14	138	34	458
	6:00 PM	26	73	40	5	15	7	6	124	13	13	158	29	509
	6:15 PM	20	50	27	13	9	5	12	126	7	17	174	25	485
	6:30 PM	11	53	18	10	6	4	3	149	12	10	138	21	435
	6:45 PM	16	49	22	14	9	5	6	100	7	14	141	24	407
	VOLUMES	152	445	224	79	107	46	45	1,036	83	122	1,189	188	3,716
	APPROACH %	19%	54%	27%	34%	46%	20%	4%	89%	7%	8%	79%	13%	
	APP/DEPART	821	/	676	232	/	305	1,164	/	1,346	1,499	/	1,389	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	82	259	119	35	60	27	26	498	44	56	636	110	1,952
	APPROACH %	18%	56%	26%	29%	49%	22%	5%	88%	8%	7%	79%	14%	
	PEAK HR FACTOR		0.827			0.847			0.888			0.928		0.959
	APP/DEPART	460	/	394	122	/	156	568	/	656	802	/	746	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	5th	LOCATION #:	039
TUESDAY	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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		NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Arizona			WESTBOUND Arizona			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	17	59	5	2	17	6	0	18	3	1	18	2	148
	7:45 AM	14	61	8	3	28	5	1	18	0	0	25	4	167
	8:00 AM	20	64	13	2	19	5	1	29	3	2	18	0	176
	8:15 AM	20	85	15	3	20	6	2	21	2	2	30	3	209
	8:30 AM	22	74	18	2	26	6	2	28	4	3	34	9	228
	8:45 AM	24	64	11	6	28	8	2	36	4	3	37	23	246
	9:00 AM	21	69	7	5	21	8	2	44	4	7	46	17	251
	9:15 AM	23	65	10	6	24	4	3	31	2	8	36	14	226
	VOLUMES	161	541	87	29	183	48	13	225	22	26	244	72	1,651
	APPROACH %	20%	69%	11%	11%	70%	18%	5%	87%	8%	8%	71%	21%	
	APP/DEPART	789	/	626	260	/	231	260	/	341	342	/	453	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	90	272	46	19	99	26	9	139	14	21	153	63	951
	APPROACH %	22%	67%	11%	13%	69%	18%	6%	86%	9%	9%	65%	27%	
	PEAK HR FACTOR		0.895			0.857			0.810			0.846		0.947
	APP/DEPART	408	/	344	144	/	134	162	/	204	237	/	269	0
PM	5:00 PM	7	55	9	3	20	10	7	56	7	6	38	2	220
	5:15 PM	19	87	11	2	21	9	4	53	7	2	36	9	260
	5:30 PM	22	95	10	0	20	4	5	60	5	3	40	11	275
	5:45 PM	20	87	8	1	20	11	6	46	4	9	42	4	258
	6:00 PM	16	91	5	5	11	9	5	61	5	5	54	4	271
	6:15 PM	27	75	5	2	26	3	4	55	5	6	32	6	246
	6:30 PM	28	88	9	2	20	7	4	52	9	5	28	6	258
	6:45 PM	27	89	9	2	14	5	4	52	6	3	43	11	265
	VOLUMES	166	667	66	17	152	58	39	435	48	39	313	53	2,053
	APPROACH %	18%	74%	7%	7%	67%	26%	7%	83%	9%	10%	77%	13%	
	APP/DEPART	899	/	759	227	/	238	522	/	519	405	/	537	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	77	360	34	8	72	33	20	220	21	19	172	28	1,064
	APPROACH %	16%	76%	7%	7%	64%	29%	8%	84%	8%	9%	79%	13%	
	PEAK HR FACTOR		0.927			0.883			0.919			0.869		0.967
	APP/DEPART	471	/	408	113	/	111	261	/	263	219	/	282	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	5th	LOCATION #:	040
TUESDAY	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

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		NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:30 AM	6	79	12	6	17	0	1	46	2	6	21	5	201
	7:45 AM	16	88	6	6	14	3	6	58	2	4	47	12	262
	8:00 AM	16	93	6	4	18	2	5	62	2	10	46	11	275
	8:15 AM	15	128	20	5	15	4	8	62	3	5	51	11	327
	8:30 AM	14	111	30	7	19	5	5	63	4	5	50	16	329
	8:45 AM	23	123	17	5	21	1	6	57	3	5	46	8	315
	9:00 AM	17	103	22	6	13	4	7	67	6	7	45	16	313
	9:15 AM	14	97	17	11	16	7	4	64	5	9	59	15	318
	VOLUMES	121	822	130	50	133	26	42	479	27	51	365	94	2,340
	APPROACH %	11%	77%	12%	24%	64%	12%	8%	87%	5%	10%	72%	18%	
	APP/DEPART	1,073	/	957	209	/	211	548	/	661	510	/	511	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	69	465	89	23	68	14	26	249	16	22	192	51	1,284
	APPROACH %	11%	75%	14%	22%	65%	13%	9%	86%	5%	8%	72%	19%	
	PEAK HR FACTOR		0.956			0.847			0.909			0.933		0.976
	APP/DEPART	623	/	541	105	/	108	291	/	361	265	/	274	0
PM	5:00 PM	11	48	22	22	33	8	4	72	5	13	81	6	325
	5:15 PM	32	95	19	12	30	5	8	86	7	9	64	13	380
	5:30 PM	23	99	19	12	32	6	8	70	5	13	61	11	359
	5:45 PM	28	87	23	9	28	1	9	86	5	10	70	9	365
	6:00 PM	34	99	22	17	18	6	6	82	11	9	79	6	389
	6:15 PM	25	86	23	19	24	8	7	92	8	11	74	10	387
	6:30 PM	36	101	21	15	28	3	8	92	7	11	83	8	413
	6:45 PM	27	100	25	7	23	8	8	91	4	14	61	15	383
	VOLUMES	216	715	174	113	216	45	58	671	52	90	573	78	3,001
	APPROACH %	20%	65%	16%	30%	58%	12%	7%	86%	7%	12%	77%	11%	
	APP/DEPART	1,105	/	851	374	/	357	781	/	959	741	/	834	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	122	386	91	58	93	25	29	357	30	45	297	39	1,572
	APPROACH %	20%	64%	15%	33%	53%	14%	7%	86%	7%	12%	78%	10%	
	PEAK HR FACTOR		0.948			0.863			0.972			0.934		0.952
	APP/DEPART	599	/	454	176	/	168	416	/	506	381	/	444	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	5th	LOCATION #:	041
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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		NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Broadway			WESTBOUND Broadway			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:30 AM	13	89	3	5	8	9	7	36	7	1	32	2	212
	7:45 AM	12	98	10	3	11	6	8	40	1	5	47	3	244
	8:00 AM	23	99	13	5	7	16	11	64	6	4	39	8	295
	8:15 AM	10	133	13	2	6	6	19	63	8	2	46	10	318
	8:30 AM	17	144	9	4	10	12	20	52	3	1	61	5	338
	8:45 AM	21	155	18	6	8	10	11	59	6	7	65	8	374
	9:00 AM	13	114	14	7	4	14	21	44	6	3	53	10	303
	9:15 AM	18	118	19	8	11	11	14	59	7	7	54	9	335
	VOLUMES	127	950	99	40	65	84	111	417	44	30	397	55	2,419
	APPROACH %	11%	81%	8%	21%	34%	44%	19%	73%	8%	6%	82%	11%	
	APP/DEPART	1,176	/	1,116	189	/	139	572	/	556	482	/	608	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	69	531	60	25	33	47	66	214	22	18	233	32	1,350
	APPROACH %	10%	80%	9%	24%	31%	45%	22%	71%	7%	6%	82%	11%	
	PEAK HR FACTOR		0.851			0.875			0.944			0.884		0.902
	APP/DEPART	660	/	629	105	/	73	302	/	299	283	/	349	0
PM	5:00 PM	16	45	9	6	19	20	25	73	5	6	79	11	314
	5:15 PM	28	115	18	7	16	26	19	65	8	4	69	10	385
	5:30 PM	33	114	21	7	17	26	22	56	8	7	74	4	389
	5:45 PM	42	115	11	5	15	22	18	70	3	1	84	10	396
	6:00 PM	32	120	21	4	13	20	27	72	6	7	92	10	424
	6:15 PM	22	99	15	9	14	18	24	55	5	6	78	10	355
	6:30 PM	36	115	19	12	11	20	21	54	11	4	86	13	402
	6:45 PM	35	117	25	7	13	22	28	58	12	1	87	10	415
	VOLUMES	244	840	139	57	118	174	184	503	58	36	649	78	3,080
	APPROACH %	20%	69%	11%	16%	34%	50%	25%	68%	8%	5%	85%	10%	
	APP/DEPART	1,223	/	1,102	349	/	210	745	/	701	763	/	1,067	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	125	451	80	32	51	80	100	239	34	18	343	43	1,596
	APPROACH %	19%	69%	12%	20%	31%	49%	27%	64%	9%	4%	85%	11%	
	PEAK HR FACTOR		0.927			0.970			0.888			0.927		0.943
	APP/DEPART	656	/	594	163	/	103	373	/	351	404	/	548	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	5th	LOCATION #:	042
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

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		NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Colorado			WESTBOUND Colorado			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2	1	1	1	0	X	X	X	X	1	0	
AM	7:30 AM	0	107	2	5	4	8	0	0	0	0	18	3	147
	7:45 AM	1	117	6	3	6	10	0	0	0	0	32	3	178
	8:00 AM	0	143	6	3	3	10	0	0	0	0	24	3	192
	8:15 AM	0	138	6	1	6	10	0	0	0	0	28	8	197
	8:30 AM	0	172	9	5	1	10	0	0	0	0	41	1	239
	8:45 AM	0	179	6	4	7	12	0	0	0	0	29	7	244
	9:00 AM	0	134	5	11	7	3	0	0	0	0	23	3	186
	9:15 AM	0	151	0	2	9	7	0	0	0	0	26	7	202
	VOLUMES	1	1,141	40	34	43	70	0	0	0	0	221	35	1,585
	APPROACH %	0%	97%	3%	23%	29%	48%	0%	0%	0%	0%	86%	14%	
	APP/DEPART	1,182	/	1,176	147	/	43	0	/	74	256	/	292	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	632	27	13	17	42	0	0	0	0	122	19	872
	APPROACH %	0%	96%	4%	18%	24%	58%	0%	0%	0%	0%	87%	13%	
	PEAK HR FACTOR		0.891			0.783			0.000			0.839		0.893
	APP/DEPART	659	/	651	72	/	17	0	/	40	141	/	164	0
PM	5:00 PM	3	54	16	11	3	21	0	0	0	1	52	10	171
	5:15 PM	0	163	11	3	6	22	0	0	0	0	46	9	260
	5:30 PM	0	140	7	5	5	20	0	0	0	0	56	15	248
	5:45 PM	0	156	5	1	4	17	0	0	0	0	63	15	261
	6:00 PM	3	158	11	4	4	20	0	0	0	0	42	17	259
	6:15 PM	4	127	6	8	2	14	0	0	0	0	48	11	220
	6:30 PM	2	158	10	7	4	11	0	0	0	0	45	8	245
	6:45 PM	0	160	16	16	5	12	0	0	0	0	46	10	265
	VOLUMES	12	1,116	82	55	33	137	0	0	0	1	398	95	1,929
	APPROACH %	1%	92%	7%	24%	15%	61%	0%	0%	0%	0%	81%	19%	
	APP/DEPART	1,210	/	1,211	225	/	33	0	/	138	494	/	547	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	3	617	34	13	19	79	0	0	0	0	207	56	1,028
	APPROACH %	0%	94%	5%	12%	17%	71%	0%	0%	0%	0%	79%	21%	
	PEAK HR FACTOR		0.940			0.895			0.000			0.843		0.985
	APP/DEPART	654	/	673	111	/	19	0	/	47	263	/	289	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 26, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
THURSDAY	NORTH & SOUTH:	6th	LOCATION #:	668
	EAST & WEST:	California	CONTROL:	STOP ALL

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		NORTHBOUND 6th			SOUTHBOUND 6th			EASTBOUND California			WESTBOUND California			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	6	9	5	1	15	2	2	35	3	8	19	3	108
	7:45 AM	4	14	4	7	33	1	6	48	6	5	25	6	159
	8:00 AM	7	16	2	2	31	0	2	37	3	2	18	2	122
	8:15 AM	3	12	3	4	27	2	5	24	4	3	34	3	124
	8:30 AM	7	14	5	2	36	3	0	35	6	6	30	3	147
	8:45 AM	3	12	10	1	30	1	1	31	4	3	19	4	119
	9:00 AM	6	16	1	1	20	0	0	36	4	1	25	2	112
	9:15 AM	7	13	3	1	21	2	2	34	4	7	28	2	124
	VOLUMES	43	106	33	19	213	11	18	280	34	35	198	25	1,015
	APPROACH %	24%	58%	18%	8%	88%	5%	5%	84%	10%	14%	77%	10%	
	APP/DEPART	182	/	148	243	/	275	332	/	339	258	/	253	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	21	56	14	15	127	6	13	144	19	16	107	14	552
	APPROACH %	23%	62%	15%	10%	86%	4%	7%	82%	11%	12%	78%	10%	
	PEAK HR FACTOR		0.875			0.902			0.733			0.856		0.868
	APP/DEPART	91	/	82	148	/	160	176	/	175	137	/	135	0
PM	5:00 PM	5	39	7	0	14	2	2	43	5	0	33	9	159
	5:15 PM	4	35	15	2	23	2	4	47	6	5	29	2	174
	5:30 PM	7	34	7	0	21	1	3	45	4	2	40	2	166
	5:45 PM	8	33	9	0	15	1	6	38	4	2	32	3	151
	6:00 PM	8	41	7	2	17	0	7	54	9	4	35	9	193
	6:15 PM	8	30	9	2	22	1	2	46	3	3	43	4	173
	6:30 PM	5	35	6	1	15	3	4	40	11	4	29	5	158
	6:45 PM	5	35	10	1	14	1	3	30	8	3	26	0	136
	VOLUMES	50	282	70	8	141	11	31	343	50	23	267	34	1,310
	APPROACH %	12%	70%	17%	5%	88%	7%	7%	81%	12%	7%	82%	10%	
	APP/DEPART	402	/	344	160	/	213	424	/	421	324	/	332	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	27	143	38	4	76	4	20	184	23	13	136	16	684
	APPROACH %	13%	69%	18%	5%	90%	5%	9%	81%	10%	8%	82%	10%	
	PEAK HR FACTOR		0.929			0.778			0.811			0.859		0.886
	APP/DEPART	208	/	177	84	/	111	227	/	226	165	/	170	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	7th	LOCATION #:	049
	EAST & WEST:	Montana	CONTROL:	SIGNAL

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		NORTHBOUND 7th			SOUTHBOUND 7th			EASTBOUND Montana			WESTBOUND Montana			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	1	0	1	1	1	
AM	7:30 AM	1	29	5	11	23	2	12	72	5	4	51	26	241
	7:45 AM	1	23	9	14	41	7	15	76	4	8	52	25	275
	8:00 AM	2	16	10	16	23	15	14	93	2	16	36	23	266
	8:15 AM	2	24	8	25	49	16	19	96	7	6	58	24	334
	8:30 AM	3	27	5	19	38	10	19	77	5	6	83	26	318
	8:45 AM	5	25	9	28	46	9	14	81	4	10	86	22	339
	9:00 AM	1	25	12	27	49	6	9	84	9	11	59	31	323
	9:15 AM	4	24	11	22	27	7	11	76	3	14	64	23	286
	VOLUMES	19	193	69	162	296	72	113	655	39	75	489	200	2,382
	APPROACH %	7%	69%	25%	31%	56%	14%	14%	81%	5%	10%	64%	26%	
	APP/DEPART	281	/	506	530	/	409	807	/	887	764	/	580	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	11	101	34	99	182	41	61	338	25	33	286	103	1,314
	APPROACH %	8%	69%	23%	31%	57%	13%	14%	80%	6%	8%	68%	24%	
	PEAK HR FACTOR		0.936			0.894			0.869			0.894		0.969
	APP/DEPART	146	/	265	322	/	240	424	/	471	422	/	338	0
PM	5:00 PM	3	47	6	27	43	14	15	89	1	4	72	36	357
	5:15 PM	0	37	10	27	29	5	20	70	5	6	71	26	306
	5:30 PM	4	38	15	33	37	12	19	92	5	3	75	42	375
	5:45 PM	6	47	14	23	36	6	16	91	4	9	92	39	383
	6:00 PM	5	47	8	15	27	15	14	92	8	8	99	43	381
	6:15 PM	5	29	13	18	42	15	12	99	4	6	75	27	345
	6:30 PM	3	17	12	19	30	7	17	82	3	3	80	20	293
	6:45 PM	5	31	1	24	32	8	9	75	1	9	70	22	287
	VOLUMES	31	293	79	186	276	82	122	690	31	48	634	255	2,727
	APPROACH %	8%	73%	20%	34%	51%	15%	14%	82%	4%	5%	68%	27%	
	APP/DEPART	403	/	670	544	/	355	843	/	955	937	/	747	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	20	161	50	89	142	48	61	374	21	26	341	151	1,484
	APPROACH %	9%	70%	22%	32%	51%	17%	13%	82%	5%	5%	66%	29%	
	PEAK HR FACTOR		0.862			0.851			0.983			0.863		0.969
	APP/DEPART	231	/	373	279	/	189	456	/	513	518	/	409	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 26, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
THURSDAY	NORTH & SOUTH:	7th	LOCATION #:	667
	EAST & WEST:	California	CONTROL:	STOP ALL

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		NORTHBOUND 7th			SOUTHBOUND 7th			EASTBOUND California			WESTBOUND California			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	8	36	11	5	24	5	3	27	13	22	15	5	174
	7:45 AM	5	29	31	6	57	13	15	37	13	14	17	8	245
	8:00 AM	1	38	9	7	55	2	4	34	4	10	18	7	189
	8:15 AM	5	14	3	9	51	5	5	31	4	7	31	5	170
	8:30 AM	7	24	4	11	42	3	2	39	4	1	29	8	174
	8:45 AM	2	25	4	8	42	2	4	36	5	3	22	9	162
	9:00 AM	3	25	3	9	44	3	1	35	5	2	24	5	159
	9:15 AM	7	19	5	9	33	1	1	33	9	5	26	4	152
	VOLUMES	38	210	70	64	348	34	35	272	57	64	182	51	1,425
	APPROACH %	12%	66%	22%	14%	78%	8%	10%	75%	16%	22%	61%	17%	
	APP/DEPART	318	/	297	446	/	467	364	/	407	297	/	254	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	18	105	47	33	205	23	26	141	25	32	95	28	778
	APPROACH %	11%	62%	28%	13%	79%	9%	14%	73%	13%	21%	61%	18%	
	PEAK HR FACTOR		0.654			0.859			0.738			0.901		0.794
	APP/DEPART	170	/	159	261	/	260	192	/	223	155	/	136	0
PM	5:00 PM	5	53	11	3	31	5	6	42	9	5	36	10	216
	5:15 PM	8	41	9	9	35	4	6	49	12	6	22	10	211
	5:30 PM	3	57	9	5	35	6	4	46	7	5	35	7	219
	5:45 PM	7	41	18	5	44	2	3	38	13	5	34	9	219
	6:00 PM	11	66	19	4	33	6	3	51	13	1	28	7	242
	6:15 PM	11	53	11	7	22	4	3	47	9	9	39	9	224
	6:30 PM	8	43	11	10	38	5	5	36	11	7	22	10	206
	6:45 PM	9	31	10	2	35	1	4	29	12	7	22	4	166
	VOLUMES	62	385	98	45	273	33	34	338	86	45	238	66	1,703
	APPROACH %	11%	71%	18%	13%	78%	9%	7%	74%	19%	13%	68%	19%	
	APP/DEPART	545	/	484	351	/	404	458	/	481	349	/	334	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	32	217	57	21	134	18	13	182	42	20	136	32	904
	APPROACH %	10%	71%	19%	12%	77%	10%	5%	77%	18%	11%	72%	17%	
	PEAK HR FACTOR		0.797			0.848			0.884			0.825		0.934
	APP/DEPART	306	/	261	173	/	196	237	/	260	188	/	187	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Tue, Oct 24, 17	NORTH & SOUTH:	Lincoln	LOCATION #:	055
TUESDAY	EAST & WEST:	Montana	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Montana			WESTBOUND Montana			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:30 AM	12	25	19	4	9	4	8	78	8	12	65	6	250
	7:45 AM	14	22	9	2	10	3	4	90	11	15	72	7	259
	8:00 AM	10	38	17	11	18	3	7	96	13	13	61	11	298
	8:15 AM	22	52	16	4	24	2	29	89	11	10	58	17	334
	8:30 AM	13	48	15	11	30	10	9	84	16	21	88	3	348
	8:45 AM	12	27	12	4	15	5	9	98	14	14	96	5	311
	9:00 AM	21	24	15	9	18	1	5	101	12	10	75	4	295
	9:15 AM	14	33	18	4	18	4	6	102	6	20	82	7	314
	VOLUMES	118	269	121	49	142	32	77	738	91	115	597	60	2,409
	APPROACH %	23%	53%	24%	22%	64%	14%	8%	81%	10%	15%	77%	8%	
	APP/DEPART	508	/	405	223	/	347	906	/	909	772	/	748	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	57	165	60	30	87	20	54	367	54	58	303	36	1,291
	APPROACH %	20%	59%	21%	22%	64%	15%	11%	77%	11%	15%	76%	9%	
	PEAK HR FACTOR		0.783			0.672			0.921			0.863		0.927
	APP/DEPART	282	/	255	137	/	199	475	/	457	397	/	380	0
PM	5:00 PM	19	43	14	5	20	4	7	111	11	16	88	4	342
	5:15 PM	17	31	22	5	16	3	11	82	13	20	80	4	304
	5:30 PM	23	38	27	5	14	2	6	118	14	17	86	7	357
	5:45 PM	29	45	19	8	13	1	4	108	15	13	118	4	377
	6:00 PM	24	41	21	6	10	1	6	98	11	12	117	6	353
	6:15 PM	18	34	16	5	10	2	8	115	8	6	87	5	314
	6:30 PM	27	36	18	3	14	3	3	98	9	13	72	4	300
	6:45 PM	20	29	13	2	10	5	2	92	10	10	77	6	276
	VOLUMES	177	297	150	39	107	21	47	822	91	107	725	40	2,623
	APPROACH %	28%	48%	24%	23%	64%	13%	5%	86%	9%	12%	83%	5%	
	APP/DEPART	624	/	382	167	/	305	960	/	1,011	872	/	925	0
	BEGIN PEAK HR		5:30 PM											
	VOLUMES	94	158	83	24	47	6	24	439	48	48	408	22	1,401
	APPROACH %	28%	47%	25%	31%	61%	8%	5%	86%	9%	10%	85%	5%	
	PEAK HR FACTOR		0.901			0.875			0.926			0.885		0.929
	APP/DEPART	335	/	204	77	/	143	511	/	546	478	/	508	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1532
Thu, Oct 26, 17	NORTH & SOUTH:	Lincoln	LOCATION #:	208
THURSDAY	EAST & WEST:	California	CONTROL:	STOP ALL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND California			WESTBOUND California			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	49	35	9	8	81	9	4	9	25	8	39	7	283
	7:45 AM	39	45	3	12	68	6	3	20	33	16	53	15	313
	8:00 AM	14	72	11	9	73	7	3	25	23	17	20	5	279
	8:15 AM	5	53	2	1	69	4	0	17	23	13	33	6	226
	8:30 AM	10	73	3	4	66	8	5	20	30	6	20	2	247
	8:45 AM	5	67	5	3	87	5	6	24	17	7	24	3	253
	9:00 AM	9	43	3	1	69	2	2	20	23	17	24	2	215
	9:15 AM	6	47	5	2	70	3	1	19	22	10	25	0	210
	VOLUMES	137	435	41	40	583	44	24	154	196	94	238	40	2,026
	APPROACH %	22%	71%	7%	6%	87%	7%	6%	41%	52%	25%	64%	11%	
	APP/DEPART	613	/	497	667	/	872	374	/	236	372	/	421	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	107	205	25	30	291	26	10	71	104	54	145	33	1,101
	APPROACH %	32%	61%	7%	9%	84%	7%	5%	38%	56%	23%	63%	14%	
	PEAK HR FACTOR		0.869			0.885			0.826			0.690		0.879
	APP/DEPART	337	/	247	347	/	449	185	/	126	232	/	279	0
PM	5:00 PM	20	73	7	6	68	14	2	19	28	12	29	5	283
	5:15 PM	12	80	6	7	59	2	5	36	20	5	27	10	269
	5:30 PM	14	81	9	5	36	4	3	35	19	7	39	5	257
	5:45 PM	23	88	5	3	48	8	4	33	29	5	32	5	283
	6:00 PM	16	60	15	0	65	3	6	37	24	7	26	2	261
	6:15 PM	28	78	13	3	43	6	7	32	22	5	35	1	273
	6:30 PM	22	78	9	4	60	3	11	27	19	5	24	6	268
	6:45 PM	24	75	8	3	46	8	3	24	13	4	25	5	238
	VOLUMES	159	613	72	31	425	48	41	243	174	50	237	39	2,132
	APPROACH %	19%	73%	9%	6%	84%	10%	9%	53%	38%	15%	73%	12%	
	APP/DEPART	844	/	693	504	/	648	458	/	347	326	/	444	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	69	322	27	21	211	28	14	123	96	29	127	25	1,092
	APPROACH %	17%	77%	6%	8%	81%	11%	6%	53%	41%	16%	70%	14%	
	PEAK HR FACTOR		0.901			0.739			0.883			0.887		0.965
	APP/DEPART	418	/	361	260	/	336	233	/	171	181	/	224	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	056
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Wilshire			WESTBOUND Wilshire			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	1	1	1	2	0	1	2	1	1	2	0	
AM	7:30 AM	43	100	55	12	108	3	5	124	37	60	108	8	663
	7:45 AM	43	91	74	16	78	5	3	125	47	53	148	7	690
	8:00 AM	25	67	76	14	106	4	3	150	45	55	139	15	699
	8:15 AM	30	94	55	16	87	7	4	118	31	42	141	7	632
	8:30 AM	26	73	57	10	109	5	2	121	37	61	153	5	659
	8:45 AM	33	82	49	13	96	1	2	112	36	57	155	6	642
	9:00 AM	36	76	66	14	93	5	2	152	35	48	146	5	678
	9:15 AM	27	72	58	12	85	5	2	136	37	52	147	8	641
	VOLUMES	263	655	490	107	762	35	23	1,038	305	428	1,137	61	5,304
	APPROACH %	19%	47%	35%	12%	84%	4%	2%	76%	22%	26%	70%	4%	
	APP/DEPART	1,408	/	739	904	/	1,495	1,366	/	1,635	1,626	/	1,435	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	141	352	260	58	379	19	15	517	160	210	536	37	2,684
	APPROACH %	19%	47%	35%	13%	83%	4%	2%	75%	23%	27%	68%	5%	
	PEAK HR FACTOR		0.905			0.919			0.874			0.937		0.960
	APP/DEPART	753	/	404	456	/	749	692	/	835	783	/	696	0
PM	5:00 PM	32	63	45	11	78	7	2	156	38	27	146	13	618
	5:15 PM	46	99	54	14	72	9	4	136	34	27	166	7	668
	5:30 PM	51	94	66	4	79	6	7	160	44	25	147	12	695
	5:45 PM	59	124	63	12	55	9	4	153	26	32	181	12	730
	6:00 PM	49	90	75	6	60	8	5	140	51	35	138	10	667
	6:15 PM	49	90	46	9	67	4	5	149	44	31	154	12	660
	6:30 PM	34	96	51	10	69	8	3	151	36	35	137	11	641
	6:45 PM	54	90	67	4	57	1	2	178	55	27	133	8	676
	VOLUMES	374	746	467	70	537	52	32	1,223	328	239	1,202	85	5,355
	APPROACH %	24%	47%	29%	11%	81%	8%	2%	77%	21%	16%	79%	6%	
	APP/DEPART	1,587	/	864	659	/	1,103	1,583	/	1,759	1,526	/	1,629	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	205	407	258	36	266	32	20	589	155	119	632	41	2,760
	APPROACH %	24%	47%	30%	11%	80%	10%	3%	77%	20%	15%	80%	5%	
	PEAK HR FACTOR		0.884			0.879			0.905			0.880		0.945
	APP/DEPART	870	/	469	334	/	539	764	/	883	792	/	869	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	057
	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Arizona			WESTBOUND Arizona			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:30 AM	29	199	19	1	194	1	2	9	20	11	9	7	501
	7:45 AM	26	191	33	4	182	1	2	16	18	12	18	5	508
	8:00 AM	13	155	22	2	200	1	5	21	14	20	15	9	477
	8:15 AM	24	180	21	1	145	4	5	11	20	12	32	11	466
	8:30 AM	28	157	25	4	182	4	3	17	21	11	36	8	496
	8:45 AM	43	159	33	3	157	9	3	28	20	17	31	13	516
	9:00 AM	34	162	37	8	153	14	10	36	24	16	36	13	543
	9:15 AM	19	138	24	4	175	6	7	25	12	17	30	10	467
	VOLUMES	216	1,341	214	27	1,388	40	37	163	149	116	207	76	3,974
	APPROACH %	12%	76%	12%	2%	95%	3%	11%	47%	43%	29%	52%	19%	
	APP/DEPART	1,771	/	1,455	1,455	/	1,653	349	/	403	399	/	463	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	124	616	119	19	667	33	23	106	77	61	133	44	2,022
	APPROACH %	14%	72%	14%	3%	93%	5%	11%	51%	37%	26%	56%	18%	
	PEAK HR FACTOR		0.914			0.946			0.736			0.915		0.931
	APP/DEPART	859	/	684	719	/	805	206	/	243	238	/	290	0
PM	5:00 PM	13	124	14	5	127	6	1	48	52	17	35	8	450
	5:15 PM	15	199	18	2	124	5	3	47	42	10	41	3	509
	5:30 PM	18	195	14	14	146	6	2	51	41	6	35	13	541
	5:45 PM	20	222	22	7	109	6	5	46	33	13	26	9	518
	6:00 PM	31	193	21	10	134	6	5	44	46	13	32	13	548
	6:15 PM	18	181	16	6	130	3	3	42	45	6	28	4	482
	6:30 PM	15	173	19	10	133	5	4	35	34	10	28	6	472
	6:45 PM	33	193	15	3	122	7	4	27	44	9	29	10	496
	VOLUMES	163	1,480	139	57	1,025	44	27	340	337	84	254	66	4,016
	APPROACH %	9%	83%	8%	5%	91%	4%	4%	48%	48%	21%	63%	16%	
	APP/DEPART	1,782	/	1,574	1,126	/	1,446	704	/	535	404	/	461	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	84	809	75	33	513	23	15	188	162	42	134	38	2,116
	APPROACH %	9%	84%	8%	6%	90%	4%	4%	52%	44%	20%	63%	18%	
	PEAK HR FACTOR		0.917			0.857			0.961			0.922		0.965
	APP/DEPART	968	/	863	569	/	717	365	/	295	214	/	241	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	058
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

NOTES:

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:30 AM	16	237	41	16	202	2	2	49	15	22	39	10	651
	7:45 AM	23	215	44	19	193	3	5	57	23	21	52	36	691
	8:00 AM	17	174	37	16	203	3	3	76	23	26	66	15	659
	8:15 AM	27	204	47	15	152	7	6	75	12	21	68	17	651
	8:30 AM	22	176	55	24	199	3	9	83	25	21	80	30	727
	8:45 AM	26	200	47	18	158	4	3	75	24	31	70	38	694
	9:00 AM	24	199	40	15	165	4	4	67	36	24	77	32	687
	9:15 AM	31	166	40	15	189	6	3	76	26	33	78	16	679
	VOLUMES	186	1,571	351	138	1,461	32	35	558	184	199	530	194	5,439
	APPROACH %	9%	75%	17%	8%	90%	2%	5%	72%	24%	22%	57%	21%	
	APP/DEPART	2,108	/	1,800	1,631	/	1,844	777	/	1,047	923	/	748	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	103	741	182	72	711	17	19	301	111	109	305	116	2,787
	APPROACH %	10%	72%	18%	9%	89%	2%	4%	70%	26%	21%	58%	22%	
	PEAK HR FACTOR		0.940			0.885			0.921			0.953		0.958
	APP/DEPART	1,026	/	876	800	/	931	431	/	555	530	/	425	0
PM	5:00 PM	19	120	29	22	176	14	5	120	37	34	89	16	681
	5:15 PM	20	202	40	28	155	10	10	103	42	36	89	25	760
	5:30 PM	24	188	34	33	160	7	8	107	32	33	87	25	738
	5:45 PM	26	237	32	23	133	5	6	95	38	22	101	28	746
	6:00 PM	23	202	35	33	173	5	9	100	54	27	80	29	770
	6:15 PM	35	171	43	31	155	8	11	118	36	22	81	30	741
	6:30 PM	21	191	40	29	156	7	5	119	35	23	96	22	744
	6:45 PM	34	211	38	39	124	14	5	117	39	17	81	27	746
	VOLUMES	202	1,522	291	238	1,232	70	59	879	313	214	704	202	5,926
	APPROACH %	10%	76%	14%	15%	80%	5%	5%	70%	25%	19%	63%	18%	
	APP/DEPART	2,015	/	1,783	1,540	/	1,759	1,251	/	1,408	1,120	/	976	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	93	829	141	117	621	27	33	405	166	118	357	107	3,014
	APPROACH %	9%	78%	13%	15%	81%	4%	5%	67%	27%	20%	61%	18%	
	PEAK HR FACTOR		0.901			0.906			0.926			0.964		0.979
	APP/DEPART	1,063	/	969	765	/	905	604	/	663	582	/	477	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	059
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Broadway			WESTBOUND Broadway			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	1	1	1	1	0	
AM	7:30 AM	7	273	33	5	231	3	9	30	27	29	23	8	678
	7:45 AM	15	268	42	2	216	7	9	36	26	48	36	9	714
	8:00 AM	14	218	33	5	242	4	9	52	35	28	39	10	689
	8:15 AM	10	259	55	5	182	5	13	53	28	26	49	15	700
	8:30 AM	20	239	44	10	213	6	19	43	37	35	42	9	717
	8:45 AM	21	255	36	3	204	11	8	37	28	39	60	13	715
	9:00 AM	18	250	42	5	214	4	8	53	29	33	57	11	724
	9:15 AM	19	216	58	6	223	11	8	42	25	31	53	10	702
	VOLUMES	124	1,978	343	41	1,725	51	83	346	235	269	359	85	5,639
	APPROACH %	5%	81%	14%	2%	95%	3%	13%	52%	35%	38%	50%	12%	
	APP/DEPART	2,445	/	2,147	1,817	/	2,229	664	/	729	713	/	534	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	78	960	180	24	854	32	43	175	119	138	212	43	2,858
	APPROACH %	6%	79%	15%	3%	94%	4%	13%	52%	35%	35%	54%	11%	
	PEAK HR FACTOR		0.976			0.948			0.851			0.877		0.987
	APP/DEPART	1,218	/	1,047	910	/	1,111	337	/	378	393	/	322	0
PM	5:00 PM	24	155	24	5	204	6	9	61	34	38	54	15	629
	5:15 PM	18	239	26	11	212	9	13	63	31	37	51	15	725
	5:30 PM	20	228	35	7	204	9	10	46	22	40	60	24	705
	5:45 PM	28	265	42	6	176	6	14	69	21	27	76	22	752
	6:00 PM	28	220	45	8	221	11	14	63	35	25	58	28	756
	6:15 PM	18	226	39	8	208	10	10	59	30	23	69	18	718
	6:30 PM	29	228	51	7	199	10	11	49	40	21	64	9	718
	6:45 PM	25	255	33	7	168	8	14	49	29	22	54	21	685
	VOLUMES	190	1,816	295	59	1,592	69	95	459	242	233	486	152	5,688
	APPROACH %	8%	79%	13%	3%	93%	4%	12%	58%	30%	27%	56%	17%	
	APP/DEPART	2,301	/	2,064	1,720	/	2,065	796	/	814	871	/	745	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	103	939	177	29	804	37	49	240	126	96	267	77	2,944
	APPROACH %	8%	77%	15%	3%	92%	4%	12%	58%	30%	22%	61%	18%	
	PEAK HR FACTOR		0.910			0.906			0.926			0.880		0.974
	APP/DEPART	1,219	/	1,065	870	/	1,025	415	/	447	440	/	407	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	060
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Colorado			WESTBOUND Colorado			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	X	1	0	X	1	0	
AM	7:30 AM	14	317	18	4	255	1	0	7	14	0	17	3	650
	7:45 AM	11	323	18	5	310	3	0	8	13	0	18	3	712
	8:00 AM	15	296	26	4	299	0	0	8	18	0	16	3	685
	8:15 AM	14	322	33	3	242	3	0	12	7	1	18	7	662
	8:30 AM	19	280	32	5	248	3	0	13	12	0	25	4	641
	8:45 AM	24	336	24	4	304	4	0	12	15	1	28	12	764
	9:00 AM	11	307	27	5	270	3	0	20	17	0	24	6	690
	9:15 AM	13	311	28	5	286	1	0	10	14	0	24	12	704
	VOLUMES	121	2,492	206	35	2,214	18	0	90	110	2	170	50	5,508
	APPROACH %	4%	88%	7%	2%	98%	1%	0%	45%	55%	1%	77%	23%	
	APP/DEPART	2,819	/	2,543	2,267	/	2,326	200	/	330	222	/	309	0
	BEGIN PEAK HR		8:30 AM											
	VOLUMES	67	1,234	111	19	1,108	11	0	55	58	1	101	34	2,799
	APPROACH %	5%	87%	8%	2%	97%	1%	0%	49%	51%	1%	74%	25%	
	PEAK HR FACTOR		0.919			0.912			0.764			0.829		0.916
	APP/DEPART	1,412	/	1,268	1,138	/	1,167	113	/	185	136	/	179	0
PM	5:00 PM	18	213	13	5	275	7	0	21	33	0	40	10	635
	5:15 PM	34	291	13	6	273	3	0	19	39	0	31	15	724
	5:30 PM	33	295	8	14	237	7	0	16	24	0	36	13	683
	5:45 PM	32	320	10	9	212	8	0	15	11	1	38	7	663
	6:00 PM	20	290	10	4	269	1	0	12	28	0	35	10	679
	6:15 PM	29	284	11	5	264	7	0	20	26	1	37	8	692
	6:30 PM	32	301	13	5	256	6	0	15	22	0	28	9	687
	6:45 PM	22	313	13	10	209	5	0	23	29	3	33	11	671
	VOLUMES	220	2,307	91	58	1,995	44	0	141	212	5	278	83	5,434
	APPROACH %	8%	88%	3%	3%	95%	2%	0%	40%	60%	1%	76%	23%	
	APP/DEPART	2,618	/	2,390	2,097	/	2,212	353	/	290	366	/	542	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	119	1,196	41	33	991	19	0	62	102	1	140	45	2,749
	APPROACH %	9%	88%	3%	3%	95%	2%	0%	38%	62%	1%	75%	24%	
	PEAK HR FACTOR		0.936			0.925			0.707			0.949		0.949
	APP/DEPART	1,356	/	1,241	1,043	/	1,094	164	/	136	186	/	278	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	061
	EAST & WEST:	I-10 WB OFF-Ramp	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND I-10 WB OFF-Ramp			WESTBOUND I-10 WB OFF-Ramp			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	X	X	3	0	X	X	X	1.5	1	1.5	
AM	7:30 AM	66	132	0	0	265	10	0	0	0	160	56	225	914
	7:45 AM	63	163	0	0	314	12	0	0	0	205	50	205	1,012
	8:00 AM	53	180	0	0	329	10	0	0	0	205	51	163	991
	8:15 AM	75	190	0	0	263	8	0	0	0	141	82	196	955
	8:30 AM	76	181	0	0	268	12	0	0	0	115	62	185	899
	8:45 AM	92	173	0	0	279	12	0	0	0	130	87	205	978
	9:00 AM	61	152	0	0	276	21	0	0	0	108	79	208	905
	9:15 AM	76	144	0	0	309	17	0	0	0	116	75	200	937
	VOLUMES	562	1,315	0	0	2,303	102	0	0	0	1,180	542	1,587	7,591
	APPROACH %	30%	70%	0%	0%	96%	4%	0%	0%	0%	36%	16%	48%	
	APP/DEPART	1,877	/	2,902	2,405	/	3,483	0	/	0	3,309	/	1,206	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	257	665	0	0	1,171	40	0	0	0	711	239	789	3,872
	APPROACH %	28%	72%	0%	0%	97%	3%	0%	0%	0%	41%	14%	45%	
	PEAK HR FACTOR		0.870			0.893			0.000			0.945		0.957
	APP/DEPART	922	/	1,454	1,211	/	1,882	0	/	0	1,739	/	536	0
PM	5:00 PM	66	136	0	0	324	15	0	0	0	86	56	79	762
	5:15 PM	71	147	0	0	284	25	0	0	0	125	91	197	940
	5:30 PM	50	144	0	0	282	20	0	0	0	136	70	197	899
	5:45 PM	83	153	0	0	218	11	0	0	0	157	78	190	890
	6:00 PM	66	129	0	0	315	15	0	0	0	146	71	181	923
	6:15 PM	52	169	0	0	273	16	0	0	0	155	61	175	901
	6:30 PM	57	155	0	0	321	20	0	0	0	162	81	193	989
	6:45 PM	56	141	0	2	249	16	0	0	0	181	45	210	900
	VOLUMES	501	1,174	0	2	2,266	138	0	0	0	1,148	553	1,422	7,204
	APPROACH %	30%	70%	0%	0%	94%	6%	0%	0%	0%	37%	18%	46%	
	APP/DEPART	1,675	/	2,598	2,406	/	3,415	0	/	0	3,123	/	1,191	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	231	594	0	2	1,158	67	0	0	0	644	258	759	3,713
	APPROACH %	28%	72%	0%	0%	94%	5%	0%	0%	0%	39%	16%	46%	
	PEAK HR FACTOR		0.933			0.900			0.000			0.952		0.939
	APP/DEPART	825	/	1,355	1,227	/	1,803	0	/	0	1,661	/	555	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Tue, Oct 24, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
TUESDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	062
	EAST & WEST:	I-10 EB ON-Ramp	CONTROL:	SIGNAL

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		NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND I-10 EB ON-Ramp			WESTBOUND I-10 EB ON-Ramp			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2.5	1.5	2	2	X	0.5	1.5	1	X	X	X	
AM	7:30 AM	0	177	191	194	231	0	21	54	55	0	0	0	923
	7:45 AM	0	195	174	230	289	0	31	98	52	0	0	0	1,069
	8:00 AM	0	155	176	187	347	0	81	159	73	0	0	0	1,178
	8:15 AM	0	221	212	201	207	0	44	106	65	0	0	0	1,056
	8:30 AM	0	214	173	171	212	0	43	111	72	0	0	0	996
	8:45 AM	0	241	168	205	204	0	24	35	64	0	0	0	941
	9:00 AM	0	187	194	190	194	0	26	58	50	0	0	0	899
	9:15 AM	0	186	164	215	210	0	34	53	45	0	0	0	907
	VOLUMES	0	1,576	1,452	1,593	1,894	0	304	674	476	0	0	0	7,969
	APPROACH %	0%	52%	48%	46%	54%	0%	21%	46%	33%	0%	0%	0%	
	APP/DEPART	3,028	/	1,880	3,487	/	2,370	1,454	/	3,719	0	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	785	735	789	1,055	0	199	474	262	0	0	0	4,299
	APPROACH %	0%	52%	48%	43%	57%	0%	21%	51%	28%	0%	0%	0%	
	PEAK HR FACTOR		0.878			0.863			0.747			0.000		0.912
	APP/DEPART	1,520	/	984	1,844	/	1,317	935	/	1,998	0	/	0	0
PM	5:00 PM	0	188	75	153	257	0	14	34	56	0	0	0	777
	5:15 PM	0	205	71	145	264	0	13	32	50	0	0	0	780
	5:30 PM	0	176	58	131	287	0	18	49	45	0	0	0	764
	5:45 PM	0	207	63	89	286	0	29	56	64	0	0	0	794
	6:00 PM	0	181	56	152	309	0	24	30	56	0	0	0	808
	6:15 PM	0	199	59	121	308	0	22	43	69	0	0	0	821
	6:30 PM	0	185	74	170	310	0	27	41	59	0	0	0	866
	6:45 PM	0	169	69	119	311	0	28	32	51	0	0	0	779
	VOLUMES	0	1,510	525	1,080	2,332	0	175	317	450	0	0	0	6,389
	APPROACH %	0%	74%	26%	32%	68%	0%	19%	34%	48%	0%	0%	0%	
	APP/DEPART	2,035	/	1,685	3,412	/	2,782	942	/	1,922	0	/	0	0
	BEGIN PEAK HR		5:45 PM											
	VOLUMES	0	772	252	532	1,213	0	102	170	248	0	0	0	3,289
	APPROACH %	0%	75%	25%	30%	70%	0%	20%	33%	48%	0%	0%	0%	
	PEAK HR FACTOR		0.948			0.909			0.872			0.000		0.949
	APP/DEPART	1,024	/	874	1,745	/	1,461	520	/	954	0	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 26, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
THURSDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	673
	EAST & WEST:	Entrada	CONTROL:	SIGNAL

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		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Entrada			WESTBOUND Entrada			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	3	0	X	4	X	X	X	X	0	X	0	
AM	7:30 AM	0	764	18	0	936	0	0	0	0	32	0	3	1,753
	7:45 AM	0	635	16	0	947	0	0	0	0	56	0	3	1,657
	8:00 AM	0	546	33	0	917	0	0	0	0	69	0	3	1,568
	8:15 AM	0	670	36	0	895	0	0	0	0	53	0	0	1,654
	8:30 AM	0	568	24	0	877	0	0	0	0	37	0	3	1,509
	8:45 AM	0	560	24	0	855	0	0	0	0	45	0	0	1,484
	9:00 AM	0	449	36	0	836	0	0	0	0	22	0	5	1,348
	9:15 AM	0	539	31	0	838	0	0	0	0	23	0	5	1,436
	VOLUMES	0	4,731	218	0	7,101	0	0	0	0	337	0	22	12,409
	APPROACH %	0%	96%	4%	0%	100%	0%	0%	0%	0%	94%	0%	6%	
	APP/DEPART	4,949	/	4,753	7,101	/	7,438	0	/	218	359	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	2,615	103	0	3,695	0	0	0	0	210	0	9	6,632
	APPROACH %	0%	96%	4%	0%	100%	0%	0%	0%	0%	96%	0%	4%	
	PEAK HR FACTOR		0.869			0.975			0.000			0.760		0.946
	APP/DEPART	2,718	/	2,624	3,695	/	3,905	0	/	103	219	/	0	0
PM	5:00 PM	0	708	24	0	726	0	0	0	0	21	0	6	1,485
	5:15 PM	0	623	19	0	711	0	0	0	0	26	0	5	1,384
	5:30 PM	0	612	11	0	692	0	0	0	0	22	0	10	1,347
	5:45 PM	0	688	16	0	633	0	0	0	0	28	0	5	1,370
	6:00 PM	0	707	20	0	558	0	0	0	0	20	0	9	1,314
	6:15 PM	0	659	18	0	723	0	0	0	0	23	0	7	1,430
	6:30 PM	0	587	12	0	589	0	0	0	0	32	0	3	1,223
	6:45 PM	0	647	26	0	528	0	0	0	0	23	0	10	1,234
	VOLUMES	0	5,231	146	0	5,160	0	0	0	0	195	0	55	10,787
	APPROACH %	0%	97%	3%	0%	100%	0%	0%	0%	0%	78%	0%	22%	
	APP/DEPART	5,377	/	5,286	5,160	/	5,355	0	/	146	250	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	2,631	70	0	2,762	0	0	0	0	97	0	26	5,586
	APPROACH %	0%	97%	3%	0%	100%	0%	0%	0%	0%	79%	0%	21%	
	PEAK HR FACTOR		0.922			0.951			0.000			0.932		0.940
	APP/DEPART	2,701	/	2,657	2,762	/	2,859	0	/	70	123	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Wed, Oct 26, 16	LOCATION:	Santa Monica	PROJECT #:	SC1532
WEDNESDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	672
	EAST & WEST:	Chautauqua	CONTROL:	SIGNAL

NOTES:

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		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Chautauqua			WESTBOUND Chautauqua			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2.5	1.5	1	3	X	X	X	X	1.5	X	0.5	
AM	7:30 AM	0	0	133	4	0	0	0	0	0	144	0	3	284
	7:45 AM	0	0	138	6	0	0	0	0	0	162	0	1	307
	8:00 AM	0	0	86	9	0	0	0	0	0	127	0	0	222
	8:15 AM	0	0	121	4	0	0	0	0	0	121	0	3	249
	8:30 AM	0	0	99	7	0	0	0	0	0	116	0	2	224
	8:45 AM	0	0	96	4	0	0	0	0	0	138	0	8	246
	9:00 AM	0	0	87	4	0	0	0	0	0	123	0	4	218
	9:15 AM	0	0	94	4	0	0	0	0	0	110	0	5	213
	VOLUMES	0	0	854	42	0	0	0	0	0	1,041	0	26	1,963
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	0%	0%	98%	0%	2%	
	APP/DEPART	854	/	27	42	/	611	0	/	1,325	1,067	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	478	23	0	0	0	0	0	554	0	7	1,062
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	0%	0%	99%	0%	1%	
	PEAK HR FACTOR		0.866			0.639			0.000			0.860		0.865
	APP/DEPART	478	/	7	23	/	326	0	/	729	561	/	0	0
PM	5:00 PM	0	0	166	0	0	0	0	0	0	102	0	3	271
	5:15 PM	0	0	164	0	0	0	0	0	0	119	0	2	285
	5:30 PM	0	0	158	1	0	0	0	0	0	125	0	3	287
	5:45 PM	0	0	187	2	0	0	0	0	0	93	0	3	285
	6:00 PM	0	0	178	1	0	0	0	0	0	109	0	2	290
	6:15 PM	0	0	137	3	0	0	0	0	0	110	0	6	256
	6:30 PM	0	0	138	5	0	0	0	0	0	95	0	3	241
	6:45 PM	0	0	146	3	0	0	0	0	0	71	0	0	220
	VOLUMES	0	0	1,274	15	0	0	0	0	0	824	0	22	2,135
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	0%	0%	97%	0%	3%	
	APP/DEPART	1,274	/	22	15	/	493	0	/	1,620	846	/	0	0
	BEGIN PEAK HR		5:15 PM											
	VOLUMES	0	0	687	4	0	0	0	0	0	446	0	10	1,147
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	0%	0%	98%	0%	2%	
	PEAK HR FACTOR		0.918			0.500			0.000			0.891		0.989
	APP/DEPART	687	/	10	4	/	267	0	/	870	456	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 26, 17	LOCATION:	Santa Monica	PROJECT #:	SC1532
THURSDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	672
	EAST & WEST:	Channel	CONTROL:	SIGNAL

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		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Channel			WESTBOUND Channel			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2.5	1.5	1	3	X	X	X	X	X	X	3	
AM	7:30 AM	0	635	6	69	859	0	0	0	0	54	0	113	1,736
	7:45 AM	0	525	7	61	860	0	0	0	0	41	0	107	1,601
	8:00 AM	0	436	6	63	840	0	0	0	0	37	0	85	1,467
	8:15 AM	0	554	10	49	820	0	0	0	0	30	0	72	1,535
	8:30 AM	0	455	10	56	800	0	0	0	0	32	0	89	1,442
	8:45 AM	0	442	12	74	778	0	0	0	0	32	0	83	1,421
	9:00 AM	0	344	4	63	761	0	0	0	0	39	0	71	1,282
	9:15 AM	0	435	3	50	763	0	0	0	0	28	0	46	1,325
	VOLUMES	0	3,826	58	485	6,481	0	0	0	0	293	0	666	11,809
	APPROACH %	0%	99%	1%	7%	93%	0%	0%	0%	0%	31%	0%	69%	
	APP/DEPART	3,884	/	4,492	6,966	/	6,481	0	/	836	959	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	2,150	29	242	3,379	0	0	0	0	162	0	377	6,339
	APPROACH %	0%	99%	1%	7%	93%	0%	0%	0%	0%	30%	0%	70%	
	PEAK HR FACTOR		0.850			0.975			0.000			0.807		0.913
	APP/DEPART	2,179	/	2,527	3,621	/	3,379	0	/	433	539	/	0	0
PM	5:00 PM	0	515	17	42	656	0	0	0	0	75	0	60	1,365
	5:15 PM	0	463	7	36	652	0	0	0	0	85	0	71	1,314
	5:30 PM	0	458	7	63	632	0	0	0	0	76	0	88	1,324
	5:45 PM	0	524	7	57	573	0	0	0	0	98	0	63	1,322
	6:00 PM	0	541	13	52	504	0	0	0	0	96	0	73	1,279
	6:15 PM	0	491	13	63	663	0	0	0	0	75	0	87	1,392
	6:30 PM	0	428	14	53	530	0	0	0	0	63	0	72	1,160
	6:45 PM	0	471	25	60	469	0	0	0	0	59	0	72	1,156
	VOLUMES	0	3,891	103	426	4,679	0	0	0	0	627	0	586	10,312
	APPROACH %	0%	97%	3%	8%	92%	0%	0%	0%	0%	52%	0%	48%	
	APP/DEPART	3,994	/	4,477	5,105	/	4,679	0	/	1,156	1,213	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	1,960	38	198	2,513	0	0	0	0	334	0	282	5,325
	APPROACH %	0%	98%	2%	7%	93%	0%	0%	0%	0%	54%	0%	46%	
	PEAK HR FACTOR		0.939			0.971			0.000			0.939		0.975
	APP/DEPART	1,998	/	2,242	2,711	/	2,513	0	/	570	616	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	001
	EAST & WEST:	California Incline	CONTROL:	SIGNAL

NOTES:

NB/SB queue. NR illegal

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND California Incline			WESTBOUND California Incline			
LANES:	NL 1	NT 3	NR X	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0.5	WT 0.5	WR 1	TOTAL
1:00 PM	11	562	0	104	639	11	5	5	6	58	2	68	1,471
1:15 PM	14	488	0	90	531	12	5	6	13	48	5	103	1,315
1:30 PM	2	418	0	97	593	9	6	11	6	38	6	75	1,261
1:45 PM	13	534	1	60	608	7	8	6	5	40	8	84	1,374
2:00 PM	10	531	1	111	511	10	6	11	10	39	1	85	1,326
2:15 PM	7	587	0	76	518	8	5	9	8	49	2	97	1,366
2:30 PM	14	560	2	83	567	9	6	9	7	29	2	43	1,331
2:45 PM	7	448	0	103	578	7	6	13	11	46	4	80	1,303
3:00 PM	7	494	1	96	636	4	3	10	13	39	3	62	1,368
3:15 PM	8	581	2	55	652	4	4	3	2	29	3	73	1,416
3:30 PM	7	472	1	106	628	6	2	11	9	43	6	97	1,388
3:45 PM	9	454	1	90	612	5	4	4	0	36	6	88	1,309
4:00 PM	15	497	1	98	562	8	3	7	10	46	5	85	1,337
4:15 PM	8	552	0	64	519	4	10	11	9	41	4	73	1,295
4:30 PM	8	546	0	92	620	7	5	6	6	35	4	72	1,401
4:45 PM	16	467	1	70	559	6	6	14	8	40	8	77	1,272
VOLUMES	156	8,191	11	1,395	9,333	117	84	136	123	656	69	1,262	21,533
APPROACH %	2%	98%	0%	13%	86%	1%	24%	40%	36%	33%	3%	64%	
APP/DEPART	8,358	/	9,537	10,845	/	10,121	343	/	1,542	1,987	/	333	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	31	2,001	5	347	2,528	19	13	28	24	147	18	320	5,481
APPROACH %	2%	98%	0%	12%	87%	1%	20%	43%	37%	30%	4%	66%	
PEAK HR FACTOR		0.862			0.978			0.625			0.830		0.968
APP/DEPART	2,037	/	2,334	2,894	/	2,701	65	/	380	485	/	66	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	2
	EAST & WEST:	Montana	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Montana			WESTBOUND Montana			
LANES:	NL X	NT 1	NR 0	SL 1	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
1:00 PM	0	63	16	13	103	0	0	0	0	22	0	20	237
1:15 PM	0	80	19	18	110	0	0	0	0	13	0	25	265
1:30 PM	0	84	25	17	104	0	0	0	0	16	0	21	267
1:45 PM	0	76	36	14	101	0	0	0	0	25	0	17	269
2:00 PM	0	74	22	14	93	0	0	0	0	16	0	30	249
2:15 PM	0	88	24	12	93	0	0	0	0	21	0	25	263
2:30 PM	0	108	21	9	123	0	0	0	0	17	0	27	305
2:45 PM	0	86	18	14	113	0	0	0	0	18	0	15	264
3:00 PM	0	78	30	13	99	0	0	0	0	27	0	22	269
3:15 PM	0	103	23	18	126	0	0	0	0	25	0	15	310
3:30 PM	0	97	25	22	123	0	0	0	0	16	0	14	297
3:45 PM	0	77	35	20	138	0	0	0	0	21	0	15	306
4:00 PM	0	99	29	21	136	0	0	0	0	19	0	31	335
4:15 PM	0	83	14	21	94	0	0	0	0	15	0	16	243
4:30 PM	0	88	31	21	117	0	0	0	0	15	0	25	297
4:45 PM	0	87	15	14	138	0	0	0	0	18	0	15	287
VOLUMES	0	1,371	383	261	1,811	0	0	0	0	304	0	333	4,463
APPROACH %	0%	78%	22%	13%	87%	0%	0%	0%	0%	48%	0%	52%	
APP/DEPART	1,754	/	1,704	2,072	/	2,115	0	/	644	637	/	0	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	0	376	112	81	523	0	0	0	0	81	0	75	1,248
APPROACH %	0%	77%	23%	13%	87%	0%	0%	0%	0%	52%	0%	48%	
PEAK HR FACTOR		0.953			0.956			0.000			0.780		0.931
APP/DEPART	488	/	451	604	/	604	0	/	193	156	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	002
	EAST & WEST:	California	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND California			WESTBOUND California			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 1	EL 0.5	ET 0.5	ER 1	WL 0	WT 2	WR 0	TOTAL
1:00 PM	66	95	19	7	101	31	11	42	46	14	42	15	489
1:15 PM	71	99	17	8	105	33	17	28	44	11	29	28	490
1:30 PM	63	110	26	6	107	40	13	27	62	12	28	25	519
1:45 PM	63	83	20	4	117	27	8	20	34	11	30	20	437
2:00 PM	65	65	21	6	126	19	22	42	66	7	33	14	486
2:15 PM	80	94	24	11	116	23	14	29	69	7	48	16	531
2:30 PM	58	97	37	11	122	27	17	24	43	15	39	19	509
2:45 PM	57	101	29	16	103	13	16	31	50	14	17	25	472
3:00 PM	64	89	28	13	102	20	18	32	64	11	33	13	487
3:15 PM	71	108	24	11	102	21	10	25	45	12	28	12	469
3:30 PM	74	99	20	11	109	25	20	29	47	9	33	23	499
3:45 PM	78	109	28	14	110	24	17	33	56	7	31	10	517
4:00 PM	81	85	23	9	97	14	17	27	51	6	32	13	455
4:15 PM	75	100	33	6	120	23	11	36	56	8	42	21	531
4:30 PM	58	109	28	9	126	32	21	24	38	9	29	18	501
4:45 PM	68	85	36	10	126	25	15	23	68	17	22	15	510
VOLUMES	1,092	1,528	413	152	1,789	397	247	472	839	170	516	287	7,902
APPROACH %	36%	50%	14%	7%	77%	17%	16%	30%	54%	17%	53%	29%	
APP/DEPART	3,033	/	2,063	2,338	/	2,796	1,558	/	1,039	973	/	2,004	0
BEGIN PEAK HR		3:45 PM											
VOLUMES	292	403	112	38	453	93	66	120	201	30	134	62	2,004
APPROACH %	36%	50%	14%	7%	78%	16%	17%	31%	52%	13%	59%	27%	
PEAK HR FACTOR		0.938			0.874			0.913			0.796		0.944
APP/DEPART	807	/	532	584	/	683	387	/	270	226	/	519	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	003
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Wilshire			WESTBOUND Wilshire			
LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1.5	WT X	WR 1.5	TOTAL
1:00 PM	2	116	43	42	137	0	0	0	0	74	0	60	474
1:15 PM	4	122	31	31	162	0	0	0	0	59	0	49	458
1:30 PM	0	99	34	41	151	0	0	0	0	59	0	68	452
1:45 PM	1	108	32	34	138	0	0	0	0	57	0	67	437
2:00 PM	2	122	23	30	145	0	0	0	0	77	0	68	467
2:15 PM	3	126	23	46	131	0	0	0	0	67	0	66	462
2:30 PM	3	123	38	35	121	0	0	0	0	53	0	64	437
2:45 PM	0	113	38	48	145	0	0	0	0	64	0	82	490
3:00 PM	0	104	48	46	160	0	0	0	0	58	0	65	481
3:15 PM	0	138	24	41	162	0	0	0	0	65	0	73	503
3:30 PM	1	123	61	51	132	0	0	0	0	75	0	83	526
3:45 PM	0	140	45	66	123	0	0	0	0	52	0	78	504
4:00 PM	3	129	41	37	96	0	0	0	0	55	0	70	431
4:15 PM	0	116	40	32	116	0	0	0	0	51	0	71	426
4:30 PM	0	120	31	47	128	0	0	0	0	47	0	87	460
4:45 PM	1	123	49	38	153	0	0	0	0	57	0	59	480
VOLUMES	20	1,922	601	665	2,200	0	0	0	0	970	0	1,110	7,488
APPROACH %	1%	76%	24%	23%	77%	0%	0%	0%	0%	47%	0%	53%	
APP/DEPART	2,543	/	3,036	2,865	/	3,184	0	/	1,268	2,080	/	0	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	1	505	178	204	577	0	0	0	0	250	0	299	2,014
APPROACH %	0%	74%	26%	26%	74%	0%	0%	0%	0%	46%	0%	54%	
PEAK HR FACTOR		0.924			0.948			0.000			0.869		0.957
APP/DEPART	684	/	805	781	/	828	0	/	381	549	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	004
	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Arizona			WESTBOUND Arizona			
LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 0	WT X	WR 0	TOTAL
1:00 PM	0	141	29	24	193	0	0	0	0	13	0	14	414
1:15 PM	1	136	26	15	210	0	0	0	0	19	0	17	424
1:30 PM	0	106	24	32	158	0	0	0	0	15	0	18	353
1:45 PM	0	123	23	13	174	0	0	0	0	17	0	13	363
2:00 PM	0	128	34	25	199	0	0	0	0	23	0	23	432
2:15 PM	0	122	31	23	186	0	0	0	0	26	0	22	410
2:30 PM	1	131	42	23	154	0	0	0	0	21	0	30	402
2:45 PM	1	136	37	28	186	0	0	0	0	20	0	18	426
3:00 PM	0	120	28	20	193	0	0	0	0	39	0	23	423
3:15 PM	1	138	39	21	189	0	0	0	0	19	0	27	434
3:30 PM	0	147	36	48	139	0	0	0	0	24	0	36	430
3:45 PM	0	152	41	36	156	0	0	0	0	15	0	27	427
4:00 PM	0	132	24	26	132	0	0	0	0	24	0	35	373
4:15 PM	0	117	30	23	139	0	0	0	0	33	0	33	375
4:30 PM	0	127	40	21	155	0	0	0	0	29	0	25	397
4:45 PM	0	131	37	25	177	0	0	0	0	29	0	31	430
VOLUMES	4	2,087	521	403	2,740	0	0	0	0	366	0	392	6,513
APPROACH %	0%	80%	20%	13%	87%	0%	0%	0%	0%	48%	0%	52%	
APP/DEPART	2,612	/	2,483	3,143	/	3,109	0	/	921	758	/	0	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	1	557	144	125	677	0	0	0	0	97	0	113	1,714
APPROACH %	0%	79%	21%	16%	84%	0%	0%	0%	0%	46%	0%	54%	
PEAK HR FACTOR		0.909			0.941			0.000			0.847		0.987
APP/DEPART	702	/	672	802	/	775	0	/	267	210	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 15, 17	NORTH & SOUTH:	Ocean	LOCATION #:	005
SATURDAY	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
1:00 PM	1	141	51	32	172	0	0	0	0	30	0	25	452
1:15 PM	1	149	49	33	205	0	0	0	0	42	0	20	499
1:30 PM	1	111	50	33	168	0	0	0	0	34	0	28	425
1:45 PM	1	115	41	35	154	0	0	0	0	37	0	22	405
2:00 PM	1	156	46	42	183	0	0	0	0	34	0	20	482
2:15 PM	0	141	54	33	177	0	0	0	0	40	0	21	466
2:30 PM	1	123	55	32	142	0	0	0	0	44	0	33	430
2:45 PM	0	133	48	33	176	0	0	0	0	44	0	42	476
3:00 PM	1	124	59	36	186	0	0	0	0	41	0	22	469
3:15 PM	0	146	71	32	147	0	0	0	0	46	0	36	478
3:30 PM	0	133	55	42	125	0	0	0	0	45	0	36	436
3:45 PM	0	144	56	38	138	0	0	0	0	38	0	39	453
4:00 PM	0	129	61	34	128	0	0	0	0	35	0	25	412
4:15 PM	0	130	53	34	144	0	0	0	0	38	0	28	427
4:30 PM	1	141	51	34	144	0	0	0	0	45	0	21	437
4:45 PM	1	134	49	28	181	0	0	0	0	36	0	39	468
VOLUMES	9	2,150	849	551	2,570	0	0	0	0	629	0	457	7,215
APPROACH %	0%	71%	28%	18%	82%	0%	0%	0%	0%	58%	0%	42%	
APP/DEPART	3,008	/	2,610	3,121	/	3,208	0	/	1,397	1,086	/	0	0
BEGIN PEAK HR		2:45 PM											
VOLUMES	1	536	233	143	634	0	0	0	0	176	0	136	1,859
APPROACH %	0%	70%	30%	18%	82%	0%	0%	0%	0%	56%	0%	44%	
PEAK HR FACTOR		0.887			0.875			0.000			0.907		0.972
APP/DEPART	770	/	672	777	/	811	0	/	376	312	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	170
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Broadway			WESTBOUND Broadway			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	2	0	1	2	X	X	X	X	1	X	1	
1:00 PM	0	157	77	21	182	0	0	0	0	26	0	21	484
1:15 PM	0	189	60	20	198	0	0	0	0	43	0	29	539
1:30 PM	0	129	53	29	183	0	0	0	0	21	0	25	440
1:45 PM	0	144	63	30	171	0	0	0	0	39	0	34	481
2:00 PM	0	149	67	26	155	0	0	0	0	33	0	29	459
2:15 PM	0	153	70	23	140	0	0	0	0	25	0	33	444
2:30 PM	0	160	73	22	233	0	0	0	0	30	0	24	542
2:45 PM	0	125	63	35	249	0	0	0	0	35	0	54	561
3:00 PM	0	145	60	25	185	0	0	0	0	32	0	49	496
3:15 PM	0	149	60	12	144	0	0	0	0	35	0	51	451
3:30 PM	0	157	76	20	148	0	0	0	0	35	0	52	488
3:45 PM	0	147	71	24	140	0	0	0	0	39	0	50	471
4:00 PM	0	127	71	33	145	0	0	0	0	37	0	40	453
4:15 PM	0	146	63	20	156	0	0	0	0	35	0	36	456
4:30 PM	0	159	52	32	198	0	0	0	0	36	0	35	512
4:45 PM	0	146	71	19	179	0	0	0	0	41	0	35	491
VOLUMES	0	2,382	1,050	391	2,806	0	0	0	0	542	0	597	7,776
APPROACH %	0%	69%	31%	12%	88%	0%	0%	0%	0%	48%	0%	52%	
APP/DEPART	3,439	/	2,980	3,198	/	3,355	0	/	1,441	1,139	/	0	0
BEGIN PEAK HR		2:30 PM											
VOLUMES	0	579	256	94	811	0	0	0	0	132	0	178	2,051
APPROACH %	0%	69%	31%	10%	90%	0%	0%	0%	0%	43%	0%	57%	
PEAK HR FACTOR		0.896			0.798			0.000			0.871		0.914
APP/DEPART	835	/	758	906	/	943	0	/	350	310	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	006
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

NOTES:

NL closed all the time.

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	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Colorado			WESTBOUND Colorado			
LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL 0.5	ET X	ER 1.5	WL 0.5	WT 0.5	WR 1	TOTAL
1:00 PM	1	195	0	0	192	16	3	0	14	41	6	39	507
1:15 PM	0	202	0	0	224	0	4	0	16	46	0	40	532
1:30 PM	0	221	0	0	213	4	2	0	14	41	2	41	538
1:45 PM	0	169	0	0	204	0	4	0	18	53	1	46	495
2:00 PM	0	179	0	0	181	0	3	0	9	60	1	54	487
2:15 PM	0	194	0	0	176	0	1	0	12	35	11	49	478
2:30 PM	0	183	0	0	155	8	2	0	14	62	8	47	479
2:45 PM	0	174	0	0	151	21	5	0	13	44	21	49	478
3:00 PM	0	184	0	0	133	20	2	0	19	54	10	35	457
3:15 PM	1	180	0	0	124	8	3	0	12	46	28	41	443
3:30 PM	0	187	0	0	186	8	7	0	20	53	0	42	503
3:45 PM	0	188	0	0	230	0	4	0	21	63	0	37	543
4:00 PM	0	185	0	0	209	0	1	0	18	48	0	32	493
4:15 PM	0	191	0	0	216	0	2	0	12	48	0	39	508
4:30 PM	0	192	0	0	211	0	0	0	8	59	0	37	507
4:45 PM	0	208	0	0	208	0	5	0	10	48	0	23	502
VOLUMES	2	3,032	0	0	3,013	85	48	0	230	801	88	651	7,950
APPROACH %	0%	100%	0%	0%	97%	3%	17%	0%	83%	52%	6%	42%	
APP/DEPART	3,034	/	3,731	3,098	/	4,044	278	/	0	1,540	/	175	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	1	787	0	0	833	20	13	0	62	181	9	166	2,072
APPROACH %	0%	100%	0%	0%	98%	2%	17%	0%	83%	51%	3%	47%	
PEAK HR FACTOR		0.891			0.952			0.852			0.890		0.963
APP/DEPART	788	/	966	853	/	1,076	75	/	0	356	/	30	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	007
	EAST & WEST:	Moomat Ahiko	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Moomat Ahiko			WESTBOUND Moomat Ahiko			
LANES:	NL 2	NT 2	NR X	SL X	ST 2	SR 1	EL 1	ET X	ER 2	WL X	WT X	WR X	TOTAL
1:00 PM	80	175	0	0	226	30	35	0	123	0	0	0	669
1:15 PM	99	177	0	0	210	35	39	0	140	0	0	0	700
1:30 PM	105	156	0	0	184	41	33	0	150	0	0	0	669
1:45 PM	100	154	0	0	191	51	26	0	144	0	0	0	666
2:00 PM	89	172	0	0	200	42	29	0	136	0	0	0	668
2:15 PM	80	159	0	0	195	32	29	0	118	0	0	0	613
2:30 PM	99	166	0	0	219	46	34	0	120	0	0	0	684
2:45 PM	77	138	0	0	223	42	33	0	126	0	0	0	639
3:00 PM	79	149	0	0	213	32	37	0	145	0	0	0	655
3:15 PM	94	182	0	0	198	31	32	0	133	0	0	0	670
3:30 PM	96	147	0	0	200	29	39	0	141	0	0	0	652
3:45 PM	95	166	0	0	189	37	35	0	153	0	0	0	675
4:00 PM	80	145	0	0	170	22	36	0	136	0	0	0	589
4:15 PM	97	159	0	0	210	33	36	0	133	0	0	0	668
4:30 PM	93	162	0	0	220	33	38	0	121	0	0	0	667
4:45 PM	90	165	0	0	208	46	32	0	137	0	0	0	678
VOLUMES	1,453	2,572	0	0	3,256	582	543	0	2,156	0	0	0	10,606
APPROACH %	36%	64%	0%	0%	85%	15%	20%	0%	79%	0%	0%	0%	
APP/DEPART	4,027	/	3,117	3,840	/	5,414	2,739	/	0	0	/	2,075	0
BEGIN PEAK HR		1:15 PM											
VOLUMES	393	659	0	0	785	169	127	0	570	0	0	0	2,717
APPROACH %	37%	63%	0%	0%	82%	18%	18%	0%	80%	0%	0%	0%	
PEAK HR FACTOR		0.953			0.974			0.959			0.000		0.968
APP/DEPART	1,052	/	787	955	/	1,355	710	/	0	0	/	575	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	10
	EAST & WEST:	Olympic	CONTROL:	SIGNAL

NOTES:

From 15:45 SL closed. ALL Bounds queue. NL/ET/WT illegal.

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Olympic			WESTBOUND Olympic			
LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR 0	EL X	ET X	ER 0	WL 0.5	WT X	WR 0.5	TOTAL
1:00 PM	0	198	28	75	239	14	0	1	9	19	1	37	621
1:15 PM	0	218	17	66	243	7	0	0	10	15	0	38	614
1:30 PM	0	203	25	75	224	9	0	0	2	17	0	43	598
1:45 PM	0	198	11	66	260	4	0	1	18	21	0	60	639
2:00 PM	0	185	29	63	225	3	0	0	16	19	0	51	591
2:15 PM	0	237	29	61	227	6	0	0	6	14	0	46	626
2:30 PM	0	216	25	69	271	3	0	0	14	15	0	54	667
2:45 PM	0	198	27	77	211	10	0	2	11	24	0	59	619
3:00 PM	1	237	29	61	239	9	0	0	3	21	0	33	633
3:15 PM	0	228	30	56	223	7	0	2	8	18	0	32	604
3:30 PM	0	231	16	46	203	7	0	0	7	26	0	35	571
3:45 PM	0	222	25	0	264	21	0	0	1	17	0	41	591
4:00 PM	0	235	35	0	271	24	0	0	2	21	0	36	624
4:15 PM	0	217	33	0	258	12	0	0	6	22	0	27	575
4:30 PM	0	199	32	1	211	15	0	0	3	12	0	35	508
4:45 PM	0	240	32	0	275	6	0	0	5	28	0	31	617
VOLUMES	1	3,462	423	716	3,844	157	0	6	121	309	1	658	9,966
APPROACH %	0%	84%	10%	15%	81%	3%	0%	5%	95%	32%	0%	68%	
APP/DEPART	4,128	/	4,144	4,741	/	4,516	127	/	1,147	970	/	159	0
BEGIN PEAK HR		2:15 PM											
VOLUMES	1	888	110	268	948	28	0	2	34	74	0	192	2,605
APPROACH %	0%	84%	10%	21%	76%	2%	0%	6%	94%	28%	0%	72%	
PEAK HR FACTOR		0.932			0.907			0.643			0.801		0.956
APP/DEPART	1,055	/	1,084	1,248	/	1,112	36	/	380	266	/	29	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 22, 17	NORTH & SOUTH:	Ocean	LOCATION #:	008A
SATURDAY	EAST & WEST:	Pico	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Pico			WESTBOUND Pico			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
1:00 PM	16	164	44	29	134	25	17	41	3	20	76	65	634
1:15 PM	21	161	64	42	150	24	29	39	7	22	50	58	667
1:30 PM	7	151	54	26	134	34	30	40	8	22	59	65	630
1:45 PM	14	108	58	49	134	18	19	38	9	35	56	65	603
2:00 PM	11	148	36	34	136	33	24	42	5	23	80	67	639
2:15 PM	16	156	52	44	134	22	14	41	11	38	55	67	650
2:30 PM	11	152	56	40	142	15	16	49	14	18	70	55	638
2:45 PM	14	169	60	37	129	26	18	46	18	16	68	63	664
3:00 PM	11	126	71	44	108	32	25	43	8	27	76	53	624
3:15 PM	14	157	46	24	143	21	16	48	11	24	66	66	636
3:30 PM	13	124	68	35	132	23	24	56	6	30	74	76	661
3:45 PM	9	168	52	37	165	34	14	25	6	22	74	52	658
4:00 PM	11	159	56	35	137	38	11	31	15	20	73	81	667
4:15 PM	13	144	46	48	162	34	20	40	12	30	69	70	688
4:30 PM	18	135	53	29	116	27	14	35	12	22	93	71	625
4:45 PM	10	150	72	31	124	18	15	31	5	32	77	64	629
VOLUMES	209	2,372	888	584	2,180	424	306	645	150	401	1,116	1,038	10,313
APPROACH %	6%	68%	26%	18%	68%	13%	28%	59%	14%	16%	44%	41%	
APP/DEPART	3,469	/	3,716	3,188	/	2,731	1,101	/	2,118	2,555	/	1,748	0
BEGIN PEAK HR		3:30 PM											
VOLUMES	46	595	222	155	596	129	69	152	39	102	290	279	2,674
APPROACH %	5%	69%	26%	18%	68%	15%	27%	58%	15%	15%	43%	42%	
PEAK HR FACTOR		0.942			0.902			0.756			0.932		0.972
APP/DEPART	863	/	944	880	/	737	260	/	528	671	/	465	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Ocean	LOCATION #:	008B
	EAST & WEST:	Pico	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Ocean			SOUTHBOUND Ocean			EASTBOUND Pico			WESTBOUND Pico			
LANES:	NL X	NT X	NR X	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
1:00 PM	0	0	0	0	35	0	0	0	6	52	0	0	93
1:15 PM	0	0	0	0	39	0	0	0	4	47	0	0	90
1:30 PM	0	0	0	0	48	0	0	0	6	38	0	0	92
1:45 PM	0	0	0	0	40	0	0	0	6	31	0	0	77
2:00 PM	0	0	0	0	38	0	0	0	3	38	0	0	79
2:15 PM	0	0	0	0	29	0	0	0	12	28	0	0	69
2:30 PM	2	0	0	0	26	0	0	0	7	28	0	0	63
2:45 PM	0	0	0	0	33	0	0	0	7	32	0	0	72
3:00 PM	3	0	0	0	23	0	0	0	9	23	0	0	58
3:15 PM	1	0	0	0	28	0	0	0	5	50	0	0	84
3:30 PM	1	0	0	0	28	0	0	0	9	24	0	0	62
3:45 PM	1	0	0	0	27	0	0	0	10	33	0	0	71
4:00 PM	0	0	0	0	32	0	0	0	8	34	0	0	74
4:15 PM	0	0	0	0	41	0	0	0	6	18	0	0	65
4:30 PM	1	0	0	0	25	0	0	0	8	30	0	0	64
4:45 PM	0	0	0	0	38	0	0	0	12	15	0	0	65
VOLUMES	9	0	0	0	530	0	0	0	118	521	0	0	1,178
APPROACH %	100%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	
APP/DEPART	9	/	0	530	/	1,178	118	/	0	521	/	0	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	0	0	0	0	162	0	0	0	22	168	0	0	352
APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	100%	100%	0%	0%	
PEAK HR FACTOR		0.000			0.844			0.917			0.808		0.946
APP/DEPART	0	/	0	162	/	352	22	/	0	168	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	2nd	LOCATION #:	12
	EAST & WEST:	Washington	CONTROL:	STOP ALL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Washington			WESTBOUND Washington			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	8	18	7	1	12	3	1	27	9	10	9	6	111
1:15 PM	4	15	14	0	13	2	2	14	0	3	23	2	92
1:30 PM	3	17	5	2	12	2	0	13	5	6	22	4	91
1:45 PM	9	18	9	1	18	2	3	11	10	6	15	5	107
2:00 PM	4	14	6	3	6	1	2	17	5	7	9	2	76
2:15 PM	4	18	12	1	11	0	1	12	5	8	10	1	83
2:30 PM	4	10	13	2	12	2	1	18	6	2	12	7	89
2:45 PM	9	28	9	1	10	2	2	12	4	6	10	2	95
3:00 PM	9	16	8	4	12	3	1	15	3	3	14	6	94
3:15 PM	3	21	9	2	14	2	3	14	6	4	13	5	96
3:30 PM	8	21	7	2	23	3	2	20	7	4	19	8	124
3:45 PM	4	23	3	4	19	7	3	12	6	5	16	5	107
4:00 PM	6	20	9	5	11	5	1	25	14	11	18	5	130
4:15 PM	8	16	8	4	10	3	1	17	3	5	13	3	91
4:30 PM	8	21	7	4	12	2	2	7	6	3	11	2	85
4:45 PM	5	16	4	5	12	5	3	10	8	8	15	0	91
VOLUMES	96	292	130	41	207	44	28	244	97	91	229	63	1,562
APPROACH %	19%	56%	25%	14%	71%	15%	8%	66%	26%	24%	60%	16%	
APP/DEPART	518	/	384	292	/	409	369	/	415	383	/	354	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	21	85	28	13	67	17	9	71	33	24	66	23	457
APPROACH %	16%	63%	21%	13%	69%	18%	8%	63%	29%	21%	58%	20%	
PEAK HR FACTOR		0.931			0.808			0.706			0.831		0.879
APP/DEPART	134	/	117	97	/	128	113	/	112	113	/	100	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1844
Sat, Jul 28, 18	NORTH & SOUTH:	2nd	LOCATION #:	13
SATURDAY	EAST & WEST:	California	CONTROL:	STOP ALL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND California			WESTBOUND California			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	11	28	11	6	11	10	1	42	15	7	49	3	194
1:15 PM	14	21	5	3	16	5	9	33	7	5	47	2	167
1:30 PM	10	21	14	4	14	3	5	47	13	11	40	4	186
1:45 PM	12	25	14	5	20	8	5	52	16	11	46	4	218
2:00 PM	13	20	15	2	8	12	4	43	14	9	55	3	198
2:15 PM	13	20	13	5	15	6	7	46	13	9	37	4	188
2:30 PM	15	34	12	4	14	4	6	24	9	4	49	5	180
2:45 PM	12	37	15	1	18	5	3	43	17	3	36	3	193
3:00 PM	15	30	15	0	9	4	1	34	8	6	41	1	164
3:15 PM	11	24	19	3	17	4	8	49	8	11	39	4	197
3:30 PM	11	22	13	3	17	11	6	46	12	7	40	7	195
3:45 PM	13	27	9	5	21	10	4	46	13	9	43	6	206
4:00 PM	12	23	18	3	31	5	6	53	17	8	54	5	235
4:15 PM	9	33	23	9	15	5	2	35	18	4	33	5	191
4:30 PM	13	27	12	2	18	3	2	31	10	9	34	7	168
4:45 PM	6	16	26	6	23	2	5	32	15	13	45	4	193
VOLUMES	190	408	234	61	267	97	74	656	205	126	688	67	3,073
APPROACH %	23%	49%	28%	14%	63%	23%	8%	70%	22%	14%	78%	8%	
APP/DEPART	832	/	542	425	/	591	935	/	954	881	/	986	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	47	96	59	14	86	30	24	194	50	35	176	22	833
APPROACH %	23%	48%	29%	11%	66%	23%	9%	72%	19%	15%	76%	9%	
PEAK HR FACTOR		0.935			0.833			0.882			0.869		0.886
APP/DEPART	202	/	143	130	/	169	268	/	267	233	/	254	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 22, 17	NORTH & SOUTH:	2nd	LOCATION #:	011
SATURDAY	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Wilshire			WESTBOUND Wilshire			
LANES:	NL 1	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
1:00 PM	19	30	55	10	12	14	8	57	16	42	121	14	398
1:15 PM	27	29	63	2	15	13	3	52	10	35	105	13	367
1:30 PM	15	31	66	5	10	15	10	69	9	44	126	18	418
1:45 PM	20	14	60	10	15	7	11	45	5	36	97	21	341
2:00 PM	23	23	63	8	22	6	4	80	7	29	103	26	394
2:15 PM	18	20	35	9	13	10	8	60	10	33	114	14	344
2:30 PM	11	22	49	6	19	16	8	81	12	31	106	16	377
2:45 PM	12	24	43	6	19	8	8	74	14	26	116	17	367
3:00 PM	14	20	49	8	25	9	12	78	15	42	118	14	404
3:15 PM	20	23	42	13	10	7	7	60	14	29	93	8	326
3:30 PM	9	20	46	6	18	12	4	63	12	33	96	24	343
3:45 PM	21	31	55	10	23	14	10	69	10	32	102	23	400
4:00 PM	14	26	61	12	13	12	6	62	12	37	114	11	380
4:15 PM	19	26	54	10	15	20	8	66	11	43	104	20	396
4:30 PM	18	22	52	13	15	18	9	51	10	39	109	17	373
4:45 PM	20	35	51	8	22	12	10	66	19	48	102	22	415
VOLUMES	280	396	844	136	266	193	126	1,033	186	579	1,726	278	6,043
APPROACH %	18%	26%	56%	23%	45%	32%	9%	77%	14%	22%	67%	11%	
APP/DEPART	1,520	/	797	595	/	1,025	1,345	/	2,020	2,583	/	2,201	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	71	109	218	43	65	62	33	245	52	167	429	70	1,564
APPROACH %	18%	27%	55%	25%	38%	36%	10%	74%	16%	25%	64%	11%	
PEAK HR FACTOR		0.939			0.924			0.868			0.968		0.942
APP/DEPART	398	/	211	170	/	283	330	/	508	666	/	562	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sun, Oct 15, 17	NORTH & SOUTH:	2nd	LOCATION #:	12
SUNDAY	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Arizona			WESTBOUND Arizona			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	13	65	30	6	23	3	5	20	17	9	28	17	236
1:15 PM	14	62	28	7	25	3	10	13	10	8	21	15	216
1:30 PM	15	50	20	8	26	6	5	21	6	8	21	8	194
1:45 PM	14	52	45	7	24	4	10	25	13	11	26	28	259
2:00 PM	20	45	30	6	28	9	7	22	9	7	22	9	214
2:15 PM	18	60	33	11	28	11	7	16	9	9	19	15	236
2:30 PM	16	47	24	11	18	5	8	17	9	9	18	17	199
2:45 PM	24	52	26	5	25	6	4	26	21	18	15	18	240
3:00 PM	16	48	28	12	26	2	14	28	14	12	22	31	253
3:15 PM	22	56	28	3	27	4	9	14	15	18	17	24	237
3:30 PM	14	58	25	7	26	2	13	27	18	9	27	9	235
3:45 PM	18	57	43	6	24	8	4	15	9	9	22	25	240
4:00 PM	19	62	28	7	30	4	8	18	11	13	18	15	233
4:15 PM	21	55	36	9	20	5	9	21	14	14	20	25	249
4:30 PM	12	47	38	10	28	9	11	22	14	25	15	21	252
4:45 PM	29	57	28	5	23	9	16	25	16	11	15	23	257
VOLUMES	285	873	490	120	401	90	140	330	205	190	326	300	3,750
APPROACH %	17%	53%	30%	20%	66%	15%	21%	49%	30%	23%	40%	37%	
APP/DEPART	1,648	/	1,318	611	/	803	675	/	936	816	/	693	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	81	221	130	31	101	27	44	86	55	63	68	84	991
APPROACH %	19%	51%	30%	19%	64%	17%	24%	46%	30%	29%	32%	39%	
PEAK HR FACTOR		0.947			0.846			0.811			0.881		0.964
APP/DEPART	432	/	350	159	/	219	185	/	247	215	/	175	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	2nd	LOCATION #:	013
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 2	ER 0	WL 0	WT 1	WR 1	TOTAL
1:00 PM	14	43	44	16	38	8	10	50	21	20	54	50	368
1:15 PM	10	56	33	16	42	13	11	50	27	16	31	52	357
1:30 PM	16	51	45	24	34	14	14	45	17	21	33	44	358
1:45 PM	9	40	31	18	39	12	14	48	24	17	53	52	357
2:00 PM	18	42	40	12	37	8	11	48	28	17	34	42	337
2:15 PM	10	38	41	8	32	13	9	62	14	20	59	60	366
2:30 PM	18	48	42	10	40	13	14	46	24	15	41	43	354
2:45 PM	12	53	35	8	52	13	15	50	22	14	31	49	354
3:00 PM	14	77	50	12	38	5	4	54	32	22	34	36	378
3:15 PM	18	62	51	17	31	17	11	56	14	18	37	47	379
3:30 PM	18	56	43	13	48	9	7	53	25	17	42	42	373
3:45 PM	15	56	41	13	32	17	17	55	23	18	43	58	388
4:00 PM	12	45	49	14	34	17	12	45	13	15	46	51	353
4:15 PM	14	57	45	20	34	15	12	52	12	21	32	29	343
4:30 PM	10	67	31	21	31	25	12	53	8	15	36	33	342
4:45 PM	22	77	44	16	36	10	12	47	17	14	46	32	373
VOLUMES	230	868	665	238	598	209	185	814	321	280	652	720	5,780
APPROACH %	13%	49%	38%	23%	57%	20%	14%	62%	24%	17%	39%	44%	
APP/DEPART	1,763	/	1,779	1,045	/	1,201	1,320	/	1,711	1,652	/	1,089	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	65	251	185	55	149	48	39	218	94	75	156	183	1,518
APPROACH %	13%	50%	37%	22%	59%	19%	11%	62%	27%	18%	38%	44%	
PEAK HR FACTOR		0.888			0.900			0.924			0.870		0.978
APP/DEPART	501	/	474	252	/	320	351	/	457	414	/	267	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 22, 17	NORTH & SOUTH:	2nd	LOCATION #:	014
SATURDAY	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Broadway			WESTBOUND Broadway			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
1:00 PM	11	55	35	21	36	16	9	57	22	25	47	38	372
1:15 PM	14	46	37	27	55	6	18	54	19	28	42	53	399
1:30 PM	17	58	43	19	45	9	21	36	31	32	32	51	394
1:45 PM	5	52	35	20	48	5	19	57	23	29	46	56	395
2:00 PM	11	61	45	19	55	11	22	43	31	29	40	55	422
2:15 PM	20	56	44	16	46	8	23	44	19	35	46	31	388
2:30 PM	16	58	52	14	48	4	22	49	13	27	48	54	405
2:45 PM	10	63	41	17	67	8	14	40	23	33	42	47	405
3:00 PM	17	54	47	21	54	10	17	55	25	22	37	49	408
3:15 PM	22	26	34	24	42	6	16	39	27	35	63	46	380
3:30 PM	15	59	49	20	53	7	13	56	26	29	41	50	418
3:45 PM	19	61	56	19	50	12	24	45	28	26	50	51	441
4:00 PM	17	63	44	19	32	12	13	47	16	29	44	53	389
4:15 PM	16	47	42	19	32	7	22	42	16	22	37	61	363
4:30 PM	27	46	49	13	29	6	21	49	18	25	35	42	360
4:45 PM	21	42	54	14	35	8	15	53	17	34	70	13	376
VOLUMES	258	847	707	302	727	135	289	766	354	460	720	750	6,315
APPROACH %	14%	47%	39%	26%	62%	12%	21%	54%	25%	24%	37%	39%	
APP/DEPART	1,812	/	1,892	1,164	/	1,539	1,409	/	1,771	1,930	/	1,113	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	73	200	186	84	199	35	70	195	106	112	191	196	1,647
APPROACH %	16%	44%	41%	26%	63%	11%	19%	53%	29%	22%	38%	39%	
PEAK HR FACTOR		0.844			0.935			0.956			0.866		0.934
APP/DEPART	459	/	467	318	/	415	371	/	466	499	/	299	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	2nd	LOCATION #:	15
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

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SR was closed after 15:45

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 2nd			SOUTHBOUND 2nd			EASTBOUND Colorado			WESTBOUND Colorado			
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 1	EL X	ET X	ER X	WL 0.5	WT 1	WR 0.5	TOTAL
1:00 PM	5	94	0	0	65	19	0	0	0	27	40	44	294
1:15 PM	14	72	0	0	65	26	0	0	0	40	25	53	295
1:30 PM	7	87	0	0	83	35	0	0	0	19	43	37	311
1:45 PM	9	70	0	0	65	24	0	0	0	30	54	47	299
2:00 PM	10	92	0	0	90	32	0	0	0	25	52	41	342
2:15 PM	11	76	0	0	83	21	0	0	0	32	56	48	327
2:30 PM	11	90	0	0	73	41	0	0	0	32	49	42	338
2:45 PM	9	81	0	0	79	35	0	0	0	28	62	45	339
3:00 PM	14	70	0	0	92	29	0	0	0	21	38	37	301
3:15 PM	9	61	0	0	83	35	0	0	0	28	61	48	325
3:30 PM	13	88	0	0	80	34	0	0	0	19	38	27	299
3:45 PM	10	79	0	0	101	3	0	0	0	54	58	39	344
4:00 PM	16	93	0	1	88	1	0	0	0	28	47	39	313
4:15 PM	15	65	0	2	60	0	0	0	0	36	66	43	287
4:30 PM	8	84	0	0	96	6	0	0	0	29	50	30	303
4:45 PM	1	60	0	0	89	4	0	0	0	25	53	47	279
VOLUMES	162	1,262	0	3	1,292	345	0	0	0	473	792	667	4,996
APPROACH %	11%	89%	0%	0%	79%	21%	0%	0%	0%	24%	41%	35%	
APP/DEPART	1,424	/	1,932	1,640	/	1,765	0	/	0	1,932	/	1,299	0
BEGIN PEAK HR		2:00 PM											
VOLUMES	41	339	0	0	325	129	0	0	0	117	219	176	1,346
APPROACH %	11%	89%	0%	0%	72%	28%	0%	0%	0%	23%	43%	34%	
PEAK HR FACTOR		0.931			0.930			0.000			0.941		0.984
APP/DEPART	380	/	515	454	/	442	0	/	0	512	/	389	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	Main	LOCATION #:	19
	EAST & WEST:	Olympic	CONTROL:	SIGNAL

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	NORTHBOUND Main			SOUTHBOUND Main			EASTBOUND Olympic			WESTBOUND Olympic			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
1:00 PM	13	68	28	42	32	4	32	70	15	8	48	19	379
1:15 PM	9	60	33	47	45	9	21	63	9	9	31	32	368
1:30 PM	14	54	36	49	56	5	19	63	10	6	49	20	381
1:45 PM	15	38	31	45	52	6	9	66	6	12	55	20	355
2:00 PM	12	39	48	55	63	8	17	61	10	12	45	28	398
2:15 PM	9	52	47	51	41	8	15	62	15	8	40	25	373
2:30 PM	4	66	46	54	39	3	27	61	11	15	72	26	424
2:45 PM	8	57	28	70	50	4	13	67	15	10	58	28	408
3:00 PM	2	62	32	65	49	7	19	63	10	16	55	33	413
3:15 PM	8	52	37	55	39	6	18	65	10	12	41	26	369
3:30 PM	11	57	33	52	38	4	19	57	10	14	55	22	372
3:45 PM	9	67	48	65	50	2	2	17	3	11	36	24	334
4:00 PM	12	53	42	59	58	7	3	38	7	13	50	33	375
4:15 PM	11	60	56	40	46	3	4	16	2	10	40	25	313
4:30 PM	6	47	59	62	55	16	6	30	6	12	24	17	340
4:45 PM	8	49	53	69	63	11	8	22	6	20	35	21	365
VOLUMES	151	881	657	880	776	103	232	821	145	188	734	399	5,967
APPROACH %	9%	52%	39%	50%	44%	6%	19%	69%	12%	14%	56%	30%	
APP/DEPART	1,689	/	1,513	1,759	/	1,109	1,198	/	2,357	1,321	/	988	0
BEGIN PEAK HR		2:15 PM											
VOLUMES	23	237	153	240	179	22	74	253	51	49	225	112	1,618
APPROACH %	6%	57%	37%	54%	41%	5%	20%	67%	13%	13%	58%	29%	
PEAK HR FACTOR		0.890			0.889			0.955			0.854		0.954
APP/DEPART	413	/	423	441	/	279	378	/	646	386	/	270	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	3rd	LOCATION #:	20
	EAST & WEST:	California	CONTROL:	STOP ALL

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND 3rd			SOUTHBOUND 3rd			EASTBOUND California			WESTBOUND California			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM	5	10	11	5	9	3	7	46	3	5	52	6	162
1:15 PM	5	13	6	4	6	2	3	33	4	5	49	2	132
1:30 PM	5	8	11	3	11	7	5	55	7	5	46	4	167
1:45 PM	6	10	9	3	8	6	4	59	13	1	55	7	181
2:00 PM	7	10	4	4	7	2	0	48	6	2	56	6	152
2:15 PM	4	14	10	6	12	3	4	52	10	6	41	7	169
2:30 PM	5	6	13	8	9	4	8	32	10	5	49	5	154
2:45 PM	5	5	16	1	11	3	0	46	9	5	38	4	143
3:00 PM	6	7	7	4	8	2	2	59	13	7	39	4	158
3:15 PM	5	9	13	0	9	7	5	67	2	1	40	5	163
3:30 PM	4	8	11	1	8	3	2	47	7	3	53	3	150
3:45 PM	10	12	17	1	8	3	3	48	13	8	52	3	178
4:00 PM	7	17	21	4	12	2	6	55	15	2	53	4	198
4:15 PM	8	13	12	3	13	2	5	54	8	8	31	5	162
4:30 PM	8	9	9	10	9	4	5	32	8	1	38	4	137
4:45 PM	6	9	9	3	7	6	1	52	10	1	50	6	160
VOLUMES	96	160	179	60	147	59	60	785	138	65	742	75	2,566
APPROACH %	22%	37%	41%	23%	55%	22%	6%	80%	14%	7%	84%	9%	
APP/DEPART	435	/	288	266	/	345	983	/	1,030	882	/	903	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	26	46	62	6	37	15	16	217	37	14	198	15	689
APPROACH %	19%	34%	46%	10%	64%	26%	6%	80%	14%	6%	87%	7%	
PEAK HR FACTOR		0.744			0.806			0.888			0.901		0.870
APP/DEPART	134	/	74	58	/	89	270	/	285	227	/	241	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	3rd	LOCATION #:	023
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 3rd			SOUTHBOUND 3rd			EASTBOUND Wilshire			WESTBOUND Wilshire			
LANES:	NL X	NT X	NR X	SL 1	ST X	SR 1	EL 1	ET 2	ER X	WL X	WT 2	WR 0	TOTAL
1:00 PM	0	0	0	12	0	9	2	143	0	0	184	25	375
1:15 PM	0	0	0	15	0	6	3	137	0	1	149	27	338
1:30 PM	0	0	0	10	0	10	5	151	0	0	185	28	389
1:45 PM	0	0	0	21	0	10	4	121	0	0	144	27	327
2:00 PM	0	0	0	14	0	7	8	150	0	0	146	29	354
2:15 PM	0	0	0	17	0	8	6	112	0	0	162	16	321
2:30 PM	0	0	0	15	0	6	5	135	0	1	153	23	338
2:45 PM	0	0	0	24	0	7	5	123	0	0	153	27	339
3:00 PM	0	0	0	18	0	6	7	142	0	0	165	28	366
3:15 PM	0	0	0	12	0	6	5	106	0	1	126	32	288
3:30 PM	0	0	0	20	0	2	4	121	0	0	149	22	318
3:45 PM	0	0	0	16	0	9	8	138	0	0	148	31	350
4:00 PM	0	0	0	18	0	2	10	137	0	0	167	24	358
4:15 PM	0	0	0	10	0	13	9	134	0	0	159	29	354
4:30 PM	0	0	0	17	0	11	9	116	0	1	158	25	337
4:45 PM	0	0	0	17	0	6	8	132	0	1	171	21	356
VOLUMES	0	0	0	256	0	118	98	2,098	0	5	2,519	414	5,508
APPROACH %	0%	0%	0%	68%	0%	32%	4%	96%	0%	0%	86%	14%	
APP/DEPART	0	/	508	374	/	0	2,196	/	2,359	2,938	/	2,641	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	0	0	0	58	0	35	14	552	0	1	662	107	1,429
APPROACH %	0%	0%	0%	62%	0%	38%	2%	98%	0%	0%	86%	14%	
PEAK HR FACTOR		0.000			0.750			0.907			0.904		0.918
APP/DEPART	0	/	120	93	/	0	566	/	611	770	/	698	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	22
	EAST & WEST:	Montana	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Montana			WESTBOUND Montana			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	1	1	0	1	0	0	1	0	
1:00 PM	2	21	13	15	23	6	3	61	4	13	47	28	236
1:15 PM	2	22	12	5	33	5	9	49	2	16	48	11	214
1:30 PM	6	22	10	7	36	7	7	54	3	11	57	16	236
1:45 PM	4	24	11	19	25	10	8	69	9	14	51	13	257
2:00 PM	4	24	13	9	20	9	6	46	5	5	48	16	205
2:15 PM	5	25	9	12	29	1	9	55	7	11	56	16	235
2:30 PM	4	24	14	10	23	6	4	48	3	18	41	13	208
2:45 PM	0	19	8	14	20	4	6	49	3	9	44	9	185
3:00 PM	8	25	18	13	26	5	10	51	6	8	37	10	217
3:15 PM	7	22	9	17	33	8	12	47	6	5	54	13	233
3:30 PM	8	24	12	11	32	14	1	57	11	6	36	9	221
3:45 PM	4	26	10	15	21	10	8	59	5	13	52	14	237
4:00 PM	5	17	9	12	32	7	12	60	6	11	45	11	227
4:15 PM	6	28	8	9	35	7	6	51	4	10	40	13	217
4:30 PM	7	20	15	17	33	4	2	68	5	9	47	23	250
4:45 PM	3	15	8	18	31	7	9	39	2	6	39	17	194
VOLUMES	75	358	179	203	452	110	112	863	81	165	742	232	3,572
APPROACH %	12%	58%	29%	27%	59%	14%	11%	82%	8%	14%	65%	20%	
APP/DEPART	612	/	700	765	/	700	1,056	/	1,245	1,139	/	927	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	14	89	46	46	117	28	27	233	18	54	203	68	943
APPROACH %	9%	60%	31%	24%	61%	15%	10%	84%	6%	17%	62%	21%	
PEAK HR FACTOR		0.955			0.884			0.808			0.923		0.917
APP/DEPART	149	/	184	191	/	189	278	/	325	325	/	245	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	23
	EAST & WEST:	Washington	CONTROL:	STOP ALL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Washington			WESTBOUND Washington			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	1	31	6	7	41	4	2	21	11	11	19	9	163
1:15 PM	2	32	2	4	44	3	6	14	8	12	25	5	157
1:30 PM	4	34	8	6	40	4	0	15	6	10	32	5	164
1:45 PM	2	34	6	8	38	5	4	14	7	9	18	7	152
2:00 PM	1	33	5	2	36	3	0	21	6	6	16	4	133
2:15 PM	2	32	9	7	41	3	2	12	10	5	18	9	150
2:30 PM	3	35	4	11	36	1	2	19	9	7	16	6	149
2:45 PM	2	29	4	3	37	2	0	16	5	8	20	5	131
3:00 PM	3	29	3	1	37	3	2	13	7	8	16	3	125
3:15 PM	4	25	4	3	35	3	4	5	5	4	15	3	110
3:30 PM	7	29	3	4	38	3	2	22	6	7	19	7	147
3:45 PM	7	26	2	9	37	2	3	13	5	8	19	3	134
4:00 PM	3	37	1	2	36	4	3	24	7	9	24	5	155
4:15 PM	2	33	3	5	42	3	4	20	8	3	16	3	142
4:30 PM	1	29	3	3	35	1	3	7	6	8	18	6	120
4:45 PM	2	28	5	2	32	4	1	12	8	5	19	5	123
VOLUMES	46	496	68	77	605	48	38	248	114	120	310	85	2,255
APPROACH %	8%	81%	11%	11%	83%	7%	10%	62%	29%	23%	60%	17%	
APP/DEPART	610	/	618	730	/	838	400	/	395	515	/	404	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	9	131	22	25	163	16	12	64	32	42	94	26	636
APPROACH %	6%	81%	14%	12%	80%	8%	11%	59%	30%	26%	58%	16%	
PEAK HR FACTOR		0.880			0.981			0.794			0.862		0.970
APP/DEPART	162	/	169	204	/	236	108	/	112	162	/	119	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	24
	EAST & WEST:	California	CONTROL:	SIGNAL

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	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND California			WESTBOUND California			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	9	39	8	4	47	4	3	40	21	4	52	7	238
1:15 PM	8	33	5	4	52	2	1	36	9	1	48	8	207
1:30 PM	12	25	8	2	50	6	6	47	22	3	39	8	228
1:45 PM	8	24	10	2	59	2	5	51	21	2	51	5	240
2:00 PM	14	29	1	6	39	3	3	38	17	5	50	5	210
2:15 PM	11	31	3	3	37	9	6	48	15	4	35	14	216
2:30 PM	8	24	8	4	54	5	5	39	10	3	45	7	212
2:45 PM	8	26	3	6	44	2	2	41	19	3	36	5	195
3:00 PM	11	35	6	5	38	2	5	51	15	4	36	12	220
3:15 PM	11	30	1	2	39	3	5	55	23	6	33	4	212
3:30 PM	12	26	3	3	36	5	0	44	17	4	42	6	198
3:45 PM	14	28	6	7	35	6	2	45	23	4	46	12	228
4:00 PM	9	31	6	4	44	2	2	51	26	5	45	6	231
4:15 PM	8	26	6	2	52	3	5	50	19	1	31	3	206
4:30 PM	8	30	8	3	41	2	2	37	12	7	32	7	189
4:45 PM	12	19	5	2	40	5	4	47	15	7	46	5	207
VOLUMES	163	456	87	59	707	61	56	720	284	63	667	114	3,437
APPROACH %	23%	65%	12%	7%	85%	7%	5%	68%	27%	7%	79%	14%	
APP/DEPART	706	/	622	827	/	1,054	1,060	/	870	844	/	891	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	37	121	31	12	208	14	15	174	73	10	190	28	913
APPROACH %	20%	64%	16%	5%	89%	6%	6%	66%	28%	4%	83%	12%	
PEAK HR FACTOR		0.844			0.929			0.851			0.905		0.951
APP/DEPART	189	/	162	234	/	290	262	/	219	228	/	242	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	030
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

NOTES:

SB/WB queue

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Wilshire			WESTBOUND Wilshire			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
1:00 PM	22	30	20	29	37	11	7	128	22	31	164	36	537
1:15 PM	15	27	17	29	37	11	3	106	41	38	151	21	496
1:30 PM	29	34	35	26	30	8	6	107	19	41	173	32	540
1:45 PM	15	30	29	23	35	10	8	126	25	34	142	29	506
2:00 PM	23	22	22	18	41	2	3	134	19	27	166	28	505
2:15 PM	8	33	20	27	34	7	2	105	25	43	161	30	495
2:30 PM	12	29	25	23	41	12	5	128	15	37	154	36	517
2:45 PM	11	20	24	27	33	5	7	116	15	39	168	29	494
3:00 PM	15	18	30	32	29	5	10	122	21	39	175	28	524
3:15 PM	12	26	24	25	47	14	3	112	24	37	130	32	486
3:30 PM	10	21	22	26	27	7	11	111	14	34	160	23	466
3:45 PM	5	21	20	35	44	9	3	116	26	38	167	31	515
4:00 PM	7	20	20	29	42	7	8	115	28	36	171	21	504
4:15 PM	16	23	24	27	39	10	11	94	22	40	153	32	491
4:30 PM	22	25	18	29	20	6	2	108	31	44	171	36	512
4:45 PM	6	16	26	33	31	11	6	118	18	44	174	28	511
VOLUMES	228	395	376	438	567	135	95	1,846	365	602	2,580	472	8,099
APPROACH %	23%	40%	38%	38%	50%	12%	4%	80%	16%	16%	71%	13%	
APP/DEPART	999	/	961	1,140	/	1,534	2,306	/	2,660	3,654	/	2,944	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	81	121	101	107	139	40	24	467	107	144	630	118	2,079
APPROACH %	27%	40%	33%	37%	49%	14%	4%	78%	18%	16%	71%	13%	
PEAK HR FACTOR		0.773			0.929			0.940			0.907		0.963
APP/DEPART	303	/	263	286	/	390	598	/	675	892	/	751	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sun, Oct 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SUNDAY	NORTH & SOUTH:	4th	LOCATION #:	31
	EAST & WEST:	Arizona	CONTROL:	SIGNAL

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	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Arizona			WESTBOUND Arizona			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	6	37	6	9	56	4	7	27	26	17	50	15	260
1:15 PM	7	41	14	10	64	11	5	26	25	14	29	16	262
1:30 PM	8	37	4	9	66	8	5	22	18	18	27	16	238
1:45 PM	11	37	13	11	65	13	6	44	25	21	41	13	300
2:00 PM	9	37	13	10	74	6	1	31	28	9	32	20	270
2:15 PM	6	31	10	11	60	14	5	37	18	19	28	15	254
2:30 PM	8	40	18	9	73	4	5	25	18	19	36	22	277
2:45 PM	4	43	11	13	55	13	7	38	21	16	39	16	276
3:00 PM	8	42	13	9	90	20	5	37	27	18	38	12	319
3:15 PM	7	41	9	11	59	6	1	34	13	18	43	10	252
3:30 PM	8	31	14	11	58	13	4	36	13	22	43	16	269
3:45 PM	2	44	10	6	55	19	4	34	27	23	36	22	282
4:00 PM	9	40	13	6	58	11	7	33	23	13	33	10	256
4:15 PM	9	37	15	9	59	10	5	44	19	17	38	9	271
4:30 PM	14	33	15	12	61	14	4	42	28	19	38	7	287
4:45 PM	6	43	12	10	56	8	3	33	23	17	29	11	251
VOLUMES	122	614	190	156	1,009	174	74	543	352	280	580	230	4,324
APPROACH %	13%	66%	21%	12%	75%	13%	8%	56%	36%	26%	53%	21%	
APP/DEPART	926	/	918	1,339	/	1,642	969	/	889	1,090	/	875	0
BEGIN PEAK HR		2:15 PM											
VOLUMES	26	156	52	42	278	51	22	137	84	72	141	65	1,126
APPROACH %	11%	67%	22%	11%	75%	14%	9%	56%	35%	26%	51%	23%	
PEAK HR FACTOR		0.886			0.779			0.880			0.903		0.882
APP/DEPART	234	/	243	371	/	434	243	/	231	278	/	218	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	032
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 2	SR 0	EL X	ET 1	ER 1	WL X	WT 2	WR 0	TOTAL
1:00 PM	8	52	20	22	102	19	0	68	36	1	99	20	447
1:15 PM	9	55	17	25	74	19	1	76	37	2	96	20	431
1:30 PM	10	49	6	35	69	12	0	77	30	1	66	9	364
1:45 PM	10	54	24	17	61	21	0	70	41	0	94	19	411
2:00 PM	5	51	17	30	84	5	0	77	37	2	90	20	418
2:15 PM	9	47	10	26	61	7	0	84	31	1	104	26	406
2:30 PM	4	62	19	25	76	15	0	63	43	1	91	16	415
2:45 PM	8	51	20	27	42	10	0	70	29	0	90	20	367
3:00 PM	11	50	21	28	102	14	0	68	41	0	60	22	417
3:15 PM	9	48	11	22	85	13	0	80	49	0	96	19	432
3:30 PM	5	53	21	12	101	17	0	74	49	0	75	13	420
3:45 PM	3	36	19	14	90	9	0	74	39	1	95	25	405
4:00 PM	11	56	22	21	82	16	1	76	35	1	88	12	421
4:15 PM	4	48	15	27	52	10	0	96	33	2	90	16	393
4:30 PM	11	50	13	30	71	11	0	70	43	1	74	22	396
4:45 PM	6	44	11	30	63	8	0	75	35	2	68	11	353
VOLUMES	123	806	266	391	1,215	206	2	1,198	608	15	1,376	290	6,496
APPROACH %	10%	67%	22%	22%	67%	11%	0%	66%	34%	1%	82%	17%	
APP/DEPART	1,195	/	1,098	1,812	/	1,838	1,808	/	1,855	1,681	/	1,705	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	28	193	73	69	358	55	1	304	172	2	354	69	1,678
APPROACH %	10%	66%	25%	14%	74%	11%	0%	64%	36%	0%	83%	16%	
PEAK HR FACTOR		0.826			0.927			0.924			0.878		0.971
APP/DEPART	294	/	263	482	/	532	477	/	446	425	/	437	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 22, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	033
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Broadway			WESTBOUND Broadway			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	X	1	1	1	1	1	
1:00 PM	45	84	27	15	93	24	0	53	53	22	81	14	511
1:15 PM	46	61	29	17	55	16	0	55	53	25	86	22	465
1:30 PM	36	69	36	17	74	15	0	54	59	19	84	13	476
1:45 PM	31	74	22	22	80	12	0	51	28	30	101	24	475
2:00 PM	45	63	38	17	82	20	0	53	41	34	84	20	497
2:15 PM	42	56	25	17	66	18	0	56	41	30	92	19	462
2:30 PM	48	83	28	18	73	17	0	48	57	26	86	20	504
2:45 PM	38	69	20	14	72	8	0	53	60	15	92	20	461
3:00 PM	34	75	30	24	106	23	0	47	41	16	87	20	503
3:15 PM	40	59	26	16	87	18	0	48	52	34	95	24	499
3:30 PM	49	61	23	24	105	26	0	54	47	20	81	13	503
3:45 PM	31	40	20	14	92	14	0	47	47	34	100	21	460
4:00 PM	50	77	30	23	65	21	0	43	51	31	81	25	497
4:15 PM	33	56	15	26	67	13	0	54	56	24	87	17	448
4:30 PM	45	60	29	40	102	27	0	39	43	25	75	11	496
4:45 PM	40	60	23	18	71	14	0	58	50	33	98	20	485
VOLUMES	653	1,047	421	322	1,290	286	0	813	779	418	1,410	303	7,742
APPROACH %	31%	49%	20%	17%	68%	15%	0%	51%	49%	20%	66%	14%	
APP/DEPART	2,121	/	1,350	1,898	/	2,486	1,592	/	1,557	2,131	/	2,349	0
BEGIN PEAK HR		2:30 PM											
VOLUMES	160	286	104	72	338	66	0	196	210	91	360	84	1,967
APPROACH %	29%	52%	19%	15%	71%	14%	0%	48%	52%	17%	67%	16%	
PEAK HR FACTOR		0.865			0.778			0.898			0.874		0.976
APP/DEPART	550	/	370	476	/	639	406	/	372	535	/	586	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 15, 17	NORTH & SOUTH:	4th	LOCATION #:	034
SATURDAY	EAST & WEST:	Colorado	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND Colorado			WESTBOUND Colorado			
LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 0	EL X	ET X	ER X	WL 0.5	WT 1	WR 0.5	TOTAL
1:00 PM	49	89	0	0	144	42	0	0	0	30	44	8	406
1:15 PM	41	127	0	0	150	29	0	0	0	33	47	8	435
1:30 PM	54	124	0	0	137	50	0	0	0	28	44	7	444
1:45 PM	43	126	0	0	126	42	0	0	0	28	52	8	425
2:00 PM	32	122	0	0	132	36	0	0	0	23	38	8	391
2:15 PM	48	81	0	0	134	52	0	0	0	29	47	3	394
2:30 PM	53	119	0	0	162	44	0	0	0	28	44	12	462
2:45 PM	43	97	0	0	137	47	0	0	0	27	59	8	418
3:00 PM	53	107	0	0	124	53	0	0	0	18	38	6	399
3:15 PM	51	116	0	0	139	51	0	0	0	20	48	4	429
3:30 PM	43	136	0	0	133	36	0	0	0	34	36	5	423
3:45 PM	54	154	0	0	160	27	0	0	0	29	42	9	475
4:00 PM	37	105	0	0	173	35	0	0	0	34	40	12	436
4:15 PM	48	105	0	0	117	23	0	0	0	20	57	9	379
4:30 PM	47	114	0	0	126	42	0	0	0	20	35	11	395
4:45 PM	42	114	0	0	190	28	0	0	0	24	39	10	447
VOLUMES	738	1,836	0	0	2,284	637	0	0	0	425	710	128	6,758
APPROACH %	29%	71%	0%	0%	78%	22%	0%	0%	0%	34%	56%	10%	
APP/DEPART	2,574	/	1,964	2,921	/	2,712	0	/	0	1,263	/	2,082	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	185	511	0	0	605	149	0	0	0	117	166	30	1,763
APPROACH %	27%	73%	0%	0%	80%	20%	0%	0%	0%	37%	53%	10%	
PEAK HR FACTOR		0.837			0.906			0.000			0.910		0.928
APP/DEPART	696	/	541	754	/	722	0	/	0	313	/	500	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	4th	LOCATION #:	035
	EAST & WEST:	I-10 WB OFF-Ramp	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND I-10 WB OFF-Ramp			WESTBOUND I-10 WB OFF-Ramp			
LANES:	NL X	NT 2	NR X	SL X	ST 2	SR X	EL X	ET X	ER X	WL 2	WT X	WR 1	TOTAL
1:00 PM	0	70	0	0	164	0	0	0	0	145	0	79	458
1:15 PM	0	93	0	0	192	0	0	0	0	147	0	76	508
1:30 PM	1	76	0	0	158	0	0	0	0	174	0	94	503
1:45 PM	0	96	0	0	165	0	0	0	0	181	0	80	522
2:00 PM	1	90	0	0	146	0	0	0	0	149	0	66	452
2:15 PM	0	60	0	0	179	0	0	0	0	125	0	60	424
2:30 PM	0	80	0	0	186	0	0	0	0	139	0	95	500
2:45 PM	0	71	0	0	163	0	0	0	0	103	0	71	408
3:00 PM	0	102	0	0	152	0	0	0	0	125	0	68	447
3:15 PM	0	86	0	0	183	0	0	0	0	132	0	77	478
3:30 PM	0	99	0	1	149	0	0	0	0	122	0	76	447
3:45 PM	0	121	0	0	216	0	0	0	0	114	0	89	540
4:00 PM	0	74	0	0	193	0	0	0	0	142	0	63	472
4:15 PM	0	88	0	1	159	0	0	0	0	90	0	61	399
4:30 PM	0	93	0	0	142	0	0	0	0	112	0	73	420
4:45 PM	1	84	0	0	214	0	0	0	0	127	0	83	509
VOLUMES	3	1,383	0	2	2,761	0	0	0	0	2,127	0	1,211	7,487
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	64%	0%	36%	
APP/DEPART	1,386	/	2,596	2,763	/	4,891	0	/	0	3,338	/	0	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	1	335	0	0	679	0	0	0	0	647	0	329	1,991
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	66%	0%	34%	
PEAK HR FACTOR		0.875			0.884			0.000			0.910		0.954
APP/DEPART	336	/	664	679	/	1,327	0	/	0	976	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 15, 17	NORTH & SOUTH:	4th	LOCATION #:	036
SATURDAY	EAST & WEST:	I-10 EB ON-Ramp	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 4th			SOUTHBOUND 4th			EASTBOUND I-10 EB ON-Ramp			WESTBOUND I-10 EB ON-Ramp			
LANES:	NL 1	NT 1	NR 1	SL 2	ST 2	SR 0	EL 0.5	ET 2	ER 0.5	WL X	WT X	WR X	TOTAL
1:00 PM	7	54	83	81	154	73	13	121	2	0	0	0	588
1:15 PM	9	77	90	75	151	62	12	167	5	0	0	0	648
1:30 PM	9	63	104	109	185	72	15	138	7	0	0	0	702
1:45 PM	6	72	107	70	152	84	19	128	15	0	0	0	653
2:00 PM	6	75	95	85	156	72	18	125	6	0	0	0	638
2:15 PM	9	41	74	97	132	67	19	162	8	0	0	0	609
2:30 PM	7	71	103	106	168	57	13	127	2	0	0	0	654
2:45 PM	6	65	94	77	129	43	14	167	3	0	0	0	598
3:00 PM	7	66	113	96	120	56	20	157	9	0	0	0	644
3:15 PM	9	65	105	98	136	59	21	138	7	0	0	0	638
3:30 PM	10	75	99	107	141	58	27	130	9	0	0	0	656
3:45 PM	10	81	90	93	154	49	35	168	7	0	0	0	687
4:00 PM	9	73	93	124	166	57	8	145	8	0	0	0	683
4:15 PM	4	76	90	83	103	65	7	159	4	0	0	0	591
4:30 PM	4	59	76	83	112	49	27	168	4	0	0	0	582
4:45 PM	10	59	69	108	131	62	22	153	7	0	0	0	621
VOLUMES	122	1,072	1,485	1,492	2,290	985	290	2,353	103	0	0	0	10,192
APPROACH %	5%	40%	55%	31%	48%	21%	11%	86%	4%	0%	0%	0%	
APP/DEPART	2,679	/	1,362	4,767	/	2,393	2,746	/	5,330	0	/	1,107	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	38	294	387	422	597	223	91	581	31	0	0	0	2,664
APPROACH %	5%	41%	54%	34%	48%	18%	13%	83%	4%	0%	0%	0%	
PEAK HR FACTOR		0.977			0.895			0.837			0.000		0.969
APP/DEPART	719	/	385	1,242	/	628	703	/	1,390	0	/	261	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	5th	LOCATION #:	32
	EAST & WEST:	California	CONTROL:	STOP ALL

NOTES:

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	NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND California			WESTBOUND California			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	16	31	8	3	16	5	3	52	13	4	38	7	196
1:15 PM	13	30	11	2	9	3	2	43	6	2	45	4	170
1:30 PM	11	24	6	3	13	4	2	43	6	1	35	5	153
1:45 PM	29	22	8	4	15	3	6	39	9	4	44	1	184
2:00 PM	28	21	8	1	14	3	3	37	8	2	36	2	163
2:15 PM	15	26	11	3	12	0	2	47	7	4	27	0	154
2:30 PM	20	34	3	2	11	4	3	42	9	1	43	0	172
2:45 PM	18	28	4	1	7	0	1	52	4	6	30	0	151
3:00 PM	13	18	9	1	7	0	3	49	11	3	40	3	157
3:15 PM	16	20	6	3	12	0	0	54	9	3	35	2	160
3:30 PM	14	14	9	1	14	1	2	34	11	2	32	3	137
3:45 PM	20	18	6	2	23	1	4	47	9	2	40	0	172
4:00 PM	22	24	8	2	13	0	5	42	11	5	47	7	186
4:15 PM	10	20	6	3	17	0	0	54	11	3	23	3	150
4:30 PM	8	26	4	2	22	1	1	42	5	2	43	4	160
4:45 PM	17	20	6	2	17	1	2	51	10	4	38	0	168
VOLUMES	270	376	113	35	222	26	39	728	139	48	596	41	2,633
APPROACH %	36%	50%	15%	12%	78%	9%	4%	80%	15%	7%	87%	6%	
APP/DEPART	759	/	457	283	/	408	906	/	875	685	/	893	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	69	107	33	12	53	15	13	177	34	11	162	17	703
APPROACH %	33%	51%	16%	15%	66%	19%	6%	79%	15%	6%	85%	9%	
PEAK HR FACTOR		0.886			0.833			0.824			0.931		0.897
APP/DEPART	209	/	138	80	/	98	224	/	220	190	/	247	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	5th	LOCATION #:	038
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Wilshire			WESTBOUND Wilshire			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
1:00 PM	18	27	19	9	14	2	2	136	13	18	185	25	468
1:15 PM	32	31	26	10	21	0	4	143	19	16	212	30	544
1:30 PM	20	29	25	7	24	2	5	151	22	18	208	23	534
1:45 PM	24	29	24	12	19	3	10	159	16	17	214	20	547
2:00 PM	15	45	32	9	23	3	1	162	17	20	232	25	584
2:15 PM	18	25	26	2	21	5	7	148	14	17	203	17	503
2:30 PM	19	32	31	15	18	4	8	139	15	25	208	20	534
2:45 PM	22	30	19	13	22	2	0	123	19	31	231	25	537
3:00 PM	20	22	27	8	20	3	2	154	12	27	212	23	530
3:15 PM	14	31	23	14	24	3	4	139	16	22	229	21	540
3:30 PM	24	22	24	12	23	3	6	151	12	35	231	16	559
3:45 PM	29	32	24	11	23	4	6	154	19	35	196	23	556
4:00 PM	23	30	20	10	18	2	1	143	9	39	202	23	520
4:15 PM	29	27	22	10	22	4	5	158	17	31	208	18	551
4:30 PM	25	23	39	14	8	1	7	159	3	27	224	22	552
4:45 PM	30	19	27	16	14	6	2	159	10	36	200	23	542
VOLUMES	362	454	408	172	314	47	70	2,378	233	414	3,395	354	8,601
APPROACH %	30%	37%	33%	32%	59%	9%	3%	89%	9%	10%	82%	9%	
APP/DEPART	1,224	/	872	533	/	951	2,681	/	2,968	4,163	/	3,810	0
BEGIN PEAK HR		1:15 PM											
VOLUMES	91	134	107	38	87	8	20	615	74	71	866	98	2,209
APPROACH %	27%	40%	32%	29%	65%	6%	3%	87%	10%	7%	84%	9%	
PEAK HR FACTOR		0.902			0.950			0.958			0.934		0.946
APP/DEPART	332	/	250	133	/	230	709	/	762	1,035	/	967	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	5th	LOCATION #:	039
	EAST & WEST:	Arizona	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Arizona			WESTBOUND Arizona			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	35	53	11	10	31	4	4	36	3	8	56	14	265
1:15 PM	25	63	5	9	33	7	6	34	6	8	50	20	266
1:30 PM	34	44	6	9	26	7	5	33	5	13	54	18	254
1:45 PM	34	54	4	8	29	9	6	33	6	6	58	6	253
2:00 PM	27	69	10	7	33	5	2	56	12	9	72	12	314
2:15 PM	27	48	11	6	39	4	3	63	13	13	71	20	318
2:30 PM	26	55	11	4	47	4	4	62	11	6	70	12	312
2:45 PM	23	53	7	4	43	5	4	51	7	14	70	10	291
3:00 PM	30	50	11	7	31	8	5	51	10	9	65	17	294
3:15 PM	26	43	7	8	46	10	6	64	22	14	61	11	318
3:30 PM	25	51	15	5	57	4	6	75	19	10	51	13	331
3:45 PM	28	67	9	15	54	7	7	87	19	10	54	18	375
4:00 PM	31	43	10	11	36	6	8	74	10	5	53	11	298
4:15 PM	35	53	15	3	46	13	4	78	3	17	60	20	347
4:30 PM	28	43	13	8	26	5	13	73	20	10	43	12	294
4:45 PM	35	51	7	4	34	8	5	64	17	6	54	18	303
VOLUMES	469	840	152	118	611	106	88	934	183	158	942	232	4,833
APPROACH %	32%	57%	10%	14%	73%	13%	7%	78%	15%	12%	71%	17%	
APP/DEPART	1,461	/	1,159	835	/	952	1,205	/	1,204	1,332	/	1,518	0
BEGIN PEAK HR		3:30 PM											
VOLUMES	119	214	49	34	193	30	25	314	51	42	218	62	1,351
APPROACH %	31%	56%	13%	13%	75%	12%	6%	81%	13%	13%	68%	19%	
PEAK HR FACTOR		0.918			0.845			0.863			0.830		0.901
APP/DEPART	382	/	301	257	/	286	390	/	397	322	/	367	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	5th	LOCATION #:	040
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

NOTES:

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	NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
1:00 PM	36	78	22	8	33	10	13	90	7	8	60	21	386
1:15 PM	44	83	27	15	40	8	12	90	9	5	62	16	411
1:30 PM	34	70	20	11	38	10	12	83	7	8	56	11	360
1:45 PM	52	79	13	13	23	11	17	99	3	12	45	15	382
2:00 PM	43	88	18	11	39	10	11	99	21	9	56	10	415
2:15 PM	37	72	16	15	48	9	11	91	14	10	73	13	409
2:30 PM	32	74	13	10	39	15	12	93	7	11	97	18	421
2:45 PM	36	71	12	19	44	9	13	95	5	22	60	17	403
3:00 PM	45	66	15	14	38	10	13	76	14	12	83	19	405
3:15 PM	40	67	19	16	56	13	15	102	11	12	61	13	425
3:30 PM	43	74	25	18	53	21	13	109	15	9	61	12	453
3:45 PM	38	89	30	17	55	15	11	125	16	12	61	10	479
4:00 PM	40	66	30	20	37	9	9	107	11	6	38	14	387
4:15 PM	27	90	14	10	39	12	5	134	11	5	66	16	429
4:30 PM	38	65	25	12	35	16	10	99	13	19	47	24	403
4:45 PM	33	82	30	17	33	19	10	99	10	10	51	17	411
VOLUMES	618	1,214	329	226	650	197	187	1,591	174	170	977	246	6,579
APPROACH %	29%	56%	15%	21%	61%	18%	10%	82%	9%	12%	70%	18%	
APP/DEPART	2,161	/	1,647	1,073	/	994	1,952	/	2,146	1,393	/	1,792	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	166	296	89	65	202	59	52	412	56	45	266	54	1,762
APPROACH %	30%	54%	16%	20%	62%	18%	10%	79%	11%	12%	73%	15%	
PEAK HR FACTOR		0.877			0.886			0.855			0.800		0.920
APP/DEPART	551	/	402	326	/	303	520	/	566	365	/	491	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1406
Sat, Jul 15, 17	NORTH & SOUTH:	5th	LOCATION #:	041
SATURDAY	EAST & WEST:	Broadway	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Broadway			WESTBOUND Broadway			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
1:00 PM	15	99	15	12	17	23	16	67	10	7	91	23	395
1:15 PM	24	113	15	9	20	19	23	66	4	3	87	20	403
1:30 PM	16	107	18	14	21	27	22	71	7	9	97	9	418
1:45 PM	22	107	19	7	12	25	18	79	5	1	83	15	393
2:00 PM	14	120	30	14	28	22	23	73	8	8	88	10	438
2:15 PM	23	90	7	11	36	17	26	71	7	6	91	14	399
2:30 PM	26	94	19	19	28	26	14	71	8	3	81	13	402
2:45 PM	38	94	14	7	24	38	17	88	14	5	99	12	450
3:00 PM	22	97	12	9	25	27	17	74	12	7	77	18	397
3:15 PM	26	100	23	14	42	25	30	66	8	11	94	14	453
3:30 PM	22	113	19	12	37	34	29	74	15	9	95	9	468
3:45 PM	21	112	21	10	26	32	25	88	11	11	93	27	477
4:00 PM	22	93	15	18	18	30	14	99	7	9	77	25	427
4:15 PM	27	106	21	10	27	22	22	88	15	3	82	18	441
4:30 PM	23	96	15	12	28	32	27	58	8	8	63	15	385
4:45 PM	17	113	21	11	17	25	20	88	15	4	60	16	407
VOLUMES	358	1,654	284	189	406	424	343	1,221	154	104	1,358	258	6,753
APPROACH %	16%	72%	12%	19%	40%	42%	20%	71%	9%	6%	79%	15%	
APP/DEPART	2,296	/	2,253	1,019	/	663	1,718	/	1,695	1,720	/	2,142	0
BEGIN PEAK HR		3:15 PM											
VOLUMES	91	418	78	54	123	121	98	327	41	40	359	75	1,825
APPROACH %	16%	71%	13%	18%	41%	41%	21%	70%	9%	8%	76%	16%	
PEAK HR FACTOR		0.953			0.898			0.940			0.905		0.956
APP/DEPART	587	/	590	298	/	204	466	/	459	474	/	572	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	5th	LOCATION #:	042
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

NOTES:

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	NORTHBOUND 5th			SOUTHBOUND 5th			EASTBOUND Colorado			WESTBOUND Colorado			
LANES:	NL X	NT 2	NR 1	SL 1	ST 1	SR 0	EL X	ET X	ER X	WL X	WT 1	WR 0	TOTAL
1:00 PM	5	120	10	9	5	19	0	0	0	0	68	17	253
1:15 PM	7	142	11	7	6	22	0	0	0	0	53	23	271
1:30 PM	4	146	12	14	4	27	0	0	0	0	62	16	285
1:45 PM	7	130	6	3	4	12	0	0	0	0	61	17	240
2:00 PM	0	166	11	9	9	28	0	0	0	0	45	22	290
2:15 PM	2	103	12	16	3	35	0	0	0	0	42	15	228
2:30 PM	3	149	16	11	6	29	0	0	0	0	66	17	297
2:45 PM	2	131	9	10	3	35	0	0	0	0	51	14	255
3:00 PM	7	128	13	19	7	23	0	0	0	0	39	12	248
3:15 PM	3	141	13	16	7	31	0	0	0	0	31	13	255
3:30 PM	3	140	23	18	5	39	0	0	0	0	35	18	281
3:45 PM	1	141	19	18	6	45	0	0	0	0	30	13	273
4:00 PM	1	126	10	7	2	49	0	0	0	0	55	22	272
4:15 PM	3	154	19	13	9	23	0	0	0	0	48	12	281
4:30 PM	4	126	17	11	7	28	0	0	0	0	45	5	243
4:45 PM	4	143	12	12	1	33	0	0	0	0	43	11	259
VOLUMES	56	2,186	213	193	84	478	0	0	0	0	774	247	4,231
APPROACH %	2%	89%	9%	26%	11%	63%	0%	0%	0%	0%	76%	24%	
APP/DEPART	2,455	/	2,437	755	/	84	0	/	402	1,021	/	1,308	0
BEGIN PEAK HR		3:30 PM											
VOLUMES	8	561	71	56	22	156	0	0	0	0	168	65	1,107
APPROACH %	1%	88%	11%	24%	9%	67%	0%	0%	0%	0%	72%	28%	
PEAK HR FACTOR		0.909			0.848			0.000			0.756		0.985
APP/DEPART	640	/	627	234	/	22	0	/	126	233	/	332	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	6th	LOCATION #:	38
	EAST & WEST:	California	CONTROL:	STOP ALL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND 6th			SOUTHBOUND 6th			EASTBOUND California			WESTBOUND California			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	6	23	8	5	16	3	3	43	13	2	38	1	161
1:15 PM	6	13	6	3	16	0	2	45	8	1	41	4	145
1:30 PM	8	20	7	6	13	4	3	46	9	4	39	7	166
1:45 PM	12	26	8	2	19	1	3	44	10	0	36	2	163
2:00 PM	3	25	11	4	16	3	2	37	10	4	28	4	147
2:15 PM	7	23	5	0	17	1	5	62	5	4	33	5	167
2:30 PM	5	23	6	3	14	2	3	45	3	2	32	4	142
2:45 PM	6	14	9	1	12	5	1	53	5	1	27	6	140
3:00 PM	11	20	6	2	12	1	1	55	9	1	34	1	153
3:15 PM	6	17	5	6	10	2	0	55	7	1	24	5	138
3:30 PM	11	32	3	4	10	3	1	38	8	1	25	4	140
3:45 PM	10	15	5	2	13	2	1	45	13	2	35	8	151
4:00 PM	12	28	7	2	23	0	3	43	10	3	32	6	169
4:15 PM	9	16	6	1	11	3	1	52	10	7	24	2	142
4:30 PM	8	19	9	5	14	3	2	44	8	2	35	4	153
4:45 PM	6	12	7	1	17	1	4	38	5	4	39	5	139
VOLUMES	126	326	108	47	233	34	35	745	133	39	522	68	2,416
APPROACH %	23%	58%	19%	15%	74%	11%	4%	82%	15%	6%	83%	11%	
APP/DEPART	560	/	426	314	/	403	913	/	904	629	/	683	0
BEGIN PEAK HR		1:30 PM											
VOLUMES	30	94	31	12	65	9	13	189	34	12	136	18	643
APPROACH %	19%	61%	20%	14%	76%	10%	6%	80%	14%	7%	82%	11%	
PEAK HR FACTOR		0.842			0.935			0.819			0.830		0.963
APP/DEPART	155	/	123	86	/	111	236	/	234	166	/	175	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	7th	LOCATION #:	39
	EAST & WEST:	Montana	CONTROL:	SIGNAL

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	NORTHBOUND 7th			SOUTHBOUND 7th			EASTBOUND Montana			WESTBOUND Montana			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
1:00 PM	3	27	7	26	31	3	12	94	5	7	80	31	326
1:15 PM	4	43	8	24	45	11	12	79	7	11	63	28	335
1:30 PM	5	36	10	31	31	11	14	65	10	6	82	25	326
1:45 PM	1	31	16	29	40	10	17	106	6	10	75	29	370
2:00 PM	7	34	11	27	52	9	11	69	9	8	61	30	328
2:15 PM	5	26	17	24	34	18	12	85	7	2	72	27	329
2:30 PM	1	46	13	31	36	2	12	82	11	13	71	34	352
2:45 PM	6	38	8	20	32	11	7	84	5	11	60	33	315
3:00 PM	3	36	15	14	47	9	10	89	5	10	66	35	339
3:15 PM	4	37	7	21	34	7	6	68	8	9	60	27	288
3:30 PM	3	38	21	24	30	15	13	69	6	3	55	32	309
3:45 PM	2	26	9	32	40	14	13	78	14	6	69	22	325
4:00 PM	1	28	12	36	36	6	14	78	11	16	60	32	330
4:15 PM	4	29	17	30	55	5	14	70	5	8	55	31	323
4:30 PM	3	35	15	21	37	12	13	86	8	13	75	39	357
4:45 PM	4	31	7	27	46	13	8	66	5	7	46	23	283
VOLUMES	56	541	193	417	626	156	188	1,268	122	140	1,050	478	5,235
APPROACH %	7%	68%	24%	35%	52%	13%	12%	80%	8%	8%	63%	29%	
APP/DEPART	790	/	1,208	1,199	/	884	1,578	/	1,881	1,668	/	1,262	0
BEGIN PEAK HR		1:45 PM											
VOLUMES	14	137	57	111	162	39	52	342	33	33	279	120	1,379
APPROACH %	7%	66%	27%	36%	52%	13%	12%	80%	8%	8%	65%	28%	
PEAK HR FACTOR		0.867			0.886			0.828			0.915		0.932
APP/DEPART	208	/	309	312	/	227	427	/	511	432	/	332	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	7th	LOCATION #:	40
	EAST & WEST:	California	CONTROL:	STOP ALL

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INTERSECTION TURNING MOVEMENT COUNTS	NORTHBOUND 7th			SOUTHBOUND 7th			EASTBOUND California			WESTBOUND California			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
1:00 PM	7	36	8	2	37	2	3	45	19	4	37	12	212
1:15 PM	10	41	5	4	49	2	7	37	15	0	32	5	207
1:30 PM	8	49	5	3	52	6	4	43	13	4	37	13	237
1:45 PM	7	28	7	7	55	4	2	40	8	8	24	15	205
2:00 PM	13	39	6	5	47	5	7	38	7	1	18	14	200
2:15 PM	7	32	4	8	39	8	5	56	12	5	27	16	219
2:30 PM	7	37	5	7	41	3	8	44	5	4	29	12	202
2:45 PM	3	42	3	8	29	3	3	43	18	3	19	7	181
3:00 PM	9	26	11	11	47	2	6	48	7	5	25	19	216
3:15 PM	6	27	7	7	47	5	10	54	6	6	23	12	210
3:30 PM	6	46	6	7	26	1	5	34	8	2	24	11	176
3:45 PM	13	25	7	7	48	4	5	42	4	6	31	10	202
4:00 PM	6	33	9	7	47	4	5	37	15	5	34	18	220
4:15 PM	6	54	9	9	57	3	3	51	12	3	29	17	253
4:30 PM	10	43	8	9	46	4	3	42	12	5	31	19	232
4:45 PM	7	24	23	12	52	1	4	38	12	6	41	12	232
VOLUMES	125	582	123	113	719	57	80	692	173	67	461	212	3,404
APPROACH %	15%	70%	15%	13%	81%	6%	8%	73%	18%	9%	62%	29%	
APP/DEPART	830	/	872	889	/	961	945	/	927	740	/	644	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	29	154	49	37	202	12	15	168	51	19	135	66	937
APPROACH %	13%	66%	21%	15%	80%	5%	6%	72%	22%	9%	61%	30%	
PEAK HR FACTOR		0.841			0.909			0.886			0.932		0.926
APP/DEPART	232	/	235	251	/	274	234	/	254	220	/	174	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1844
Sat, Jul 28, 18	NORTH & SOUTH:	Lincoln	LOCATION #:	41
SATURDAY	EAST & WEST:	Montana	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Montana			WESTBOUND Montana			
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
1:00 PM	27	35	18	6	22	5	4	110	13	18	90	4	352
1:15 PM	15	32	18	5	11	0	7	90	16	12	86	5	297
1:30 PM	26	38	18	7	9	3	6	80	22	9	91	3	312
1:45 PM	25	25	17	2	15	5	11	125	23	11	77	4	340
2:00 PM	22	27	20	2	13	3	5	94	14	12	75	5	292
2:15 PM	25	30	9	4	5	2	7	96	17	13	72	6	286
2:30 PM	30	21	22	7	12	2	7	109	12	17	85	8	332
2:45 PM	24	21	18	2	8	6	7	96	9	15	78	7	291
3:00 PM	25	25	17	2	12	2	11	90	15	22	77	3	301
3:15 PM	18	23	24	2	15	4	6	78	13	9	77	4	273
3:30 PM	19	32	18	10	14	2	7	90	16	14	67	8	297
3:45 PM	16	21	11	5	11	4	2	96	23	12	81	5	287
4:00 PM	29	33	18	6	20	1	7	101	17	19	70	4	325
4:15 PM	18	24	14	5	15	5	4	108	18	12	70	6	299
4:30 PM	37	26	13	3	16	0	4	98	17	14	80	3	311
4:45 PM	18	34	14	5	11	3	5	79	23	21	56	2	271
VOLUMES	374	447	269	73	209	47	100	1,540	268	230	1,232	77	4,866
APPROACH %	34%	41%	25%	22%	64%	14%	5%	81%	14%	15%	80%	5%	
APP/DEPART	1,090	/	623	329	/	707	1,908	/	1,882	1,539	/	1,654	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	93	130	71	20	57	13	28	405	74	50	344	16	1,301
APPROACH %	32%	44%	24%	22%	63%	14%	6%	80%	15%	12%	84%	4%	
PEAK HR FACTOR		0.896			0.682			0.797			0.915		0.924
APP/DEPART	294	/	174	90	/	181	507	/	496	410	/	450	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	42
	EAST & WEST:	California	CONTROL:	STOP ALL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND California			WESTBOUND California			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM	25	59	9	3	69	3	5	22	22	6	22	1	246
1:15 PM	22	80	5	2	56	4	2	28	16	5	11	6	237
1:30 PM	24	76	8	3	65	5	3	29	20	5	21	6	265
1:45 PM	20	71	7	2	46	11	1	35	18	4	24	6	245
2:00 PM	17	68	3	3	70	4	2	33	18	8	11	3	240
2:15 PM	21	67	5	2	43	3	5	40	25	1	20	4	236
2:30 PM	19	80	2	2	62	6	4	33	24	4	26	0	262
2:45 PM	21	62	4	2	56	10	6	28	17	1	19	8	234
3:00 PM	30	68	9	3	61	8	13	27	30	4	23	1	277
3:15 PM	17	60	7	3	53	5	7	39	16	6	16	4	233
3:30 PM	16	74	4	4	66	4	5	27	18	8	20	2	248
3:45 PM	20	75	11	6	56	6	4	30	21	5	21	8	263
4:00 PM	22	79	6	1	70	10	3	32	17	7	24	4	275
4:15 PM	21	69	4	7	70	9	7	39	24	6	21	5	282
4:30 PM	24	78	11	5	48	16	4	31	27	5	24	6	279
4:45 PM	29	80	12	5	59	9	7	29	33	7	29	6	305
VOLUMES	348	1,146	107	53	950	113	78	502	346	82	332	70	4,127
APPROACH %	22%	72%	7%	5%	85%	10%	8%	54%	37%	17%	69%	14%	
APP/DEPART	1,601	/	1,292	1,116	/	1,380	926	/	662	484	/	793	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	96	306	33	18	247	44	21	131	101	25	98	21	1,141
APPROACH %	22%	70%	8%	6%	80%	14%	8%	52%	40%	17%	68%	15%	
PEAK HR FACTOR		0.899			0.898			0.904			0.857		0.935
APP/DEPART	435	/	348	309	/	373	253	/	182	144	/	238	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	056
	EAST & WEST:	Wilshire	CONTROL:	SIGNAL

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Wilshire			WESTBOUND Wilshire			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0	TOTAL
1:00 PM	75	103	39	14	73	3	6	168	53	28	202	17	781
1:15 PM	64	68	36	14	79	6	8	172	31	36	196	11	721
1:30 PM	59	99	31	17	85	1	2	149	42	25	203	14	727
1:45 PM	51	82	29	10	74	12	2	180	54	30	232	12	768
2:00 PM	70	86	40	16	74	7	4	171	50	35	208	14	775
2:15 PM	51	84	39	14	78	4	4	162	31	29	204	13	713
2:30 PM	58	77	31	12	66	7	1	155	47	24	226	12	716
2:45 PM	64	87	33	15	62	9	4	149	58	34	237	18	770
3:00 PM	61	95	39	15	89	7	4	167	57	28	228	14	804
3:15 PM	68	72	37	7	60	5	1	177	42	43	218	9	739
3:30 PM	59	92	49	14	69	5	4	189	41	33	246	22	823
3:45 PM	67	101	37	20	62	5	7	169	46	29	208	10	761
4:00 PM	57	95	44	15	59	9	2	170	39	33	210	10	743
4:15 PM	64	66	39	9	76	6	6	193	58	19	203	12	751
4:30 PM	71	93	28	14	61	10	13	208	33	33	234	11	809
4:45 PM	58	85	33	9	65	9	5	183	31	29	197	15	719
VOLUMES	997	1,385	584	215	1,132	105	73	2,762	713	488	3,452	214	12,120
APPROACH %	34%	47%	20%	15%	78%	7%	2%	78%	20%	12%	83%	5%	
APP/DEPART	2,966	/	1,668	1,452	/	2,333	3,548	/	3,562	4,154	/	4,557	0
BEGIN PEAK HR		2:45 PM											
VOLUMES	252	346	158	51	280	26	13	682	198	138	929	63	3,136
APPROACH %	33%	46%	21%	14%	78%	7%	1%	76%	22%	12%	82%	6%	
PEAK HR FACTOR		0.945			0.804			0.954			0.939		0.953
APP/DEPART	756	/	421	357	/	616	893	/	891	1,130	/	1,208	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	057
	EAST & WEST:	Arizona	CONTROL:	SIGNAL

NOTES:

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	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Arizona			WESTBOUND Arizona			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
INTERSECTION TURNING MOVEMENT COUNTS													
1:00 PM	31	200	15	5	147	7	2	24	43	13	31	9	527
1:15 PM	29	159	13	1	135	4	1	22	34	6	33	7	444
1:30 PM	31	148	12	1	132	2	2	29	35	7	38	7	444
1:45 PM	43	176	21	5	172	1	3	30	31	15	36	12	545
2:00 PM	58	186	10	4	145	4	2	43	30	13	34	7	536
2:15 PM	56	150	13	2	129	7	3	54	37	6	30	10	497
2:30 PM	43	169	10	5	128	7	6	38	40	6	36	7	495
2:45 PM	45	165	9	1	136	10	7	38	51	7	36	8	513
3:00 PM	49	171	14	5	152	8	3	40	39	11	33	11	536
3:15 PM	52	169	13	5	127	8	4	46	31	6	25	13	499
3:30 PM	47	181	17	2	127	3	5	58	31	11	40	8	530
3:45 PM	41	195	18	2	119	7	5	43	62	6	36	15	549
4:00 PM	44	170	19	5	120	5	5	35	70	8	26	7	514
4:15 PM	42	179	11	10	146	8	2	47	51	14	44	1	555
4:30 PM	42	182	14	6	108	5	0	47	38	6	36	8	492
4:45 PM	47	192	11	2	119	3	3	39	33	6	40	5	500
VOLUMES	700	2,792	220	61	2,142	89	53	633	656	141	554	135	8,176
APPROACH %	19%	75%	6%	3%	93%	4%	4%	47%	49%	17%	67%	16%	
APP/DEPART	3,712	/	2,980	2,292	/	2,940	1,342	/	914	830	/	1,342	0
BEGIN PEAK HR		3:30 PM											
VOLUMES	174	725	65	19	512	23	17	183	214	39	146	31	2,148
APPROACH %	18%	75%	7%	3%	92%	4%	4%	44%	52%	18%	68%	14%	
PEAK HR FACTOR		0.949			0.845			0.941			0.915		0.968
APP/DEPART	964	/	773	554	/	765	414	/	267	216	/	343	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	058
	EAST & WEST:	Santa Monica	CONTROL:	SIGNAL

NOTES:

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	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Santa Monica			WESTBOUND Santa Monica			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL
1:00 PM	26	197	37	17	187	2	3	86	38	29	78	43	743
1:15 PM	39	169	20	17	161	5	5	104	47	20	89	37	713
1:30 PM	25	176	32	18	164	6	4	99	32	24	90	36	706
1:45 PM	29	187	29	26	171	3	3	96	44	30	84	49	751
2:00 PM	25	201	29	37	152	7	6	94	39	40	76	44	750
2:15 PM	39	176	33	19	156	7	7	102	39	34	80	48	740
2:30 PM	21	186	20	19	152	9	5	105	35	27	91	24	694
2:45 PM	38	184	37	37	161	7	8	103	50	32	103	39	799
3:00 PM	33	206	28	39	134	5	4	86	46	25	101	39	746
3:15 PM	45	190	29	50	144	9	2	120	45	12	77	51	774
3:30 PM	40	187	21	42	127	6	9	114	37	22	61	41	707
3:45 PM	21	212	18	24	163	5	8	123	63	31	79	41	788
4:00 PM	37	198	29	40	158	4	4	100	65	25	80	40	780
4:15 PM	33	195	27	49	139	6	5	128	45	27	75	23	752
4:30 PM	35	200	22	42	119	15	8	118	31	29	85	46	750
4:45 PM	31	199	19	34	120	7	5	109	37	34	67	39	701
VOLUMES	517	3,063	430	510	2,408	103	86	1,687	693	441	1,316	640	11,894
APPROACH %	13%	76%	11%	17%	80%	3%	3%	68%	28%	18%	55%	27%	
APP/DEPART	4,010	/	3,789	3,021	/	3,541	2,466	/	2,628	2,397	/	1,936	0
BEGIN PEAK HR		3:45 PM											
VOLUMES	126	805	96	155	579	30	25	469	204	112	319	150	3,070
APPROACH %	12%	78%	9%	20%	76%	4%	4%	67%	29%	19%	55%	26%	
PEAK HR FACTOR		0.973			0.946			0.899			0.908		0.974
APP/DEPART	1,027	/	980	764	/	895	698	/	720	581	/	475	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	059
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

NOTES:

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Broadway			WESTBOUND Broadway			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0	TOTAL
1:00 PM	29	215	26	9	223	11	12	65	42	21	58	17	728
1:15 PM	51	226	27	15	191	19	13	53	47	32	67	17	758
1:30 PM	46	238	25	14	229	9	9	52	63	33	55	13	786
1:45 PM	31	231	23	11	194	14	13	63	46	28	55	19	728
2:00 PM	37	272	25	11	234	15	15	54	51	36	52	23	825
2:15 PM	45	225	28	15	198	7	12	63	40	25	54	16	728
2:30 PM	53	241	19	11	159	8	14	58	61	26	47	20	717
2:45 PM	45	229	29	25	185	9	15	46	33	23	55	20	714
3:00 PM	50	253	31	7	225	13	11	50	51	24	47	20	782
3:15 PM	38	238	23	7	227	13	16	49	70	24	66	18	789
3:30 PM	36	241	17	13	182	17	11	60	71	30	52	25	755
3:45 PM	39	236	30	18	134	9	17	50	61	24	37	14	669
4:00 PM	51	251	24	22	199	11	14	69	31	16	43	19	750
4:15 PM	24	257	17	15	206	10	12	67	53	27	29	26	743
4:30 PM	43	198	39	10	233	16	11	57	35	24	61	24	751
4:45 PM	27	200	28	7	205	11	16	56	46	33	50	19	698
VOLUMES	645	3,751	411	210	3,224	192	211	912	801	426	828	310	11,921
APPROACH %	13%	78%	9%	6%	89%	5%	11%	47%	42%	27%	53%	20%	
APP/DEPART	4,807	/	4,270	3,626	/	4,452	1,924	/	1,534	1,564	/	1,665	0
BEGIN PEAK HR		1:15 PM											
VOLUMES	165	967	100	51	848	57	50	222	207	129	229	72	3,097
APPROACH %	13%	78%	8%	5%	89%	6%	10%	46%	43%	30%	53%	17%	
PEAK HR FACTOR		0.922			0.919			0.966			0.927		0.938
APP/DEPART	1,232	/	1,089	956	/	1,185	479	/	373	430	/	450	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	060
	EAST & WEST:	Colorado	CONTROL:	SIGNAL

NOTES:

EL/WL illegal

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	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND Colorado			WESTBOUND Colorado			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL X	ET 1	ER 0	WL X	WT 1	WR 0	TOTAL
1:00 PM	34	296	16	9	276	12	0	20	50	0	28	28	769
1:15 PM	47	255	14	6	278	5	0	16	30	0	45	27	723
1:30 PM	47	265	9	4	297	3	1	21	40	0	52	19	758
1:45 PM	38	276	15	0	273	4	0	18	41	0	40	17	722
2:00 PM	49	282	6	2	273	8	0	11	32	1	35	19	718
2:15 PM	31	282	11	4	295	3	0	22	56	0	39	14	757
2:30 PM	41	264	6	4	269	3	0	14	41	1	32	20	695
2:45 PM	42	285	8	2	270	5	1	20	31	0	41	17	722
3:00 PM	35	285	8	6	229	9	0	21	38	1	34	29	695
3:15 PM	27	268	10	8	263	9	0	11	63	0	22	28	709
3:30 PM	49	292	14	4	224	8	0	22	60	1	23	22	719
3:45 PM	19	301	9	4	281	8	0	30	34	0	23	18	727
4:00 PM	33	311	17	3	294	4	0	25	40	0	36	21	784
4:15 PM	23	237	10	4	256	6	0	22	50	0	63	21	692
4:30 PM	31	293	9	1	194	4	0	25	48	0	32	29	666
4:45 PM	34	265	14	3	225	3	0	23	44	0	16	21	648
VOLUMES	580	4,457	176	64	4,197	94	2	321	698	4	561	350	11,504
APPROACH %	11%	85%	3%	1%	96%	2%	0%	31%	68%	0%	61%	38%	
APP/DEPART	5,213	/	4,809	4,355	/	4,899	1,021	/	561	915	/	1,235	0
BEGIN PEAK HR		1:00 PM											
VOLUMES	166	1,092	54	19	1,124	24	1	75	161	0	165	91	2,972
APPROACH %	13%	83%	4%	2%	96%	2%	0%	32%	68%	0%	64%	36%	
PEAK HR FACTOR		0.948			0.960			0.846			0.889		0.966
APP/DEPART	1,312	/	1,184	1,167	/	1,285	237	/	148	256	/	355	0

INTERSECTION TURNING MOVEMENT COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	061
	EAST & WEST:	I-10 WB OFF-Ramp	CONTROL:	SIGNAL

NOTES:

NB/SB queue

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND I-10 WB OFF-Ramp			WESTBOUND I-10 WB OFF-Ramp			
LANES:	NL 1	NT 2	NR X	SL X	ST 3	SR 0	EL X	ET X	ER X	WL 1.5	WT 1	WR 1.5	TOTAL
1:00 PM	56	169	0	0	318	9	0	0	0	206	139	181	1,078
1:15 PM	72	163	0	0	330	13	0	0	0	192	117	172	1,059
1:30 PM	77	170	0	0	314	16	0	0	0	192	104	185	1,058
1:45 PM	74	137	0	0	318	16	0	0	0	168	117	162	992
2:00 PM	66	153	0	0	306	12	0	0	0	204	127	217	1,085
2:15 PM	77	153	0	0	361	9	0	0	0	166	106	168	1,040
2:30 PM	69	150	0	0	309	7	0	0	0	176	103	167	981
2:45 PM	75	175	0	0	313	8	0	0	0	156	123	179	1,029
3:00 PM	79	164	0	0	309	8	0	0	0	192	127	189	1,068
3:15 PM	76	145	0	0	293	9	0	0	0	181	122	174	1,000
3:30 PM	71	159	0	0	327	5	0	0	0	191	143	201	1,097
3:45 PM	85	197	0	0	303	16	0	0	0	157	107	140	1,005
4:00 PM	75	176	0	0	343	16	0	0	0	184	145	191	1,130
4:15 PM	85	134	0	0	350	11	0	0	0	168	152	166	1,066
4:30 PM	79	162	0	0	255	15	0	0	0	222	145	196	1,074
4:45 PM	94	139	0	0	311	24	0	0	0	176	109	150	1,003
VOLUMES	1,210	2,546	0	0	5,060	194	0	0	0	2,931	1,986	2,838	16,765
APPROACH %	32%	68%	0%	0%	96%	4%	0%	0%	0%	38%	26%	37%	
APP/DEPART	3,756	/	5,384	5,254	/	7,991	0	/	0	7,755	/	3,390	0
BEGIN PEAK HR		3:30 PM											
VOLUMES	316	666	0	0	1,323	48	0	0	0	700	547	698	4,298
APPROACH %	32%	68%	0%	0%	96%	4%	0%	0%	0%	36%	28%	36%	
PEAK HR FACTOR		0.871			0.949			0.000			0.909		0.951
APP/DEPART	982	/	1,364	1,371	/	2,023	0	/	0	1,945	/	911	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 15, 17	LOCATION:	Santa Monica	PROJECT #:	SC1406
SATURDAY	NORTH & SOUTH:	Lincoln	LOCATION #:	062
	EAST & WEST:	I-10 EB ON-Ramp	CONTROL:	SIGNAL

NOTES:

NB/SB queue

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INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND Lincoln			SOUTHBOUND Lincoln			EASTBOUND I-10 EB ON-Ramp			WESTBOUND I-10 EB ON-Ramp			
LANES:	NL X	NT 2.5	NR 1.5	SL 2	ST 2	SR X	EL 0.5	ET 1.5	ER 1	WL X	WT X	WR X	TOTAL
1:00 PM	0	214	146	189	336	0	12	19	57	0	0	0	973
1:15 PM	0	211	143	186	337	0	25	29	63	0	0	0	994
1:30 PM	0	219	164	170	336	0	31	27	70	0	0	0	1,017
1:45 PM	0	181	162	185	302	0	31	35	103	0	0	0	999
2:00 PM	0	195	141	170	341	0	25	17	71	0	0	0	960
2:15 PM	0	197	154	209	326	0	34	22	98	0	0	0	1,040
2:30 PM	0	200	229	187	299	0	20	34	74	0	0	0	1,043
2:45 PM	0	210	158	181	289	0	41	26	87	0	0	0	992
3:00 PM	0	226	173	180	322	0	18	22	61	0	0	0	1,002
3:15 PM	0	202	209	177	298	0	20	27	84	0	0	0	1,017
3:30 PM	0	212	135	182	337	0	19	18	70	0	0	0	973
3:45 PM	0	247	131	162	299	0	36	28	82	0	0	0	985
4:00 PM	0	233	165	186	342	0	19	24	57	0	0	0	1,026
4:15 PM	0	197	144	170	349	0	23	19	59	0	0	0	961
4:30 PM	0	212	161	157	321	0	30	17	84	0	0	0	982
4:45 PM	0	200	161	158	329	0	34	24	78	0	0	0	984
VOLUMES	0	3,356	2,576	2,849	5,163	0	418	388	1,198	0	0	0	15,948
APPROACH %	0%	57%	43%	36%	64%	0%	21%	19%	60%	0%	0%	0%	
APP/DEPART	5,932	/	3,774	8,012	/	6,361	2,004	/	5,813	0	/	0	0
BEGIN PEAK HR		2:15 PM											
VOLUMES	0	833	714	757	1,236	0	113	104	320	0	0	0	4,077
APPROACH %	0%	54%	46%	38%	62%	0%	21%	19%	60%	0%	0%	0%	
PEAK HR FACTOR		0.902			0.931			0.872			0.000		0.977
APP/DEPART	1,547	/	946	1,993	/	1,556	537	/	1,575	0	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	50
	EAST & WEST:	Entrada	CONTROL:	SIGNAL

NOTES:

Queue SB (after 3 pm) SL - illegal

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	NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Entrada			WESTBOUND Entrada			
LANES:	NL X	NT 3	NR 0	SL X	ST 4	SR X	EL X	ET X	ER X	WL 0	WT X	WR 0	TOTAL
INTERSECTION TURNING MOVEMENT COUNTS													
1:00 PM	0	561	32	0	574	0	0	0	0	45	0	4	1,216
1:15 PM	0	548	36	0	579	0	0	0	0	24	0	10	1,197
1:30 PM	0	520	42	0	536	0	0	0	0	26	0	7	1,131
1:45 PM	0	501	27	0	574	0	0	0	0	22	0	10	1,134
2:00 PM	0	553	22	1	516	0	0	0	0	17	0	2	1,111
2:15 PM	0	486	23	0	631	0	0	0	0	32	0	4	1,176
2:30 PM	0	503	29	0	630	0	0	0	0	30	0	6	1,198
2:45 PM	0	583	33	0	592	0	0	0	0	27	0	9	1,244
3:00 PM	0	519	37	0	628	0	0	0	0	29	0	8	1,221
3:15 PM	0	528	36	1	611	0	0	0	0	21	0	5	1,202
3:30 PM	0	485	49	0	513	0	0	0	0	22	0	15	1,084
3:45 PM	0	458	52	2	520	0	0	0	0	28	0	7	1,067
4:00 PM	0	563	36	0	480	0	0	0	0	12	0	12	1,103
4:15 PM	0	473	33	0	570	0	0	0	0	18	0	6	1,100
4:30 PM	0	558	40	0	450	0	0	0	0	12	0	7	1,067
4:45 PM	0	485	25	1	488	0	0	0	0	18	0	7	1,024
VOLUMES	0	8,324	552	5	8,892	0	0	0	0	383	0	119	18,275
APPROACH %	0%	94%	6%	0%	100%	0%	0%	0%	0%	76%	0%	24%	
APP/DEPART	8,876	/	8,446	8,897	/	9,274	0	/	555	502	/	0	0
BEGIN PEAK HR		2:30 PM											
VOLUMES	0	2,133	135	1	2,461	0	0	0	0	107	0	28	4,865
APPROACH %	0%	94%	6%	0%	100%	0%	0%	0%	0%	79%	0%	21%	
PEAK HR FACTOR		0.920			0.977			0.000			0.912		0.978
APP/DEPART	2,268	/	2,161	2,462	/	2,568	0	/	136	135	/	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Sat, Jul 28, 18	LOCATION:	Santa Monica	PROJECT #:	SC1844
SATURDAY	NORTH & SOUTH:	Pacific Coast	LOCATION #:	51
	EAST & WEST:	Channel	CONTROL:	SIGNAL

NOTES:

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	NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Channel			WESTBOUND Channel			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	2.5	1.5	1	3	X	X	X	X	X	X	3	
INTERSECTION TURNING MOVEMENT COUNTS													
1:00 PM	0	501	13	65	496	0	0	0	0	0	0	125	1,200
1:15 PM	0	491	20	66	497	0	0	0	0	0	0	89	1,163
1:30 PM	0	458	21	98	481	0	0	0	0	0	0	145	1,203
1:45 PM	0	446	17	77	503	0	0	0	0	0	0	115	1,158
2:00 PM	0	507	9	73	457	0	0	0	0	0	0	121	1,167
2:15 PM	0	453	16	80	544	0	0	0	0	0	0	127	1,220
2:30 PM	0	448	16	74	557	0	0	0	0	0	0	91	1,186
2:45 PM	0	524	13	63	530	0	0	0	0	0	0	108	1,238
3:00 PM	0	471	15	101	550	0	0	0	0	0	0	143	1,280
3:15 PM	0	459	16	68	553	0	0	0	0	0	0	100	1,196
3:30 PM	0	431	28	93	469	0	0	0	0	0	0	105	1,126
3:45 PM	0	432	15	106	473	0	0	0	0	0	0	105	1,131
4:00 PM	0	469	32	113	451	0	0	0	0	0	0	123	1,188
4:15 PM	0	448	12	120	517	0	0	0	0	0	0	113	1,210
4:30 PM	0	460	18	106	424	0	0	0	0	0	0	111	1,119
4:45 PM	0	446	17	98	459	0	0	0	0	0	0	98	1,118
VOLUMES	0	7,444	278	1,401	7,961	0	0	0	0	0	0	1,819	19,704
APPROACH %	0%	96%	4%	15%	85%	0%	0%	0%	0%	0%	0%	69%	
APP/DEPART	7,722	/	9,263	9,362	/	7,961	0	/	2,480	2,620	/	0	0
BEGIN PEAK HR		2:15 PM											
VOLUMES	0	1,896	60	318	2,181	0	0	0	0	0	0	469	5,134
APPROACH %	0%	97%	3%	13%	87%	0%	0%	0%	0%	0%	0%	69%	
PEAK HR FACTOR		0.911			0.960			0.000			0.857		0.961
APP/DEPART	1,956	/	2,365	2,499	/	2,181	0	/	588	679	/	0	0

Prepared by NDS/ATD

VOLUME

Ocean Ave N/O California Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_001

DAILY TOTALS	NB	SB	EB	WB	Total
	6,964	6,628	0	0	13,592

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	11		12						23		12:00	85		106						191	
00:15	12		9						21		12:15	123		130						253	
00:30	10		11						21		12:30	100		118						218	
00:45	8	41	3	35					11	76	12:45	101	409	95	449					196	858
01:00	2		2						4		13:00	111		108						219	
01:15	8		3						11		13:15	115		115						230	
01:30	6		5						11		13:30	99		92						191	
01:45	7	23	7	17					14	40	13:45	123	448	105	420					228	868
02:00	4		2						6		14:00	94		99						193	
02:15	2		6						8		14:15	90		109						199	
02:30	2		1						3		14:30	111		120						231	
02:45	3	11	1	10					4	21	14:45	96	391	115	443					211	834
03:00	2		1						3		15:00	88		125						213	
03:15	2		1						3		15:15	133		138						271	
03:30	6		2						8		15:30	110		87						197	
03:45	1	11	1	5					2	16	15:45	108	439	101	451					209	890
04:00	3		5						8		16:00	99		105						204	
04:15	2		2						4		16:15	111		101						212	
04:30	8		11						19		16:30	137		99						236	
04:45	4	17	5	23					9	40	16:45	120	467	95	400					215	867
05:00	9		6						15		17:00	145		106						251	
05:15	14		14						28		17:15	128		156						284	
05:30	16		17						33		17:30	140		122						262	
05:45	17	56	18	55					35	111	17:45	161	574	107	491					268	1065
06:00	21		22						43		18:00	141		117						258	
06:15	42		39						81		18:15	145		98						243	
06:30	33		51						84		18:30	141		106						247	
06:45	65	161	60	172					125	333	18:45	134	561	85	406					219	967
07:00	84		69						153		19:00	145		69						214	
07:15	104		77						181		19:15	106		85						191	
07:30	115		109						224		19:30	92		77						169	
07:45	146	449	126	381					272	830	19:45	104	447	63	294					167	741
08:00	151		149						300		20:00	75		64						139	
08:15	127		175						302		20:15	62		55						117	
08:30	110		151						261		20:30	81		50						131	
08:45	91	479	133	608					224	1087	20:45	75	293	39	208					114	501
09:00	111		141						252		21:00	57		47						104	
09:15	110		146						256		21:15	52		43						95	
09:30	94		118						212		21:30	66		56						122	
09:45	91	406	115	520					206	926	21:45	54	229	44	190					98	419
10:00	88		97						185		22:00	40		31						71	
10:15	112		114						226		22:15	36		28						64	
10:30	119		92						211		22:30	37		29						66	
10:45	98	417	98	401					196	818	22:45	45	158	21	109					66	267
11:00	100		107						207		23:00	25		33						58	
11:15	89		114						203		23:15	20		18						38	
11:30	103		117						220		23:30	20		22						42	
11:45	106	398	113	451					219	849	23:45	14	79	16	89					30	168
TOTALS		2469		2678						5147	TOTALS		4495		3950						8445
SPLIT %		48.0%		52.0%						37.9%	SPLIT %		53.2%		46.8%						62.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	6,964	6,628	0	0	13,592

AM Peak Hour	07:30	08:00			07:45	PM Peak Hour	17:45	17:15			17:15
AM Pk Volume	539	608			1135	PM Pk Volume	588	502			1072
Pk Hr Factor	0.892	0.869			0.940	Pk Hr Factor	0.913	0.804			0.944
7 - 9 Volume	928	989	0	0	1917	4 - 6 Volume	1041	891	0	0	1932
7 - 9 Peak Hour	07:30	08:00			07:45	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	539	608	0	0	1135	4 - 6 Pk Volume	574	491	0	0	1065
Pk Hr Factor	0.892	0.869	0.000	0.000	0.940	Pk Hr Factor	0.891	0.787	0.000	0.000	0.938

Prepared by NDS/ATD

VOLUME

2nd St Bet. Wilshire Blvd & California Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_002

DAILY TOTALS	NB	SB	EB	WB	Total
	2,945	1,773	0	0	4,718

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	9		7						16		12:00	59		37						96	
00:15	5		3						8		12:15	42		32						74	
00:30	9		2						11		12:30	47		21						68	
00:45	8	31	4	16					12	47	12:45	43	191	26	116					69	307
01:00	3		5						8		13:00	64		23						87	
01:15	1		1						2		13:15	44		33						77	
01:30	3		1						4		13:30	44		33						77	
01:45	2	9	0	7					2	16	13:45	44	196	25	114					69	310
02:00	2		3						5		14:00	53		30						83	
02:15	0		0						0		14:15	43		17						60	
02:30	2		3						5		14:30	45		24						69	
02:45	5	9	1	7					6	16	14:45	59	200	28	99					87	299
03:00	2		3						5		15:00	35		29						64	
03:15	1		1						2		15:15	52		28						80	
03:30	1		1						2		15:30	55		30						85	
03:45	0	4	1	6					1	10	15:45	38	180	20	107					58	287
04:00	5		0						5		16:00	58		32						90	
04:15	2		2						4		16:15	37		31						68	
04:30	3		4						7		16:30	56		20						76	
04:45	6	16	6	12					12	28	16:45	56	207	23	106					79	313
05:00	7		2						9		17:00	48		20						68	
05:15	5		5						10		17:15	57		33						90	
05:30	9		15						24		17:30	70		31						101	
05:45	9	30	12	34					21	64	17:45	54	229	25	109					79	338
06:00	9		10						19		18:00	60		27						87	
06:15	21		21						42		18:15	63		39						102	
06:30	17		12						29		18:30	58		26						84	
06:45	26	73	29	72					55	145	18:45	56	237	32	124					88	361
07:00	23		22						45		19:00	69		27						96	
07:15	20		22						42		19:15	47		22						69	
07:30	24		28						52		19:30	50		23						73	
07:45	28	95	21	93					49	188	19:45	40	206	24	96					64	302
08:00	32		31						63		20:00	43		26						69	
08:15	28		35						63		20:15	50		13						63	
08:30	32		34						66		20:30	49		16						65	
08:45	45	137	35	135					80	272	20:45	43	185	16	71					59	256
09:00	38		29						67		21:00	36		10						46	
09:15	28		32						60		21:15	42		18						60	
09:30	43		31						74		21:30	28		14						42	
09:45	31	140	17	109					48	249	21:45	30	136	12	54					42	190
10:00	28		29						57		22:00	23		13						36	
10:15	35		23						58		22:15	27		16						43	
10:30	42		29						71		22:30	19		13						32	
10:45	44	149	11	92					55	241	22:45	14	83	13	55					27	138
11:00	42		35						77		23:00	20		11						31	
11:15	42		31						73		23:15	10		13						23	
11:30	29		13						42		23:30	6		4						10	
11:45	48	161	23	102					71	263	23:45	5	41	9	37					14	78
TOTALS		854		685						**1539**	**TOTALS**		2091		1088						**3179**
SPLIT %		55.5%		44.5%						**32.6%**	**SPLIT %**		65.8%		34.2%						**67.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,945	1,773	0	0	4,718

AM Peak Hour	11:45	08:00			**11:45**	**PM Peak Hour**	17:30	18:00			**18:15**
AM Pk Volume	196	135			**309**	**PM Pk Volume**	247	124			**370**
Pk Hr Factor	0.831	0.964			**0.805**	**Pk Hr Factor**	0.882	0.795			**0.907**
7 - 9 Volume	232	228	0	0	**460**	**4 - 6 Volume**	436	215	0	0	**651**
7 - 9 Peak Hour	08:00	08:00			**08:00**	**4 - 6 Peak Hour**	16:45	17:00			**16:45**
7 - 9 Pk Volume	137	135	0	0	**272**	**4 - 6 Pk Volume**	231	109	0	0	**338**
Pk Hr Factor	0.761	0.964	0.000	0.000	**0.850**	**Pk Hr Factor**	0.825	0.826	0.000	0.000	**0.837**

Prepared by NDS/ATD

VOLUME

2nd St Bet. California Ave & Washington Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,732	1,333	0	0	3,065

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	6		2						8		12:00	35		24						59	
00:15	3		3						6		12:15	22		21						43	
00:30	6		4						10		12:30	27		17						44	
00:45	4	19	2	11					6	30	12:45	26	110	20	82					46	192
01:00	2		2						4		13:00	35		22						57	
01:15	1		1						2		13:15	17		21						38	
01:30	2		1						3		13:30	23		16						39	
01:45	1	6	1	5					2	11	13:45	28	103	23	82					51	185
02:00	0		0						0		14:00	29		22						51	
02:15	0		0						0		14:15	23		11						34	
02:30	0		2						2		14:30	30		21						51	
02:45	0		0	2					0	2	14:45	33	115	25	79					58	194
03:00	1		1						2		15:00	21		17						38	
03:15	0		0						0		15:15	29		25						54	
03:30	0		0						0		15:30	32		13						45	
03:45	0	1	0	1					0	2	15:45	27	109	21	76					48	185
04:00	1		0						1		16:00	33		21						54	
04:15	0		0						0		16:15	26		18						44	
04:30	0		2						2		16:30	28		17						45	
04:45	0	1	1	3					1	4	16:45	24	111	16	72					40	183
05:00	3		2						5		17:00	33		19						52	
05:15	0		6						6		17:15	32		17						49	
05:30	3		9						12		17:30	40		22						62	
05:45	3	9	10	27					13	36	17:45	26	131	17	75					43	206
06:00	1		6						7		18:00	34		21						55	
06:15	5		12						17		18:15	25		23						48	
06:30	9		7						16		18:30	42		14						56	
06:45	12	27	19	44					31	71	18:45	24	125	21	79					45	204
07:00	21		24						45		19:00	26		20						46	
07:15	11		20						31		19:15	43		21						64	
07:30	15		25						40		19:30	25		18						43	
07:45	28	75	32	101					60	176	19:45	25	119	16	75					41	194
08:00	27		34						61		20:00	30		16						46	
08:15	27		28						55		20:15	20		10						30	
08:30	23		37						60		20:30	29		9						38	
08:45	28	105	37	136					65	241	20:45	22	101	5	40					27	141
09:00	30		34						64		21:00	21		7						28	
09:15	27		25						52		21:15	26		7						33	
09:30	25		30						55		21:30	22		8						30	
09:45	23	105	22	111					45	216	21:45	16	85	5	27					21	112
10:00	17		20						37		22:00	11		6						17	
10:15	27		19						46		22:15	17		7						24	
10:30	20		19						39		22:30	10		10						20	
10:45	24	88	16	74					40	162	22:45	10	48	3	26					13	74
11:00	28		23						51		23:00	12		8						20	
11:15	33		28						61		23:15	4		6						10	
11:30	23		24						47		23:30	3		2						5	
11:45	32	116	12	87					44	203	23:45	4	23	2	18					6	41
TOTALS		552		602						**1154**	**TOTALS**		1180		731						**1911**
SPLIT %		47.8%		52.2%						**37.7%**	**SPLIT %**		61.7%		38.3%						**62.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,732	1,333	0	0	3,065

AM Peak Hour	11:15	08:00			**08:15**	**PM Peak Hour**	18:30	14:30			**18:30**
AM Pk Volume	123	136			**244**	**PM Pk Volume**	135	88			**211**
Pk Hr Factor	0.879	0.919			**0.938**	**Pk Hr Factor**	0.785	0.880			**0.824**
7 - 9 Volume	180	237	0	0	**417**	**4 - 6 Volume**	242	147	0	0	**389**
7 - 9 Peak Hour	07:45	08:00			**08:00**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	105	136	0	0	**241**	**4 - 6 Pk Volume**	131	75	0	0	**206**
Pk Hr Factor	0.938	0.919	0.000	0.000	**0.927**	**Pk Hr Factor**	0.819	0.852	0.000	0.000	**0.831**

Prepared by NDS/ATD

VOLUME

4th St Bet. Wilshire Blvd & California Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_004

DAILY TOTALS	NB	SB	EB	WB	Total
	3,282	3,763	0	0	7,045

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	15		7						22		12:00	56		73						129	
00:15	7		7						14		12:15	47		63						110	
00:30	4		7						11		12:30	50		55						105	
00:45	12	38	2	23					14	61	12:45	49	202	46	237					95	439
01:00	0		2						2		13:00	59		59						118	
01:15	4		2						6		13:15	60		54						114	
01:30	1		6						7		13:30	38		61						99	
01:45	1	6	3	13					4	19	13:45	57	214	69	243					126	457
02:00	4		1						5		14:00	43		55						98	
02:15	3		0						3		14:15	61		53						114	
02:30	1		3						4		14:30	62		72						134	
02:45	1	9	1	5					2	14	14:45	64	230	64	244					128	474
03:00	5		2						7		15:00	66		59						125	
03:15	0		0						0		15:15	50		66						116	
03:30	0		3						3		15:30	66		70						136	
03:45	4	9	3	8					7	17	15:45	65	247	56	251					121	498
04:00	0		2						2		16:00	57		52						109	
04:15	2		2						4		16:15	64		52						116	
04:30	10		6						16		16:30	54		45						99	
04:45	5	17	3	13					8	30	16:45	75	250	47	196					122	446
05:00	4		8						12		17:00	68		48						116	
05:15	5		7						12		17:15	57		54						111	
05:30	3		16						19		17:30	90		63						153	
05:45	10	22	27	58					37	80	17:45	86	301	68	233					154	534
06:00	13		25						38		18:00	66		60						126	
06:15	15		17						32		18:15	70		59						129	
06:30	22		29						51		18:30	58		53						111	
06:45	18	68	39	110					57	178	18:45	63	257	51	223					114	480
07:00	31		47						78		19:00	79		59						138	
07:15	37		40						77		19:15	53		52						105	
07:30	28		55						83		19:30	58		42						100	
07:45	50	146	85	227					135	373	19:45	43	233	47	200					90	433
08:00	45		96						141		20:00	42		25						67	
08:15	43		85						128		20:15	46		26						72	
08:30	36		102						138		20:30	34		19						53	
08:45	39	163	103	386					142	549	20:45	34	156	25	95					59	251
09:00	47		92						139		21:00	33		21						54	
09:15	34		97						131		21:15	39		16						55	
09:30	30		68						98		21:30	31		20						51	
09:45	36	147	76	333					112	480	21:45	23	126	14	71					37	197
10:00	36		51						87		22:00	28		19						47	
10:15	40		71						111		22:15	24		16						40	
10:30	44		62						106		22:30	14		18						32	
10:45	41	161	60	244					101	405	22:45	19	85	16	69					35	154
11:00	35		53						88		23:00	11		21						32	
11:15	41		57						98		23:15	12		17						29	
11:30	51		51						102		23:30	4		10						14	
11:45	36	163	62	223					98	386	23:45	5	32	10	58					15	90
TOTALS		949		1643						2592	TOTALS		2333		2120						4453
SPLIT %		36.6%		63.4%						36.8%	SPLIT %		52.4%		47.6%						63.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	3,282	3,763	0	0	7,045

AM Peak Hour	11:30	08:30			08:30	PM Peak Hour	17:30	14:30			17:30
AM Pk Volume	190	394			550	PM Pk Volume	312	261			562
Pk Hr Factor	0.848	0.956			0.968	Pk Hr Factor	0.867	0.906			0.912
7 - 9 Volume	309	613	0	0	922	4 - 6 Volume	551	429	0	0	980
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	174	386	0	0	549	4 - 6 Pk Volume	301	233	0	0	534
Pk Hr Factor	0.870	0.937	0.000	0.000	0.967	Pk Hr Factor	0.836	0.857	0.000	0.000	0.867

Prepared by NDS/ATD

VOLUME

4th St Bet. California Ave & Washington Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_005

DAILY TOTALS	NB	SB	EB	WB	Total
	2,645	2,891	0	0	5,536

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	10		2						12		12:00	50		47						97	
00:15	7		7						14		12:15	46		54						100	
00:30	3		5						8		12:30	43		39						82	
00:45	10	30	3	17					13	47	12:45	35	174	36	176					71	350
01:00	1		2						3		13:00	44		39						83	
01:15	5		2						7		13:15	43		42						85	
01:30	3		5						8		13:30	31		40						71	
01:45	1	10	3	12					4	22	13:45	45	163	46	167					91	330
02:00	1		2						3		14:00	36		41						77	
02:15	3		1						4		14:15	40		40						80	
02:30	1		2						3		14:30	45		50						95	
02:45	1	6	0	5					1	11	14:45	48	169	49	180					97	349
03:00	3		1						4		15:00	48		50						98	
03:15	0		0						0		15:15	44		54						98	
03:30	1		4						5		15:30	54		58						112	
03:45	3	7	2	7					5	14	15:45	44	190	48	210					92	400
04:00	0		2						2		16:00	34		41						75	
04:15	3		2						5		16:15	48		42						90	
04:30	10		6						16		16:30	46		49						95	
04:45	2	15	0	10					2	25	16:45	59	187	31	163					90	350
05:00	2		7						9		17:00	49		34						83	
05:15	4		6						10		17:15	51		42						93	
05:30	5		9						14		17:30	62		39						101	
05:45	8	19	16	38					24	57	17:45	54	216	60	175					114	391
06:00	12		20						32		18:00	50		49						99	
06:15	19		12						31		18:15	47		37						84	
06:30	20		21						41		18:30	46		53						99	
06:45	19	70	38	91					57	161	18:45	53	196	35	174					88	370
07:00	28		37						65		19:00	52		38						90	
07:15	37		31						68		19:15	49		46						95	
07:30	21		40						61		19:30	43		31						74	
07:45	48	134	71	179					119	313	19:45	37	181	41	156					78	337
08:00	34		82						116		20:00	39		32						71	
08:15	44		58						102		20:15	44		19						63	
08:30	30		80						110		20:30	31		8						39	
08:45	35	143	78	298					113	441	20:45	24	138	22	81					46	219
09:00	35		81						116		21:00	31		13						44	
09:15	33		69						102		21:15	28		15						43	
09:30	22		44						66		21:30	31		19						50	
09:45	27	117	44	238					71	355	21:45	22	112	12	59					34	171
10:00	29		40						69		22:00	21		19						40	
10:15	34		52						86		22:15	16		11						27	
10:30	35		47						82		22:30	17		13						30	
10:45	36	134	50	189					86	323	22:45	16	70	10	53					26	123
11:00	34		40						74		23:00	14		14						28	
11:15	33		45						78		23:15	7		8						15	
11:30	33		41						74		23:30	5		8						13	
11:45	33	133	50	176					83	309	23:45	5	31	7	37					12	68
TOTALS		818		1260						**2078**	**TOTALS**		1827		1631						**3458**
SPLIT %		39.4%		60.6%						**37.5%**	**SPLIT %**		52.8%		47.2%						**62.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,645	2,891	0	0	5,536

AM Peak Hour	11:45	08:30			**07:45**	**PM Peak Hour**	16:45	14:45			**17:15**
AM Pk Volume	172	308			**447**	**PM Pk Volume**	221	211			**407**
Pk Hr Factor	0.860	0.951			**0.939**	**Pk Hr Factor**	0.891	0.909			**0.893**
7 - 9 Volume	277	477	0	0	**754**	**4 - 6 Volume**	403	338	0	0	**741**
7 - 9 Peak Hour	07:45	08:00			**07:45**	**4 - 6 Peak Hour**	16:45	17:00			**17:00**
7 - 9 Pk Volume	156	298	0	0	**447**	**4 - 6 Pk Volume**	221	175	0	0	**391**
Pk Hr Factor	0.813	0.909	0.000	0.000	**0.939**	**Pk Hr Factor**	0.891	0.729	0.000	0.000	**0.857**

Prepared by NDS/ATD

VOLUME

7th St Bet. Wilshire Blvd & California Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_006

DAILY TOTALS	NB	SB	EB	WB	Total
	2,769	2,707	0	0	5,476

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	3		3						6		12:00	44		62						106	
00:15	3		2						5		12:15	51		45						96	
00:30	4		1						5		12:30	40		47						87	
00:45	3	13	1	7					4	20	12:45	42	177	49	203					91	380
01:00	3		2						5		13:00	41		40						81	
01:15	1		1						2		13:15	51		33						84	
01:30	0		1						1		13:30	42		43						85	
01:45	0	4	1	5					1	9	13:45	49	183	58	174					107	357
02:00	2		1						3		14:00	46		39						85	
02:15	0		1						1		14:15	43		47						90	
02:30	0		0						0		14:30	69		64						133	
02:45	2	4	0	2					2	6	14:45	65	223	47	197					112	420
03:00	1		1						2		15:00	48		61						109	
03:15	0		1						1		15:15	63		52						115	
03:30	0		0						0		15:30	69		42						111	
03:45	1	2	1	3					2	5	15:45	50	230	55	210					105	440
04:00	1		2						3		16:00	44		46						90	
04:15	2		2						4		16:15	64		47						111	
04:30	1		0						1		16:30	62		35						97	
04:45	1	5	6	10					7	15	16:45	70	240	51	179					121	419
05:00	2		2						4		17:00	65		43						108	
05:15	3		3						6		17:15	55		49						104	
05:30	6		6						12		17:30	69		39						108	
05:45	14	25	9	20					23	45	17:45	56	245	52	183					108	428
06:00	10		15						25		18:00	60		38						98	
06:15	15		9						24		18:15	50		36						86	
06:30	13		24						37		18:30	44		34						78	
06:45	17	55	19	67					36	122	18:45	44	198	42	150					86	348
07:00	21		20						41		19:00	43		43						86	
07:15	32		29						61		19:15	42		28						70	
07:30	41		45						86		19:30	39		29						68	
07:45	53	147	52	146					105	293	19:45	38	162	32	132					70	294
08:00	41		58						99		20:00	28		24						52	
08:15	33		54						87		20:15	43		16						59	
08:30	27		57						84		20:30	26		18						44	
08:45	25	126	58	227					83	353	20:45	25	122	11	69					36	191
09:00	38		55						93		21:00	15		16						31	
09:15	30		53						83		21:15	20		16						36	
09:30	31		50						81		21:30	31		12						43	
09:45	23	122	64	222					87	344	21:45	21	87	7	51					28	138
10:00	28		59						87		22:00	9		9						18	
10:15	44		39						83		22:15	12		9						21	
10:30	38		43						81		22:30	8		8						16	
10:45	48	158	46	187					94	345	22:45	10	39	6	32					16	71
11:00	44		52						96		23:00	5		13						18	
11:15	34		52						86		23:15	7		4						11	
11:30	41		47						88		23:30	7		3						10	
11:45	57	176	55	206					112	382	23:45	7	26	5	25					12	51
TOTALS		837		1102						1939	TOTALS		1932		1605						3537
SPLIT %		43.2%		56.8%						35.4%	SPLIT %		54.6%		45.4%						64.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,769	2,707	0	0	5,476

AM Peak Hour	11:30	08:00			11:30	PM Peak Hour	16:15	14:30			14:30
AM Pk Volume	193	227			402	PM Pk Volume	261	224			469
Pk Hr Factor	0.846	0.978			0.897	Pk Hr Factor	0.932	0.875			0.882
7 - 9 Volume	273	373	0	0	646	4 - 6 Volume	485	362	0	0	847
7 - 9 Peak Hour	07:30	08:00			07:30	4 - 6 Peak Hour	16:15	17:00			16:45
7 - 9 Pk Volume	168	227	0	0	377	4 - 6 Pk Volume	261	183	0	0	441
Pk Hr Factor	0.792	0.978	0.000	0.000	0.898	Pk Hr Factor	0.932	0.880	0.000	0.000	0.911

Prepared by NDS/ATD

VOLUME

7th St Bet. Washington Ave & Idaho Ave

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_007

DAILY TOTALS	NB	SB	EB	WB	Total
	2,645	2,566	0	0	5,211

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	3		2						5		12:00	41		53						94	
00:15	4		1						5		12:15	43		39						82	
00:30	4		1						5		12:30	52		37						89	
00:45	3	14	0	4					3	18	12:45	37	173	55	184					92	357
01:00	2		1						3		13:00	44		29						73	
01:15	2		2						4		13:15	55		36						91	
01:30	0		0						0		13:30	45		52						97	
01:45	0	4	1	4					1	8	13:45	36	180	48	165					84	345
02:00	2		1						3		14:00	51		33						84	
02:15	0		1						1		14:15	48		40						88	
02:30	0		0						0		14:30	56		57						113	
02:45	2	4	1	3					3	7	14:45	56	211	41	171					97	382
03:00	0		1						1		15:00	38		56						94	
03:15	0		1						1		15:15	67		57						124	
03:30	0		1						1		15:30	66		33						99	
03:45	1	1	1	4					2	5	15:45	55	226	42	188					97	414
04:00	2		2						4		16:00	45		48						93	
04:15	2		2						4		16:15	59		53						112	
04:30	1		2						3		16:30	61		32						93	
04:45	2	7	4	10					6	17	16:45	66	231	50	183					116	414
05:00	2		1						3		17:00	62		39						101	
05:15	2		2						4		17:15	49		42						91	
05:30	4		5						9		17:30	55		41						96	
05:45	14	22	10	18					24	40	17:45	61	227	46	168					107	395
06:00	8		12						20		18:00	51		43						94	
06:15	15		19						34		18:15	51		30						81	
06:30	18		21						39		18:30	45		31						76	
06:45	20	61	14	66					34	127	18:45	37	184	49	153					86	337
07:00	24		22						46		19:00	51		36						87	
07:15	18		20						38		19:15	34		28						62	
07:30	30		33						63		19:30	32		31						63	
07:45	41	113	47	122					88	235	19:45	33	150	28	123					61	273
08:00	39		48						87		20:00	28		27						55	
08:15	31		73						104		20:15	35		12						47	
08:30	39		63						102		20:30	21		11						32	
08:45	29	138	59	243					88	381	20:45	23	107	13	63					36	170
09:00	39		50						89		21:00	16		19						35	
09:15	25		58						83		21:15	24		13						37	
09:30	19		49						68		21:30	28		17						45	
09:45	26	109	61	218					87	327	21:45	18	86	12	61					30	147
10:00	29		56						85		22:00	7		7						14	
10:15	42		34						76		22:15	10		8						18	
10:30	37		50						87		22:30	11		6						17	
10:45	45	153	38	178					83	331	22:45	10	38	7	28					17	66
11:00	46		44						90		23:00	5		10						15	
11:15	32		42						74		23:15	6		3						9	
11:30	43		50						93		23:30	6		4						10	
11:45	60	181	55	191					115	372	23:45	8	25	1	18					9	43
TOTALS		807		1061						**1868**	**TOTALS**		1838		1505						**3343**
SPLIT %		43.2%		56.8%						**35.8%**	**SPLIT %**		55.0%		45.0%						**64.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,645	2,566	0	0	5,211

AM Peak Hour	11:45	08:15			**11:30**	**PM Peak Hour**	16:15	14:30			**14:30**
AM Pk Volume	196	245			**384**	**PM Pk Volume**	248	211			**428**
Pk Hr Factor	0.817	0.839			**0.835**	**Pk Hr Factor**	0.939	0.925			**0.863**
7 - 9 Volume	251	365	0	0	**616**	**4 - 6 Volume**	458	351	0	0	**809**
7 - 9 Peak Hour	07:45	08:00			**07:45**	**4 - 6 Peak Hour**	16:15	16:00			**16:15**
7 - 9 Pk Volume	150	243	0	0	**381**	**4 - 6 Pk Volume**	248	183	0	0	**422**
Pk Hr Factor	0.915	0.832	0.000	0.000	**0.916**	**Pk Hr Factor**	0.939	0.863	0.000	0.000	**0.909**

Prepared by NDS/ATD

VOLUME

California Ave Bet. Ocean Ave & 2nd St

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,380	3,231	5,611

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		6		10		12:00			45		50		95	
00:15			3		2		5		12:15			29		59		88	
00:30			3		5		8		12:30			30		51		81	
00:45			5	15	11	24	16	39	12:45			31	135	49	209	80	344
01:00			3		2		5		13:00			48		64		112	
01:15			3		0		3		13:15			37		63		100	
01:30			3		4		7		13:30			49		61		110	
01:45			0	9	4	10	4	19	13:45			28	162	55	243	83	405
02:00			1		1		2		14:00			33		48		81	
02:15			0		0		0		14:15			28		60		88	
02:30			0		2		2		14:30			18		52		70	
02:45			3	4	1	4	4	8	14:45			37	116	52	212	89	328
03:00			2		0		2		15:00			46		48		94	
03:15			0		1		1		15:15			42		67		109	
03:30			1		1		2		15:30			34		51		85	
03:45			2	5	2	4	4	9	15:45			31	153	41	207	72	360
04:00			0		3		3		16:00			42		57		99	
04:15			1		2		3		16:15			31		59		90	
04:30			6		5		11		16:30			36		56		92	
04:45			3	10	3	13	6	23	16:45			46	155	47	219	93	374
05:00			3		5		8		17:00			33		70		103	
05:15			3		11		14		17:15			38		58		96	
05:30			7		15		22		17:30			41		68		109	
05:45			10	23	5	36	15	59	17:45			41	153	57	253	98	406
06:00			7		12		19		18:00			46		62		108	
06:15			10		17		27		18:15			37		47		84	
06:30			11		21		32		18:30			44		52		96	
06:45			21	49	38	88	59	137	18:45			47	174	63	224	110	398
07:00			33		45		78		19:00			38		51		89	
07:15			23		43		66		19:15			28		39		67	
07:30			37		39		76		19:30			21		48		69	
07:45			62	155	55	182	117	337	19:45			17	104	30	168	47	272
08:00			55		59		114		20:00			21		48		69	
08:15			54		52		106		20:15			9		33		42	
08:30			50		50		100		20:30			14		34		48	
08:45			55	214	58	219	113	433	20:45			20	64	39	154	59	218
09:00			58		41		99		21:00			18		29		47	
09:15			56		43		99		21:15			25		35		60	
09:30			47		44		91		21:30			20		32		52	
09:45			44	205	43	171	87	376	21:45			19	82	18	114	37	196
10:00			40		37		77		22:00			15		28		43	
10:15			46		43		89		22:15			11		16		27	
10:30			35		40		75		22:30			10		19		29	
10:45			46	167	58	178	104	345	22:45			8	44	14	77	22	121
11:00			39		52		91		23:00			9		14		23	
11:15			39		45		84		23:15			5		8		13	
11:30			32		51		83		23:30			8		6		14	
11:45			45	155	43	191	88	346	23:45			5	27	3	31	8	58
TOTALS				1011		1120		**2131**	**TOTALS**				1369		2111		**3480**
SPLIT %				47.4%		52.6%		**38.0%**	**SPLIT %**				39.3%		60.7%		**62.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,380	3,231	5,611

AM Peak Hour			07:45	08:00	**07:45**	**PM Peak Hour**			18:00	17:00	**17:15**
AM Pk Volume			221	219	**437**	**PM Pk Volume**			174	253	**411**
Pk Hr Factor			0.891	0.928	**0.934**	**Pk Hr Factor**			0.926	0.904	**0.943**
7 - 9 Volume	0	0	369	401	**770**	**4 - 6 Volume**	0	0	308	472	**780**
7 - 9 Peak Hour			07:45	08:00	**07:45**	**4 - 6 Peak Hour**			16:45	17:00	**17:00**
7 - 9 Pk Volume	0	0	221	219	**437**	**4 - 6 Pk Volume**	0	0	158	253	**406**
Pk Hr Factor	0.000	0.000	0.891	0.928	**0.934**	**Pk Hr Factor**	0.000	0.000	0.859	0.904	**0.931**

Prepared by NDS/ATD

VOLUME

California Ave Bet. 2nd St & 3rd St

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,777	3,035	5,812

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			7		4		11		12:00			55		58		113	
00:15			3		3		6		12:15			31		57		88	
00:30			6		3		9		12:30			39		41		80	
00:45			3	19	9	19	12	38	12:45			40	165	50	206	90	371
01:00			2		2		4		13:00			64		53		117	
01:15			5		3		8		13:15			57		61		118	
01:30			4		2		6		13:30			42		54		96	
01:45			1	12	2	9	3	21	13:45			45	208	57	225	102	433
02:00			1		3		4		14:00			36		47		83	
02:15			1		0		1		14:15			35		54		89	
02:30			2		0		2		14:30			36		49		85	
02:45			3	7	1	4	4	11	14:45			46	153	49	199	95	352
03:00			1		0		1		15:00			53		49		102	
03:15			0		0		0		15:15			42		64		106	
03:30			0		1		1		15:30			43		45		88	
03:45			0	1	1	2	1	3	15:45			33	171	40	198	73	369
04:00			0		1		1		16:00			51		51		102	
04:15			0		3		3		16:15			38		57		95	
04:30			8		8		16		16:30			43		52		95	
04:45			4	12	6	18	10	30	16:45			61	193	43	203	104	396
05:00			6		4		10		17:00			45		72		117	
05:15			2		5		7		17:15			42		57		99	
05:30			6		10		16		17:30			49		63		112	
05:45			10	24	5	24	15	48	17:45			52	188	51	243	103	431
06:00			5		6		11		18:00			51		57		108	
06:15			15		21		36		18:15			49		49		98	
06:30			18		19		37		18:30			37		45		82	
06:45			24	62	43	89	67	151	18:45			51	188	54	205	105	393
07:00			32		36		68		19:00			49		49		98	
07:15			30		29		59		19:15			42		39		81	
07:30			38		41		79		19:30			27		45		72	
07:45			74	174	57	163	131	337	19:45			19	137	33	166	52	303
08:00			66		60		126		20:00			23		40		63	
08:15			54		58		112		20:15			24		24		48	
08:30			55		46		101		20:30			16		31		47	
08:45			60	235	49	213	109	448	20:45			12	75	32	127	44	202
09:00			74		44		118		21:00			26		17		43	
09:15			62		47		109		21:15			27		28		55	
09:30			56		33		89		21:30			22		35		57	
09:45			51	243	41	165	92	408	21:45			13	88	14	94	27	182
10:00			33		37		70		22:00			16		22		38	
10:15			50		37		87		22:15			9		16		25	
10:30			39		38		77		22:30			15		15		30	
10:45			49	171	59	171	108	342	22:45			11	51	11	64	22	115
11:00			47		55		102		23:00			13		13		26	
11:15			43		41		84		23:15			8		14		22	
11:30			36		49		85		23:30			7		5		12	
11:45			40	166	44	189	84	355	23:45			6	34	7	39	13	73
TOTALS				1126		1066		**2192**	**TOTALS**				1651		1969		**3620**
SPLIT %				51.4%		48.6%		**37.7%**	**SPLIT %**				45.6%		54.4%		**62.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,777	3,035	5,812

AM Peak Hour			08:45	07:45	**07:45**	**PM Peak Hour**			13:00	17:00	**13:00**
AM Pk Volume			252	221	**470**	**PM Pk Volume**			208	243	**433**
Pk Hr Factor			0.851	0.921	**0.897**	**Pk Hr Factor**			0.813	0.844	**0.917**
7 - 9 Volume	0	0	409	376	**785**	**4 - 6 Volume**	0	0	381	446	**827**
7 - 9 Peak Hour			07:45	07:45	**07:45**	**4 - 6 Peak Hour**			16:45	17:00	**16:45**
7 - 9 Pk Volume	0	0	249	221	**470**	**4 - 6 Pk Volume**	0	0	197	243	**432**
Pk Hr Factor	0.000	0.000	0.841	0.921	**0.897**	**Pk Hr Factor**	0.000	0.000	0.807	0.844	**0.923**

Prepared by NDS/ATD

VOLUME

California Ave Bet. 3rd St & 4th St

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,639	3,014	5,653

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			5		4		9		12:00			53		55		108	
00:15			3		3		6		12:15			27		57		84	
00:30			6		3		9		12:30			35		42		77	
00:45			3	17	9	19	12	36	12:45			31	146	53	207	84	353
01:00			2		2		4		13:00			59		54		113	
01:15			5		4		9		13:15			52		59		111	
01:30			3		1		4		13:30			42		52		94	
01:45			1	11	3	10	4	21	13:45			40	193	56	221	96	414
02:00			1		3		4		14:00			33		44		77	
02:15			1		0		1		14:15			35		54		89	
02:30			2		0		2		14:30			33		48		81	
02:45			3	7	1	4	4	11	14:45			44	145	48	194	92	339
03:00			1		0		1		15:00			53		50		103	
03:15			2		1		3		15:15			41		66		107	
03:30			4		1		5		15:30			39		44		83	
03:45			2	9	1	3	3	12	15:45			33	166	41	201	74	367
04:00			3		1		4		16:00			49		50		99	
04:15			1		3		4		16:15			36		57		93	
04:30			6		8		14		16:30			39		53		92	
04:45			4	14	6	18	10	32	16:45			59	183	41	201	100	384
05:00			6		3		9		17:00			43		71		114	
05:15			2		5		7		17:15			37		58		95	
05:30			6		9		15		17:30			43		66		109	
05:45			10	24	6	23	16	47	17:45			48	171	51	246	99	417
06:00			5		7		12		18:00			45		57		102	
06:15			14		20		34		18:15			47		48		95	
06:30			18		19		37		18:30			36		45		81	
06:45			22	59	42	88	64	147	18:45			48	176	55	205	103	381
07:00			31		37		68		19:00			48		48		96	
07:15			26		29		55		19:15			42		38		80	
07:30			34		39		73		19:30			27		46		73	
07:45			73	164	57	162	130	326	19:45			18	135	34	166	52	301
08:00			64		57		121		20:00			22		38		60	
08:15			54		58		112		20:15			23		24		47	
08:30			55		44		99		20:30			14		31		45	
08:45			58	231	43	202	101	433	20:45			12	71	31	124	43	195
09:00			72		44		116		21:00			25		20		45	
09:15			59		44		103		21:15			25		27		52	
09:30			52		34		86		21:30			20		32		52	
09:45			52	235	40	162	92	397	21:45			13	83	14	93	27	176
10:00			33		37		70		22:00			14		23		37	
10:15			48		37		85		22:15			6		16		22	
10:30			38		40		78		22:30			13		14		27	
10:45			48	167	57	171	105	338	22:45			10	43	11	64	21	107
11:00			42		54		96		23:00			12		14		26	
11:15			43		40		83		23:15			7		14		21	
11:30			33		51		84		23:30			7		5		12	
11:45			39	157	44	189	83	346	23:45			6	32	8	41	14	73
TOTALS				1095		1051		**2146**	**TOTALS**				1544		1963		**3507**
SPLIT %				51.0%		49.0%		**38.0%**	**SPLIT %**				44.0%		56.0%		**62.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,639	3,014	5,653

AM Peak Hour			07:45	07:45	**07:45**	**PM Peak Hour**			13:00	17:00	**16:45**
AM Pk Volume			246	216	**462**	**PM Pk Volume**			193	246	**418**
Pk Hr Factor			0.842	0.931	**0.888**	**Pk Hr Factor**			0.818	0.866	**0.917**
7 - 9 Volume	0	0	395	364	**759**	**4 - 6 Volume**	0	0	354	447	**801**
7 - 9 Peak Hour			07:45	07:45	**07:45**	**4 - 6 Peak Hour**			16:00	17:00	**16:45**
7 - 9 Pk Volume	0	0	246	216	**462**	**4 - 6 Pk Volume**	0	0	183	246	**418**
Pk Hr Factor	0.000	0.000	0.842	0.931	**0.888**	**Pk Hr Factor**	0.000	0.000	0.775	0.866	**0.917**

Prepared by NDS/ATD

VOLUME

California Ave Bet. 4th St & 5th St

Day: Thursday
Date: 10/25/2018

City: Santa Monica
Project #: CA18_5705_011

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,880	2,837	4,717

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		5		9		12:00			32		52		84	
00:15			4		4		8		12:15			32		51		83	
00:30			0		1		1		12:30			31		36		67	
00:45			2	10	6	16	8	26	12:45			38	133	50	189	88	322
01:00			0		1		1		13:00			41		62		103	
01:15			0		6		6		13:15			39		61		100	
01:30			0		0		0		13:30			32		53		85	
01:45			0		3	10	3	10	13:45			32	144	44	220	76	364
02:00			3		2		5		14:00			27		36		63	
02:15			0		0		0		14:15			39		55		94	
02:30			0		1		1		14:30			33		44		77	
02:45			1	4	1	4	2	8	14:45			39	138	41	176	80	314
03:00			1		1		2		15:00			45		42		87	
03:15			0		0		0		15:15			37		83		120	
03:30			0		1		1		15:30			38		45		83	
03:45			0	1	0	2	0	3	15:45			33	153	42	212	75	365
04:00			0		0		0		16:00			43		43		86	
04:15			0		4		4		16:15			27		65		92	
04:30			2		2		4		16:30			33		43		76	
04:45			2	4	3	9	5	13	16:45			37	140	46	197	83	337
05:00			2		0		2		17:00			37		57		94	
05:15			1		5		6		17:15			24		49		73	
05:30			5		6		11		17:30			34		71		105	
05:45			6	14	7	18	13	32	17:45			35	130	58	235	93	365
06:00			8		3		11		18:00			30		65		95	
06:15			9		13		22		18:15			44		53		97	
06:30			12		8		20		18:30			22		53		75	
06:45			13	42	29	53	42	95	18:45			30	126	60	231	90	357
07:00			17		36		53		19:00			32		41		73	
07:15			13		25		38		19:15			32		57		89	
07:30			25		41		66		19:30			23		50		73	
07:45			38	93	43	145	81	238	19:45			15	102	34	182	49	284
08:00			35		50		85		20:00			19		36		55	
08:15			27		51		78		20:15			17		32		49	
08:30			30		45		75		20:30			10		24		34	
08:45			34	126	36	182	70	308	20:45			8	54	21	113	29	167
09:00			31		42		73		21:00			13		26		39	
09:15			30		37		67		21:15			18		16		34	
09:30			24		30		54		21:30			11		27		38	
09:45			25	110	27	136	52	246	21:45			9	51	18	87	27	138
10:00			23		42		65		22:00			9		19		28	
10:15			26		29		55		22:15			6		16		22	
10:30			28		37		65		22:30			10		21		31	
10:45			34	111	51	159	85	270	22:45			9	34	13	69	22	103
11:00			35		42		77		23:00			8		11		19	
11:15			32		35		67		23:15			4		8		12	
11:30			33		38		71		23:30			4		3		7	
11:45			40	140	47	162	87	302	23:45			4	20	8	30	12	50
TOTALS				655		896		**1551**	**TOTALS**				1225		1941		**3166**
SPLIT %				42.2%		57.8%		**32.9%**	**SPLIT %**				38.7%		61.3%		**67.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,880	2,837	4,717

AM Peak Hour			11:00	07:45	**11:30**	**PM Peak Hour**			14:45	17:30	**17:30**
AM Pk Volume			140	189	**325**	**PM Pk Volume**			159	247	**390**
Pk Hr Factor			0.875	0.926	**0.934**	**Pk Hr Factor**			0.883	0.870	**0.929**
7 - 9 Volume	0	0	219	327	**546**	**4 - 6 Volume**	0	0	270	432	**702**
7 - 9 Peak Hour			07:45	07:45	**07:45**	**4 - 6 Peak Hour**			16:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	130	189	**319**	**4 - 6 Pk Volume**	0	0	140	235	**365**
Pk Hr Factor	0.000	0.000	0.855	0.926	**0.938**	**Pk Hr Factor**	0.000	0.000	0.814	0.827	**0.869**

Prepared by NDS/ATD

VOLUME

Ocean Ave N/O California Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_001

DAILY TOTALS	NB	SB	EB	WB	Total
	6,505	7,071	0	0	13,576

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	41		32						73		12:00	77		120						197	
00:15	51		53						104		12:15	97		99						196	
00:30	26		47						73		12:30	85		125						210	
00:45	24	142	22	154					46	296	12:45	102	361	113	457					215	818
01:00	23		13						36		13:00	104		114						218	
01:15	16		23						39		13:15	108		106						214	
01:30	17		20						37		13:30	98		121						219	
01:45	42	98	33	89					75	187	13:45	111	421	116	457					227	878
02:00	20		32						52		14:00	109		91						200	
02:15	13		19						32		14:15	122		117						239	
02:30	9		8						17		14:30	107		88						195	
02:45	8	50	13	72					21	122	14:45	187	525	113	409					300	934
03:00	3		5						8		15:00	193		113						306	
03:15	2		4						6		15:15	165		107						272	
03:30	6		4						10		15:30	111		159						270	
03:45	2	13	5	18					7	31	15:45	109	578	119	498					228	1076
04:00	13		3						16		16:00	106		95						201	
04:15	8		9						17		16:15	141		104						245	
04:30	5		8						13		16:30	94		106						200	
04:45	9	35	8	28					17	63	16:45	112	453	100	405					212	858
05:00	4		8						12		17:00	109		115						224	
05:15	8		9						17		17:15	120		126						246	
05:30	14		8						22		17:30	115		112						227	
05:45	17	43	26	51					43	94	17:45	89	433	108	461					197	894
06:00	20		25						45		18:00	112		122						234	
06:15	28		18						46		18:15	128		94						222	
06:30	44		36						80		18:30	114		118						232	
06:45	29	121	50	129					79	250	18:45	98	452	103	437					201	889
07:00	25		37						62		19:00	104		80						184	
07:15	23		62						85		19:15	97		88						185	
07:30	27		48						75		19:30	96		106						202	
07:45	41	116	73	220					114	336	19:45	87	384	81	355					168	739
08:00	49		57						106		20:00	85		95						180	
08:15	43		79						122		20:15	69		74						143	
08:30	55		108						163		20:30	65		58						123	
08:45	78	225	126	370					204	595	20:45	84	303	91	318					175	621
09:00	63		132						195		21:00	74		58						132	
09:15	67		141						208		21:15	31		77						108	
09:30	78		108						186		21:30	92		69						161	
09:45	85	293	121	502					206	795	21:45	77	274	64	268					141	542
10:00	80		115						195		22:00	63		51						114	
10:15	77		121						198		22:15	86		61						147	
10:30	82		123						205		22:30	69		71						140	
10:45	75	314	122	481					197	795	22:45	57	275	64	247					121	522
11:00	84		105						189		23:00	67		50						117	
11:15	96		116						212		23:15	42		50						92	
11:30	101		120						221		23:30	59		56						115	
11:45	105	386	107	448					212	834	23:45	42	210	41	197					83	407
TOTALS		1836		2562						**4398**	**TOTALS**		4669		4509						**9178**
SPLIT %		41.7%		58.3%						**32.4%**	**SPLIT %**		50.9%		49.1%						**67.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	6,505	7,071	0	0	13,576

AM Peak Hour	11:00	08:30			**11:15**	**PM Peak Hour**	14:45	15:00			**14:45**
AM Pk Volume	386	507			**842**	**PM Pk Volume**	656	498			**1148**
Pk Hr Factor	0.919	0.899			**0.952**	**Pk Hr Factor**	0.850	0.783			**0.938**
7 - 9 Volume	341	590	0	0	**931**	**4 - 6 Volume**	886	866	0	0	**1752**
7 - 9 Peak Hour	08:00	08:00			**08:00**	**4 - 6 Peak Hour**	16:15	17:00			**16:45**
7 - 9 Pk Volume	225	370	0	0	**595**	**4 - 6 Pk Volume**	456	461	0	0	**909**
Pk Hr Factor	0.721	0.734	0.000	0.000	**0.729**	**Pk Hr Factor**	0.809	0.915	0.000	0.000	**0.924**

Prepared by NDS/ATD

VOLUME

2nd St Bet. Wilshire Blvd & California Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_002

DAILY TOTALS	NB	SB	EB	WB	Total
	3,000	2,397	0	0	5,397

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	19		16						35		12:00	49		27						76	
00:15	24		27						51		12:15	45		36						81	
00:30	14		18						32		12:30	45		39						84	
00:45	12	69	9	70					21	139	12:45	47	186	28	130					75	316
01:00	6		7						13		13:00	47		29						76	
01:15	6		9						15		13:15	47		30						77	
01:30	10		9						19		13:30	56		25						81	
01:45	13	35	15	40					28	75	13:45	55	205	36	120					91	325
02:00	6		24						30		14:00	41		42						83	
02:15	5		8						13		14:15	43		19						62	
02:30	4		0						4		14:30	43		31						74	
02:45	5	20	4	36					9	56	14:45	49	176	36	128					85	304
03:00	6		4						10		15:00	45		42						87	
03:15	0		3						3		15:15	48		52						100	
03:30	3		2						5		15:30	60		50						110	
03:45	2	11	1	10					3	21	15:45	42	195	43	187					85	382
04:00	2		0						2		16:00	46		48						94	
04:15	5		5						10		16:15	44		35						79	
04:30	4		2						6		16:30	39		39						78	
04:45	4	15	1	8					5	23	16:45	54	183	45	167					99	350
05:00	2		3						5		17:00	54		49						103	
05:15	3		7						10		17:15	46		56						102	
05:30	7		1						8		17:30	45		41						86	
05:45	5	17	4	15					9	32	17:45	53	198	50	196					103	394
06:00	8		6						14		18:00	59		55						114	
06:15	4		7						11		18:15	59		63						122	
06:30	7		8						15		18:30	49		47						96	
06:45	13	32	6	27					19	59	18:45	62	229	33	198					95	427
07:00	5		5						10		19:00	45		43						88	
07:15	6		7						13		19:15	55		37						92	
07:30	14		6						20		19:30	46		33						79	
07:45	16	41	18	36					34	77	19:45	52	198	22	135					74	333
08:00	11		13						24		20:00	48		43						91	
08:15	22		10						32		20:15	44		22						66	
08:30	27		13						40		20:30	42		30						72	
08:45	16	76	24	60					40	136	20:45	66	200	26	121					92	321
09:00	28		26						54		21:00	38		30						68	
09:15	17		17						34		21:15	88		37						125	
09:30	32		20						52		21:30	59		52						111	
09:45	37	114	27	90					64	204	21:45	51	236	49	168					100	404
10:00	40		24						64		22:00	41		27						68	
10:15	36		27						63		22:15	47		46						93	
10:30	39		18						57		22:30	41		38						79	
10:45	33	148	22	91					55	239	22:45	24	153	22	133					46	286
11:00	30		23						53		23:00	27		30						57	
11:15	41		40						81		23:15	39		19						58	
11:30	35		32						67		23:30	27		30						57	
11:45	45	151	30	125					75	276	23:45	19	112	27	106					46	218
TOTALS		729		608						**1337**	**TOTALS**		2271		1789						**4060**
SPLIT %		54.5%		45.5%						**24.8%**	**SPLIT %**		55.9%		44.1%						**75.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	3,000	2,397	0	0	5,397

AM Peak Hour	11:45	11:45			**11:45**	**PM Peak Hour**	20:45	17:45			**17:45**
AM Pk Volume	184	132			**316**	**PM Pk Volume**	251	215			**435**
Pk Hr Factor	0.939	0.846			**0.940**	**Pk Hr Factor**	0.713	0.853			**0.891**
7 - 9 Volume	117	96	0	0	**213**	**4 - 6 Volume**	381	363	0	0	**744**
7 - 9 Peak Hour	07:45	08:00			**08:00**	**4 - 6 Peak Hour**	16:45	17:00			**17:00**
7 - 9 Pk Volume	76	60	0	0	**136**	**4 - 6 Pk Volume**	199	196	0	0	**394**
Pk Hr Factor	0.704	0.625	0.000	0.000	**0.850**	**Pk Hr Factor**	0.921	0.875	0.000	0.000	**0.956**

Prepared by NDS/ATD

VOLUME

2nd St Bet. California Ave & Washington Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,893	1,454	0	0	3,347

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	11		9						20		12:00	35		21						56	
00:15	11		7						18		12:15	32		20						52	
00:30	11		4						15		12:30	37		21						58	
00:45	5	38	5	25					10	63	12:45	35	139	19	81					54	220
01:00	1		1						2		13:00	40		24						64	
01:15	7		2						9		13:15	32		29						61	
01:30	3		4						7		13:30	34		30						64	
01:45	8	19	4	11					12	30	13:45	44	150	23	106					67	256
02:00	3		6						9		14:00	36		32						68	
02:15	4		2						6		14:15	27		18						45	
02:30	1		0						1		14:30	38		19						57	
02:45	2	10	4	12					6	22	14:45	24	125	25	94					49	219
03:00	3		2						5		15:00	32		24						56	
03:15	0		1						1		15:15	29		43						72	
03:30	0		4						4		15:30	50		48						98	
03:45	1	4	0	7					1	11	15:45	34	145	21	136					55	281
04:00	0		1						1		16:00	24		24						48	
04:15	2		3						5		16:15	28		24						52	
04:30	0		0						0		16:30	34		23						57	
04:45	1	3	0	4					1	7	16:45	43	129	27	98					70	227
05:00	2		4						6		17:00	34		33						67	
05:15	0		2						2		17:15	35		34						69	
05:30	1		0						1		17:30	29		19						48	
05:45	0	3	1	7					1	10	17:45	30	128	21	107					51	235
06:00	2		2						4		18:00	35		28						63	
06:15	4		2						6		18:15	39		18						57	
06:30	4		2						6		18:30	28		33						61	
06:45	10	20	8	14					18	34	18:45	25	127	24	103					49	230
07:00	3		4						7		19:00	18		18						36	
07:15	5		6						11		19:15	25		12						37	
07:30	12		11						23		19:30	27		25						52	
07:45	17	37	17	38					34	75	19:45	33	103	11	66					44	169
08:00	14		11						25		20:00	23		11						34	
08:15	28		13						41		20:15	19		10						29	
08:30	30		20						50		20:30	19		16						35	
08:45	12	84	19	63					31	147	20:45	24	85	17	54					41	139
09:00	28		29						57		21:00	12		12						24	
09:15	21		16						37		21:15	23		13						36	
09:30	25		13						38		21:30	26		22						48	
09:45	31	105	23	81					54	186	21:45	33	94	14	61					47	155
10:00	17		19						36		22:00	19		13						32	
10:15	26		19						45		22:15	32		31						63	
10:30	34		19						53		22:30	20		11						31	
10:45	26	103	19	76					45	179	22:45	13	84	8	63					21	147
11:00	28		13						41		23:00	9		18						27	
11:15	30		26						56		23:15	18		13						31	
11:30	25		25						50		23:30	13		16						29	
11:45	29	112	23	87					52	199	23:45	6	46	13	60					19	106
TOTALS		538		425						**963**	**TOTALS**		1355		1029						**2384**
SPLIT %		55.9%		44.1%						**28.8%**	**SPLIT %**		56.8%		43.2%						**71.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,893	1,454	0	0	3,347

AM Peak Hour	11:45	11:15			**11:45**	**PM Peak Hour**	13:00	14:45			**15:00**
AM Pk Volume	133	95			**218**	**PM Pk Volume**	150	140			**281**
Pk Hr Factor	0.899	0.913			**0.940**	**Pk Hr Factor**	0.852	0.729			**0.717**
7 - 9 Volume	121	101	0	0	**222**	**4 - 6 Volume**	257	205	0	0	**462**
7 - 9 Peak Hour	07:45	08:00			**07:45**	**4 - 6 Peak Hour**	16:30	16:30			**16:30**
7 - 9 Pk Volume	89	63	0	0	**150**	**4 - 6 Pk Volume**	146	117	0	0	**263**
Pk Hr Factor	0.742	0.788	0.000	0.000	**0.750**	**Pk Hr Factor**	0.849	0.860	0.000	0.000	**0.939**

Prepared by NDS/ATD

VOLUME

4th St Bet. Wilshire Blvd & California Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_004

DAILY TOTALS	NB	SB	EB	WB	Total
	2,548	3,170	0	0	5,718

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	13		8						21		12:00	51		63						114	
00:15	14		23						37		12:15	36		65						101	
00:30	11		8						19		12:30	27		64						91	
00:45	13	51	5	44					18	95	12:45	40	154	70	262					110	416
01:00	10		5						15		13:00	40		66						106	
01:15	6		4						10		13:15	42		61						103	
01:30	3		5						8		13:30	43		40						83	
01:45	15	34	13	27					28	61	13:45	52	177	51	218					103	395
02:00	6		11						17		14:00	40		57						97	
02:15	3		5						8		14:15	37		47						84	
02:30	7		5						12		14:30	37		56						93	
02:45	5	21	2	23					7	44	14:45	35	149	59	219					94	368
03:00	0		1						1		15:00	52		73						125	
03:15	1		1						2		15:15	42		65						107	
03:30	3		3						6		15:30	62		70						132	
03:45	2	6	1	6					3	12	15:45	35	191	49	257					84	448
04:00	0		0						0		16:00	33		46						79	
04:15	3		0						3		16:15	54		45						99	
04:30	4		2						6		16:30	46		46						92	
04:45	5	12	2	4					7	16	16:45	39	172	64	201					103	373
05:00	3		2						5		17:00	39		48						87	
05:15	8		1						9		17:15	38		55						93	
05:30	13		4						17		17:30	40		56						96	
05:45	9	33	11	18					20	51	17:45	41	158	44	203					85	361
06:00	12		10						22		18:00	30		37						67	
06:15	19		5						24		18:15	32		44						76	
06:30	25		9						34		18:30	45		46						91	
06:45	18	74	15	39					33	113	18:45	35	142	55	182					90	324
07:00	12		7						19		19:00	29		42						71	
07:15	18		16						34		19:15	41		42						83	
07:30	22		15						37		19:30	35		35						70	
07:45	22	74	29	67					51	141	19:45	26	131	29	148					55	279
08:00	26		34						60		20:00	31		25						56	
08:15	34		44						78		20:15	23		28						51	
08:30	24		46						70		20:30	30		22						52	
08:45	32	116	62	186					94	302	20:45	36	120	33	108					69	228
09:00	35		55						90		21:00	21		31						52	
09:15	31		50						81		21:15	25		31						56	
09:30	26		63						89		21:30	25		25						50	
09:45	36	128	53	221					89	349	21:45	23	94	28	115					51	209
10:00	39		58						97		22:00	30		18						48	
10:15	39		53						92		22:15	31		20						51	
10:30	55		69						124		22:30	33		18						51	
10:45	38	171	77	257					115	428	22:45	18	112	20	76					38	188
11:00	40		59						99		23:00	17		20						37	
11:15	38		50						88		23:15	16		19						35	
11:30	43		46						89		23:30	21		18						39	
11:45	36	157	66	221					102	378	23:45	17	71	11	68					28	139
TOTALS		877		1113						**1990**	**TOTALS**		1671		2057						**3728**
SPLIT %		44.1%		55.9%						**34.8%**	**SPLIT %**		44.8%		55.2%						**65.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,548	3,170	0	0	5,718

AM Peak Hour	10:15	10:15			**10:15**	**PM Peak Hour**	14:45	14:45			**14:45**
AM Pk Volume	172	258			**430**	**PM Pk Volume**	191	267			**458**
Pk Hr Factor	0.782	0.838			**0.867**	**Pk Hr Factor**	0.770	0.914			**0.867**
7 - 9 Volume	190	253	0	0	**443**	**4 - 6 Volume**	330	404	0	0	**734**
7 - 9 Peak Hour	08:00	08:00			**08:00**	**4 - 6 Peak Hour**	16:15	16:45			**16:15**
7 - 9 Pk Volume	116	186	0	0	**302**	**4 - 6 Pk Volume**	178	223	0	0	**381**
Pk Hr Factor	0.853	0.750	0.000	0.000	**0.803**	**Pk Hr Factor**	0.824	0.871	0.000	0.000	**0.925**

Prepared by NDS/ATD

VOLUME

4th St Bet. California Ave & Washington Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_005

DAILY TOTALS	NB	SB	EB	WB	Total
	2,148	2,637	0	0	4,785

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	10		5						15		12:00	45		57						102	
00:15	19		17						36		12:15	34		48						82	
00:30	7		6						13		12:30	21		44						65	
00:45	12	48	5	33					17	81	12:45	33	133	53	202					86	335
01:00	8		3						11		13:00	34		52						86	
01:15	6		2						8		13:15	40		47						87	
01:30	2		7						9		13:30	46		34						80	
01:45	7	23	9	21					16	44	13:45	48	168	43	176					91	344
02:00	1		9						10		14:00	42		44						86	
02:15	2		4						6		14:15	30		45						75	
02:30	4		1						5		14:30	38		44						82	
02:45	5	12	2	16					7	28	14:45	26	136	56	189					82	325
03:00	0		1						1		15:00	44		59						103	
03:15	2		0						2		15:15	43		64						107	
03:30	2		3						5		15:30	40		60						100	
03:45	2	6	1	5					3	11	15:45	38	165	42	225					80	390
04:00	0		0						0		16:00	25		32						57	
04:15	3		0						3		16:15	43		36						79	
04:30	3		2						5		16:30	40		40						80	
04:45	4	10	2	4					6	14	16:45	32	140	48	156					80	296
05:00	2		2						4		17:00	30		45						75	
05:15	6		1						7		17:15	32		45						77	
05:30	11		3						14		17:30	33		41						74	
05:45	7	26	7	13					14	39	17:45	32	127	34	165					66	292
06:00	10		9						19		18:00	20		41						61	
06:15	15		2						17		18:15	23		44						67	
06:30	19		7						26		18:30	27		29						56	
06:45	19	63	13	31					32	94	18:45	28	98	45	159					73	257
07:00	11		10						21		19:00	27		34						61	
07:15	14		10						24		19:15	34		31						65	
07:30	13		19						32		19:30	30		32						62	
07:45	16	54	29	68					45	122	19:45	25	116	26	123					51	239
08:00	27		31						58		20:00	21		25						46	
08:15	28		45						73		20:15	12		17						29	
08:30	30		35						65		20:30	29		15						44	
08:45	29	114	60	171					89	285	20:45	28	90	23	80					51	170
09:00	33		49						82		21:00	16		21						37	
09:15	30		46						76		21:15	22		18						40	
09:30	20		55						75		21:30	20		20						40	
09:45	30	113	53	203					83	316	21:45	19	77	19	78					38	155
10:00	38		48						86		22:00	21		14						35	
10:15	36		51						87		22:15	23		15						38	
10:30	46		53						99		22:30	28		16						44	
10:45	31	151	63	215					94	366	22:45	14	86	14	59					28	145
11:00	31		46						77		23:00	17		13						30	
11:15	30		51						81		23:15	15		17						32	
11:30	33		37						70		23:30	14		14						28	
11:45	35	129	59	193					94	322	23:45	17	63	8	52					25	115
TOTALS		749		973						**1722**	**TOTALS**		1399		1664						**3063**
SPLIT %		43.5%		56.5%						**36.0%**	**SPLIT %**		45.7%		54.3%						**64.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,148	2,637	0	0	4,785

AM Peak Hour	10:00	10:00			**10:00**	**PM Peak Hour**	13:15	14:45			**14:45**
AM Pk Volume	151	215			**366**	**PM Pk Volume**	176	239			**392**
Pk Hr Factor	0.821	0.853			**0.924**	**Pk Hr Factor**	0.917	0.934			**0.916**
7 - 9 Volume	168	239	0	0	**407**	**4 - 6 Volume**	267	321	0	0	**588**
7 - 9 Peak Hour	08:00	08:00			**08:00**	**4 - 6 Peak Hour**	16:15	16:45			**16:15**
7 - 9 Pk Volume	114	171	0	0	**285**	**4 - 6 Pk Volume**	145	179	0	0	**314**
Pk Hr Factor	0.950	0.713	0.000	0.000	**0.801**	**Pk Hr Factor**	0.843	0.932	0.000	0.000	**0.981**

Prepared by NDS/ATD

VOLUME

7th St Bet. Wilshire Blvd & California Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_006

DAILY TOTALS	NB	SB	EB	WB	Total
	1,981	1,945	0	0	3,926

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	5		5						10		12:00	32		47						79	
00:15	9		3						12		12:15	36		28						64	
00:30	3		2						5		12:30	43		40						83	
00:45	2	19	5	15					7	34	12:45	42	153	44	159					86	312
01:00	3		1						4		13:00	41		42						83	
01:15	3		2						5		13:15	37		46						83	
01:30	5		1						6		13:30	36		31						67	
01:45	3	14	3	7					6	21	13:45	42	156	36	155					78	311
02:00	5		6						11		14:00	44		28						72	
02:15	1		1						2		14:15	46		45						91	
02:30	0		0						0		14:30	34		47						81	
02:45	4	10	2	9					6	19	14:45	33	157	44	164					77	321
03:00	1		1						2		15:00	33		48						81	
03:15	1		0						1		15:15	35		71						106	
03:30	3		0						3		15:30	41		54						95	
03:45	3	8	2	3					5	11	15:45	33	142	39	212					72	354
04:00	2		0						2		16:00	34		41						75	
04:15	2		0						2		16:15	40		32						72	
04:30	3		0						3		16:30	40		43						83	
04:45	1	8	0						1	8	16:45	32	146	43	159					75	305
05:00	1		0						1		17:00	32		36						68	
05:15	2		2						4		17:15	32		24						56	
05:30	3		0						3		17:30	29		30						59	
05:45	4	10	2	4					6	14	17:45	35	128	48	138					83	266
06:00	6		3						9		18:00	32		20						52	
06:15	4		4						8		18:15	26		34						60	
06:30	5		2						7		18:30	37		29						66	
06:45	9	24	3	12					12	36	18:45	25	120	26	109					51	229
07:00	10		8						18		19:00	29		22						51	
07:15	13		6						19		19:15	35		24						59	
07:30	11		9						20		19:30	28		23						51	
07:45	13	47	14	37					27	84	19:45	28	120	25	94					53	214
08:00	19		15						34		20:00	23		23						46	
08:15	25		13						38		20:15	24		14						38	
08:30	18		17						35		20:30	19		11						30	
08:45	24	86	31	76					55	162	20:45	18	84	12	60					30	144
09:00	28		22						50		21:00	19		12						31	
09:15	23		26						49		21:15	5		7						12	
09:30	37		37						74		21:30	19		9						28	
09:45	28	116	25	110					53	226	21:45	13	56	5	33					18	89
10:00	40		26						66		22:00	12		12						24	
10:15	36		49						85		22:15	13		7						20	
10:30	35		30						65		22:30	12		5						17	
10:45	34	145	49	154					83	299	22:45	17	54	7	31					24	85
11:00	29		33						62		23:00	6		4						10	
11:15	37		40						77		23:15	10		10						20	
11:30	44		56						100		23:30	13		8						21	
11:45	36	146	51	180					87	326	23:45	3	32	2	24					5	56
TOTALS		633		607						1240	TOTALS		1348		1338						2686
SPLIT %		51.0%		49.0%						31.6%	SPLIT %		50.2%		49.8%						68.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,981	1,945	0	0	3,926

AM Peak Hour	11:15	11:15			11:15	PM Peak Hour	13:30	14:45			14:45
AM Pk Volume	149	194			343	PM Pk Volume	168	217			359
Pk Hr Factor	0.847	0.866			0.858	Pk Hr Factor	0.913	0.764			0.847
7 - 9 Volume	133	113	0	0	246	4 - 6 Volume	274	297	0	0	571
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			16:00
7 - 9 Pk Volume	86	76	0	0	162	4 - 6 Pk Volume	146	159	0	0	305
Pk Hr Factor	0.860	0.613	0.000	0.000	0.736	Pk Hr Factor	0.913	0.924	0.000	0.000	0.919

Prepared by NDS/ATD

VOLUME

7th St Bet. Washington Ave & Idaho Ave

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_007

DAILY TOTALS	NB	SB	EB	WB	Total
	2,069	2,508	0	0	4,577

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	5		13						18		12:00	48		51						99	
00:15	8		8						16		12:15	37		40						77	
00:30	5		4						9		12:30	39		55						94	
00:45	1	19	2	27					3	46	12:45	55	179	50	196					105	375
01:00	2		5						7		13:00	48		57						105	
01:15	4		3						7		13:15	44		42						86	
01:30	3		1						4		13:30	44		47						91	
01:45	2	11	5	14					7	25	13:45	49	185	42	188					91	373
02:00	1		7						8		14:00	57		47						104	
02:15	2		0						2		14:15	44		59						103	
02:30	0		2						2		14:30	35		44						79	
02:45	1	4	0	9					1	13	14:45	39	175	47	197					86	372
03:00	2		2						4		15:00	25		57						82	
03:15	0		2						2		15:15	49		63						112	
03:30	1		0						1		15:30	45		51						96	
03:45	1	4	0	4					1	8	15:45	40	159	46	217					86	376
04:00	0		0						0		16:00	41		52						93	
04:15	2		1						3		16:15	46		39						85	
04:30	1		0						1		16:30	39		49						88	
04:45	0	3	1	2					1	5	16:45	37	163	48	188					85	351
05:00	1		1						2		17:00	43		44						87	
05:15	1		1						2		17:15	32		41						73	
05:30	6		3						9		17:30	28		30						58	
05:45	7	15	4	9					11	24	17:45	36	139	58	173					94	312
06:00	4		7						11		18:00	25		27						52	
06:15	10		8						18		18:15	25		40						65	
06:30	5		8						13		18:30	39		48						87	
06:45	8	27	9	32					17	59	18:45	32	121	41	156					73	277
07:00	7		13						20		19:00	23		33						56	
07:15	16		15						31		19:15	25		29						54	
07:30	13		11						24		19:30	26		36						62	
07:45	12	48	29	68					41	116	19:45	17	91	29	127					46	218
08:00	19		21						40		20:00	23		30						53	
08:15	17		27						44		20:15	22		26						48	
08:30	21		25						46		20:30	18		10						28	
08:45	33	90	29	102					62	192	20:45	14	77	16	82					30	159
09:00	31		25						56		21:00	11		22						33	
09:15	37		28						65		21:15	10		14						24	
09:30	37		35						72		21:30	18		15						33	
09:45	26	131	43	131					69	262	21:45	15	54	15	66					30	120
10:00	42		45						87		22:00	10		13						23	
10:15	38		56						94		22:15	13		10						23	
10:30	36		57						93		22:30	10		13						23	
10:45	29	145	62	220					91	365	22:45	9	42	10	46					19	88
11:00	23		50						73		23:00	4		7						11	
11:15	45		45						90		23:15	4		7						11	
11:30	54		64						118		23:30	9		11						20	
11:45	44	166	62	221					106	387	23:45	4	21	8	33					12	54
TOTALS		663		839						**1502**	**TOTALS**		1406		1669						**3075**
SPLIT %		44.1%		55.9%						**32.8%**	**SPLIT %**		45.7%		54.3%						**67.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,069	2,508	0	0	4,577

AM Peak Hour	11:15	10:15			**11:15**	**PM Peak Hour**	13:15	14:45			**12:30**
AM Pk Volume	191	225			**413**	**PM Pk Volume**	194	218			**390**
Pk Hr Factor	0.884	0.907			**0.875**	**Pk Hr Factor**	0.851	0.865			**0.929**
7 - 9 Volume	138	170	0	0	**308**	**4 - 6 Volume**	302	361	0	0	**663**
7 - 9 Peak Hour	08:00	07:45			**08:00**	**4 - 6 Peak Hour**	16:15	16:00			**16:00**
7 - 9 Pk Volume	90	102	0	0	**192**	**4 - 6 Pk Volume**	165	188	0	0	**351**
Pk Hr Factor	0.682	0.879	0.000	0.000	**0.774**	**Pk Hr Factor**	0.897	0.904	0.000	0.000	**0.944**

Prepared by NDS/ATD

VOLUME

California Ave Bet. Ocean Ave & 2nd St

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,132	3,547	6,679

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			18		19		37		12:00			39		68		107	
00:15			22		18		40		12:15			67		55		122	
00:30			20		14		34		12:30			52		63		115	
00:45			7	67	13	64	20	131	12:45			51	209	45	231	96	440
01:00			6		8		14		13:00			49		74		123	
01:15			10		10		20		13:15			58		60		118	
01:30			6		12		18		13:30			38		67		105	
01:45			13	35	13	43	26	78	13:45			68	213	52	253	120	466
02:00			11		7		18		14:00			50		56		106	
02:15			9		7		16		14:15			41		63		104	
02:30			1		4		5		14:30			46		63		109	
02:45			2	23	5	23	7	46	14:45			69	206	76	258	145	464
03:00			3		6		9		15:00			63		56		119	
03:15			2		3		5		15:15			69		49		118	
03:30			1		10		11		15:30			59		89		148	
03:45			1	7	1	20	2	27	15:45			54	245	29	223	83	468
04:00			2		5		7		16:00			74		52		126	
04:15			1		2		3		16:15			64		65		129	
04:30			0		4		4		16:30			64		55		119	
04:45			0	3	1	12	1	15	16:45			59	261	61	233	120	494
05:00			3		4		7		17:00			76		80		156	
05:15			3		4		7		17:15			60		54		114	
05:30			2		7		9		17:30			76		45		121	
05:45			7	15	4	19	11	34	17:45			83	295	57	236	140	531
06:00			4		8		12		18:00			69		68		137	
06:15			3		7		10		18:15			80		52		132	
06:30			4		9		13		18:30			66		62		128	
06:45			3	14	19	43	22	57	18:45			45	260	60	242	105	502
07:00			6		16		22		19:00			65		39		104	
07:15			10		16		26		19:15			43		51		94	
07:30			8		21		29		19:30			39		51		90	
07:45			19	43	30	83	49	126	19:45			44	191	43	184	87	375
08:00			11		18		29		20:00			35		37		72	
08:15			16		34		50		20:15			35		48		83	
08:30			22		44		66		20:30			41		38		79	
08:45			21	70	35	131	56	201	20:45			32	143	54	177	86	320
09:00			24		45		69		21:00			31		47		78	
09:15			19		38		57		21:15			74		69		143	
09:30			21		31		52		21:30			49		54		103	
09:45			26	90	41	155	67	245	21:45			37	191	51	221	88	412
10:00			28		51		79		22:00			39		47		86	
10:15			35		47		82		22:15			42		50		92	
10:30			29		53		82		22:30			33		38		71	
10:45			36	128	59	210	95	338	22:45			22	136	31	166	53	302
11:00			42		44		86		23:00			30		28		58	
11:15			41		50		91		23:15			30		31		61	
11:30			45		61		106		23:30			24		30		54	
11:45			61	189	54	209	115	398	23:45			14	98	22	111	36	209
TOTALS				684		1012		1696	TOTALS				2448		2535		4983
SPLIT %				40.3%		59.7%		25.4%	SPLIT %				49.1%		50.9%		74.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,132	3,547	6,679

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			17:30	14:45	17:45
AM Pk Volume			219	240	459	PM Pk Volume			308	270	537
Pk Hr Factor			0.817	0.882	0.941	Pk Hr Factor			0.928	0.758	0.959
7 - 9 Volume	0	0	113	214	327	4 - 6 Volume	0	0	556	469	1025
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			17:00	16:15	17:00
7 - 9 Pk Volume	0	0	70	131	201	4 - 6 Pk Volume	0	0	295	261	531
Pk Hr Factor	0.000	0.000	0.795	0.744	0.761	Pk Hr Factor	0.000	0.000	0.889	0.816	0.851

Prepared by NDS/ATD

VOLUME

California Ave Bet. 2nd St & 3rd St

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,010	3,089	6,099

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			14		17		31		12:00			53		57		110	
00:15			19		16		35		12:15			55		48		103	
00:30			10		17		27		12:30			45		62		107	
00:45			9	52	11	61	20	113	12:45			39	192	43	210	82	402
01:00			9		6		15		13:00			53		63		116	
01:15			8		12		20		13:15			59		40		99	
01:30			4		4		8		13:30			62		57		119	
01:45			9	30	11	33	20	63	13:45			64	238	58	218	122	456
02:00			7		7		14		14:00			52		49		101	
02:15			6		5		11		14:15			43		51		94	
02:30			4		4		8		14:30			40		53		93	
02:45			4	21	3	19	7	40	14:45			69	204	59	212	128	416
03:00			3		3		6		15:00			59		50		109	
03:15			2		2		4		15:15			68		42		110	
03:30			1		5		6		15:30			51		62		113	
03:45			1	7	0	10	1	17	15:45			58	236	36	190	94	426
04:00			5		2		7		16:00			60		45		105	
04:15			3		1		4		16:15			57		48		105	
04:30			0		3		3		16:30			60		46		106	
04:45			0	8	1	7	1	15	16:45			54	231	51	190	105	421
05:00			2		6		8		17:00			66		56		122	
05:15			2		3		5		17:15			46		52		98	
05:30			4		6		10		17:30			52		40		92	
05:45			4	12	5	20	9	32	17:45			53	217	46	194	99	411
06:00			5		8		13		18:00			52		50		102	
06:15			3		10		13		18:15			51		49		100	
06:30			5		12		17		18:30			51		53		104	
06:45			4	17	16	46	20	63	18:45			60	214	47	199	107	413
07:00			4		13		17		19:00			59		38		97	
07:15			9		12		21		19:15			44		42		86	
07:30			14		31		45		19:30			46		45		91	
07:45			18	45	32	88	50	133	19:45			52	201	35	160	87	361
08:00			14		30		44		20:00			28		43		71	
08:15			15		37		52		20:15			37		42		79	
08:30			34		46		80		20:30			46		30		76	
08:45			25	88	39	152	64	240	20:45			40	151	40	155	80	306
09:00			38		51		89		21:00			33		36		69	
09:15			23		50		73		21:15			61		41		102	
09:30			29		35		64		21:30			42		33		75	
09:45			35	125	46	182	81	307	21:45			32	168	42	152	74	320
10:00			36		40		76		22:00			27		29		56	
10:15			44		51		95		22:15			38		38		76	
10:30			26		45		71		22:30			27		28		55	
10:45			42	148	52	188	94	336	22:45			22	114	27	122	49	236
11:00			38		48		86		23:00			28		25		53	
11:15			36		44		80		23:15			34		18		52	
11:30			47		51		98		23:30			25		27		52	
11:45			70	191	46	189	116	380	23:45			13	100	22	92	35	192
TOTALS				744		995		**1739**	**TOTALS**				2266		2094		**4360**
SPLIT %				42.8%		57.2%		**28.5%**	**SPLIT %**				52.0%		48.0%		**71.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,010	3,089	6,099

AM Peak Hour			11:30	11:45	**11:45**	**PM Peak Hour**			14:45	13:00	**14:45**
AM Pk Volume			225	213	**436**	**PM Pk Volume**			247	218	**460**
Pk Hr Factor			0.804	0.859	**0.940**	**Pk Hr Factor**			0.895	0.865	**0.898**
7 - 9 Volume	0	0	133	240	**373**	**4 - 6 Volume**	0	0	448	384	**832**
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			16:15	16:30	**16:15**
7 - 9 Pk Volume	0	0	88	152	**240**	**4 - 6 Pk Volume**	0	0	237	205	**438**
Pk Hr Factor	0.000	0.000	0.647	0.826	**0.750**	**Pk Hr Factor**	0.000	0.000	0.898	0.915	**0.898**

Prepared by NDS/ATD

VOLUME

California Ave Bet. 3rd St & 4th St

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,065	2,879	5,944

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			10		16		26		12:00			66		58		124	
00:15			18		17		35		12:15			59		49		108	
00:30			8		12		20		12:30			53		62		115	
00:45			8	44	9	54	17	98	12:45			55	233	49	218	104	451
01:00			9		4		13		13:00			53		55		108	
01:15			3		7		10		13:15			67		40		107	
01:30			5		4		9		13:30			66		53		119	
01:45			6	23	9	24	15	47	13:45			62	248	58	206	120	454
02:00			9		7		16		14:00			56		51		107	
02:15			8		5		13		14:15			44		47		91	
02:30			3		4		7		14:30			56		62		118	
02:45			5	25	3	19	8	44	14:45			69	225	62	222	131	447
03:00			2		2		4		15:00			68		50		118	
03:15			1		4		5		15:15			81		43		124	
03:30			1		5		6		15:30			54		69		123	
03:45			1	5	0	11	1	16	15:45			58	261	31	193	89	454
04:00			1		2		3		16:00			58		40		98	
04:15			1		0		1		16:15			64		49		113	
04:30			0		2		2		16:30			65		40		105	
04:45			0	2	1	5	1	7	16:45			44	231	55	184	99	415
05:00			0		2		2		17:00			67		51		118	
05:15			3		3		6		17:15			42		49		91	
05:30			3		4		7		17:30			56		39		95	
05:45			5	11	5	14	10	25	17:45			49	214	49	188	98	402
06:00			4		6		10		18:00			46		47		93	
06:15			5		8		13		18:15			51		52		103	
06:30			4		12		16		18:30			49		49		98	
06:45			5	18	16	42	21	60	18:45			52	198	43	191	95	389
07:00			6		14		20		19:00			63		34		97	
07:15			10		11		21		19:15			42		37		79	
07:30			12		21		33		19:30			43		40		83	
07:45			17	45	24	70	41	115	19:45			50	198	32	143	82	341
08:00			16		20		36		20:00			35		38		73	
08:15			21		27		48		20:15			32		31		63	
08:30			41		33		74		20:30			38		25		63	
08:45			29	107	45	125	74	232	20:45			34	139	46	140	80	279
09:00			35		40		75		21:00			31		29		60	
09:15			20		44		64		21:15			44		31		75	
09:30			33		32		65		21:30			44		30		74	
09:45			39	127	40	156	79	283	21:45			27	146	38	128	65	274
10:00			39		34		73		22:00			27		24		51	
10:15			49		48		97		22:15			32		36		68	
10:30			39		47		86		22:30			25		27		52	
10:45			40	167	57	186	97	353	22:45			22	106	21	108	43	214
11:00			48		44		92		23:00			19		18		37	
11:15			41		37		78		23:15			32		14		46	
11:30			57		44		101		23:30			17		22		39	
11:45			62	208	51	176	113	384	23:45			16	84	22	76	38	160
TOTALS				782		882		**1664**	**TOTALS**				2283		1997		**4280**
SPLIT %				47.0%		53.0%		**28.0%**	**SPLIT %**				53.3%		46.7%		**72.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,065	2,879	5,944

AM Peak Hour			11:30	11:45	**11:45**	**PM Peak Hour**			14:30	14:45	**14:45**
AM Pk Volume			244	220	**460**	**PM Pk Volume**			274	224	**496**
Pk Hr Factor			0.924	0.887	**0.927**	**Pk Hr Factor**			0.846	0.812	**0.947**
7 - 9 Volume	0	0	152	195	**347**	**4 - 6 Volume**	0	0	445	372	**817**
7 - 9 Peak Hour			08:00	08:00	**08:00**	**4 - 6 Peak Hour**			16:15	16:15	**16:15**
7 - 9 Pk Volume	0	0	107	125	**232**	**4 - 6 Pk Volume**	0	0	240	195	**435**
Pk Hr Factor	0.000	0.000	0.652	0.694	**0.784**	**Pk Hr Factor**	0.000	0.000	0.896	0.886	**0.922**

Prepared by NDS/ATD

VOLUME

California Ave Bet. 4th St & 5th St

Day: Saturday
Date: 10/5/2019

City: Santa Monica
Project #: CA19_5595_011

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,496	2,724	5,220

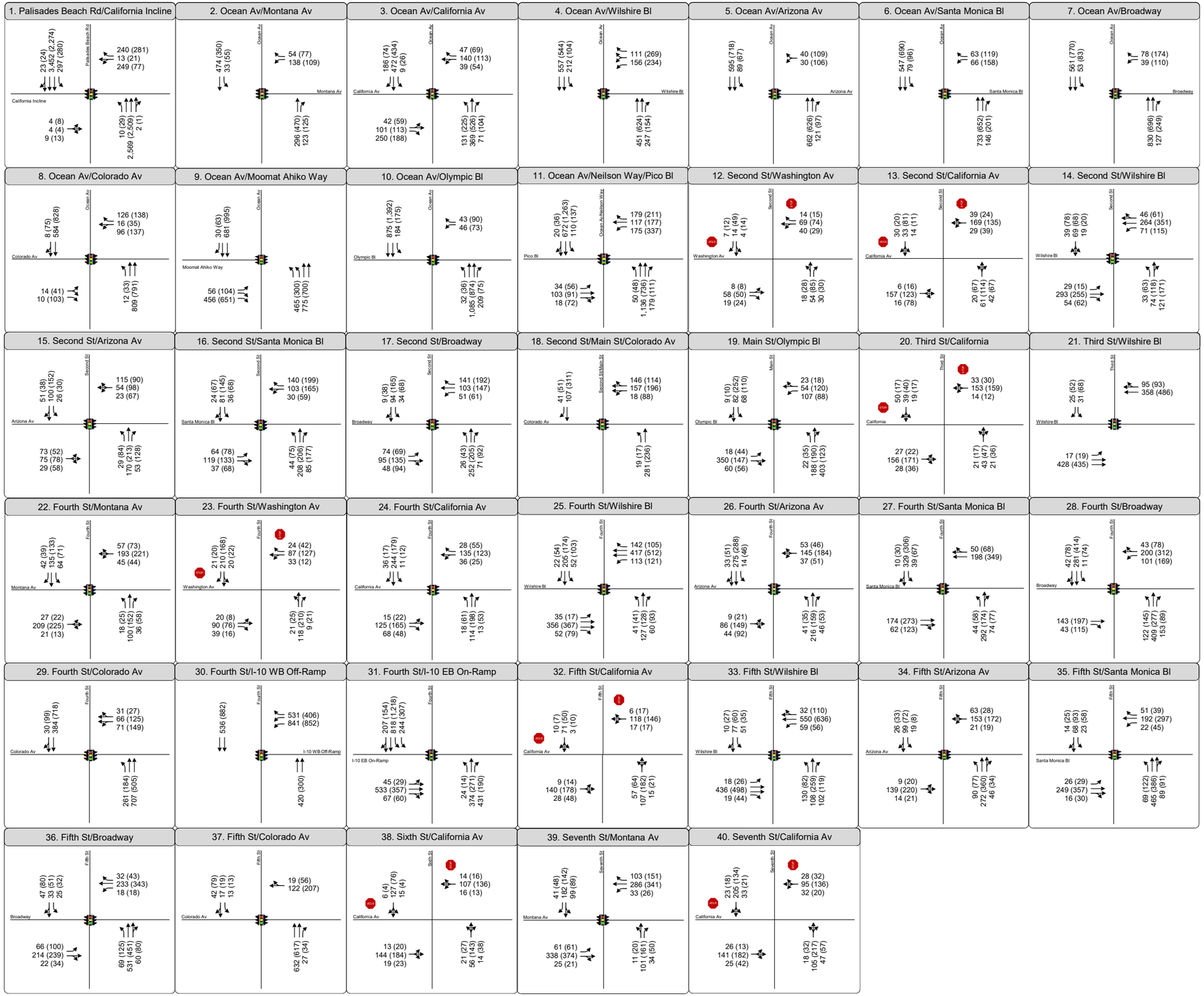
AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			7		18		25		12:00			67		65		132	
00:15			9		17		26		12:15			55		50		105	
00:30			7		11		18		12:30			35		60		95	
00:45			8	31	7	53	15	84	12:45			48	205	52	227	100	432
01:00			4		4		8		13:00			49		67		116	
01:15			3		7		10		13:15			47		43		90	
01:30			5		4		9		13:30			50		62		112	
01:45			5	17	6	21	11	38	13:45			52	198	59	231	111	429
02:00			6		5		11		14:00			48		45		93	
02:15			5		3		8		14:15			40		50		90	
02:30			1		1		2		14:30			36		67		103	
02:45			3	15	2	11	5	26	14:45			58	182	50	212	108	394
03:00			2		2		4		15:00			57		49		106	
03:15			1		3		4		15:15			69		46		115	
03:30			1		2		3		15:30			35		59		94	
03:45			1	5	0	7	1	12	15:45			54	215	39	193	93	408
04:00			1		2		3		16:00			49		28		77	
04:15			0		0		0		16:15			56		49		105	
04:30			1		1		2		16:30			54		37		91	
04:45			0	2	2	5	2	7	16:45			37	196	57	171	94	367
05:00			1		0		1		17:00			60		41		101	
05:15			3		1		4		17:15			38		45		83	
05:30			3		0		3		17:30			43		37		80	
05:45			3	10	4	5	7	15	17:45			43	184	48	171	91	355
06:00			4		5		9		18:00			36		48		84	
06:15			4		7		11		18:15			46		43		89	
06:30			4		6		10		18:30			38		45		83	
06:45			3	15	15	33	18	48	18:45			41	161	36	172	77	333
07:00			8		9		17		19:00			58		35		93	
07:15			5		7		12		19:15			35		37		72	
07:30			13		15		28		19:30			36		36		72	
07:45			17	43	22	53	39	96	19:45			41	170	37	145	78	315
08:00			9		27		36		20:00			26		37		63	
08:15			22		17		39		20:15			26		29		55	
08:30			23		33		56		20:30			30		25		55	
08:45			20	74	44	121	64	195	20:45			23	105	37	128	60	233
09:00			27		30		57		21:00			23		26		49	
09:15			13		45		58		21:15			26		24		50	
09:30			29		36		65		21:30			36		27		63	
09:45			23	92	27	138	50	230	21:45			25	110	27	104	52	214
10:00			29		30		59		22:00			26		25		51	
10:15			44		48		92		22:15			26		26		52	
10:30			37		50		87		22:30			19		20		39	
10:45			34	144	57	185	91	329	22:45			16	87	20	91	36	178
11:00			42		34		76		23:00			7		17		24	
11:15			43		39		82		23:15			28		14		42	
11:30			45		43		88		23:30			13		15		28	
11:45			49	179	68	184	117	363	23:45			8	56	17	63	25	119
TOTALS				627		816		1443	TOTALS				1869		1908		3777
SPLIT %				43.5%		56.5%		27.6%	SPLIT %				49.5%		50.5%		72.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,496	2,724	5,220

AM Peak Hour			11:30	11:45	11:45	PM Peak Hour			14:30	13:00	12:00
AM Pk Volume			216	243	449	PM Pk Volume			220	231	432
Pk Hr Factor			0.806	0.893	0.850	Pk Hr Factor			0.797	0.862	0.818
7 - 9 Volume	0	0	117	174	291	4 - 6 Volume	0	0	380	342	722
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:15	16:15	16:15
7 - 9 Pk Volume	0	0	74	121	195	4 - 6 Pk Volume	0	0	207	184	391
Pk Hr Factor	0.000	0.000	0.804	0.688	0.762	Pk Hr Factor	0.000	0.000	0.863	0.807	0.931

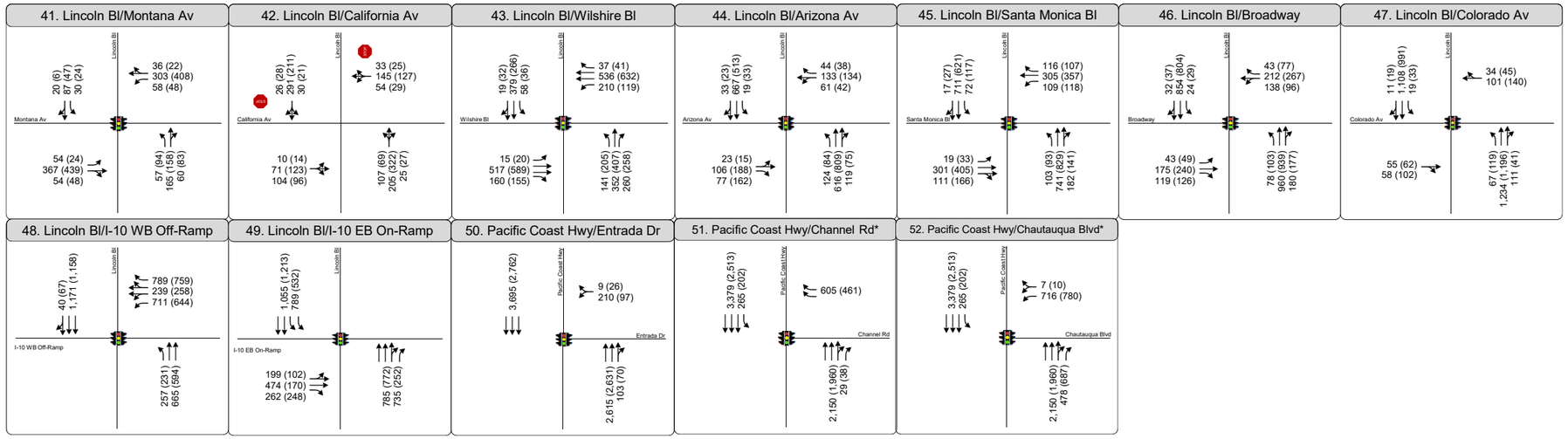
APPENDIX B1:
STUDY INTERSECTION LANE CONFIGURATION AND TRAFFIC VOLUMES

EXISTING CONDITIONS

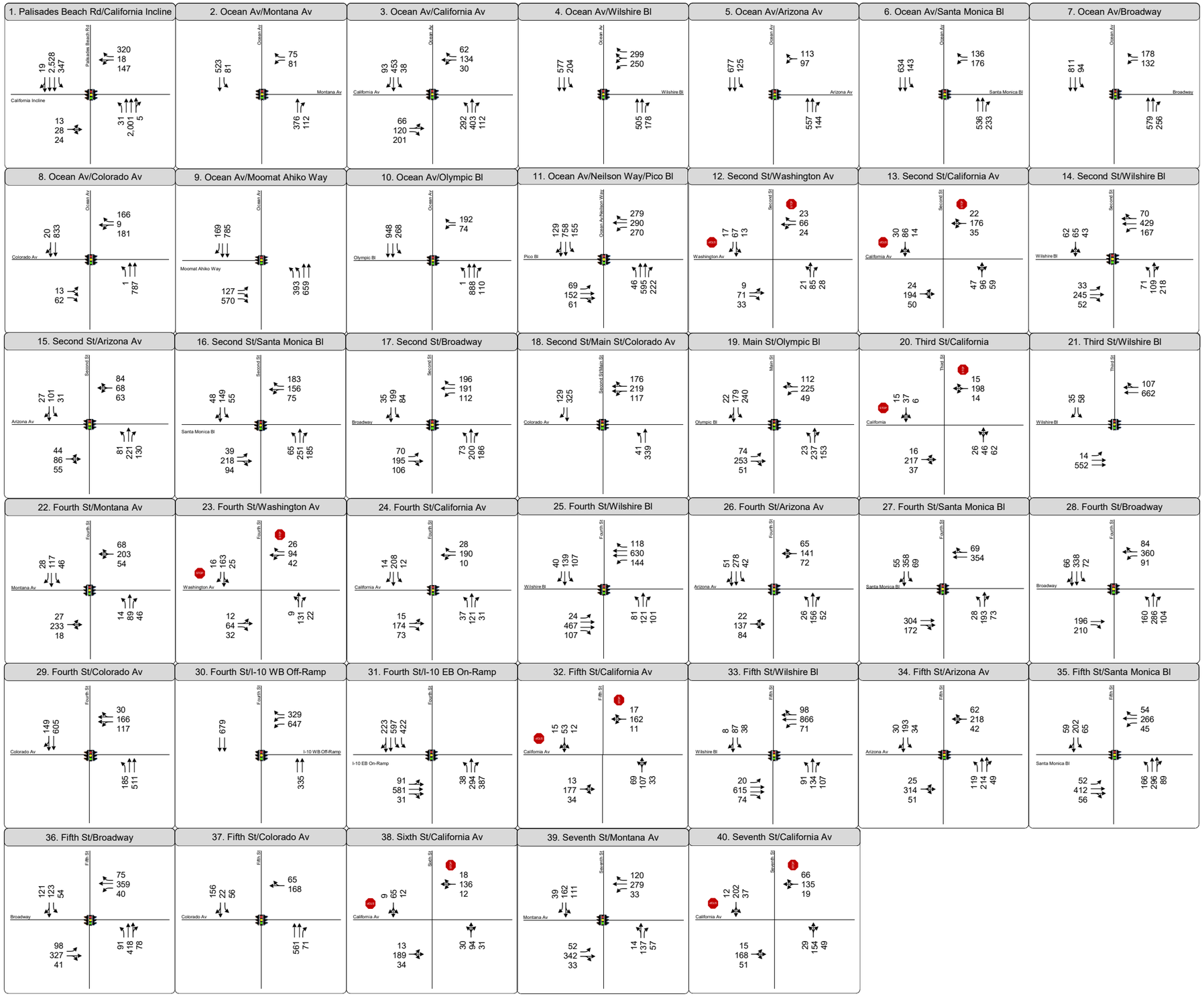


FEHR PEERS

Turning Movement Volumes - AM (PM)
Existing Conditions (2017)
Appendix B1

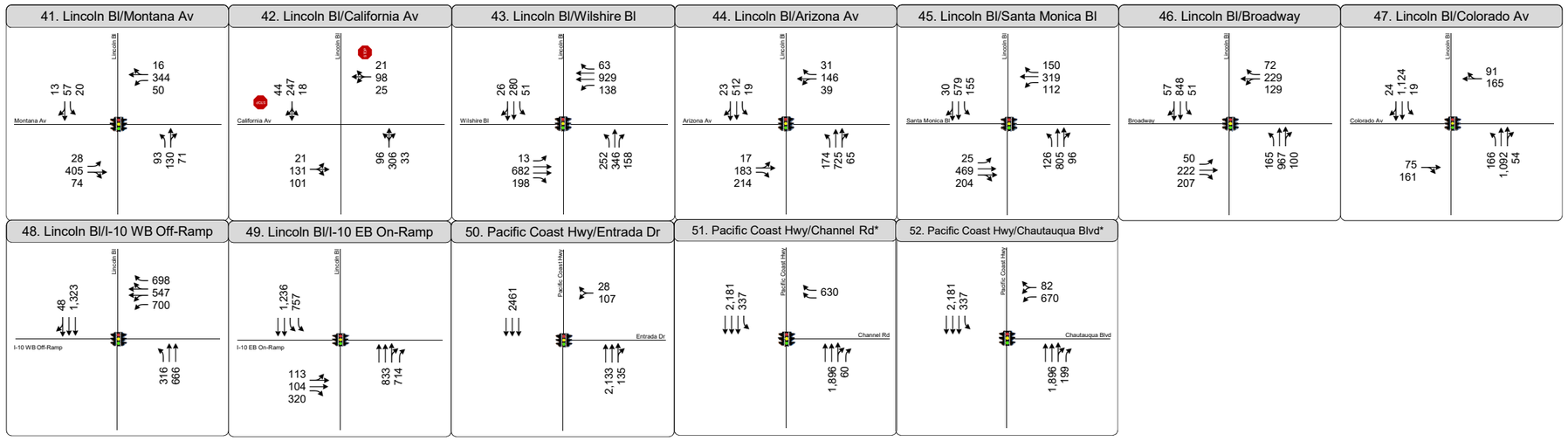


*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection



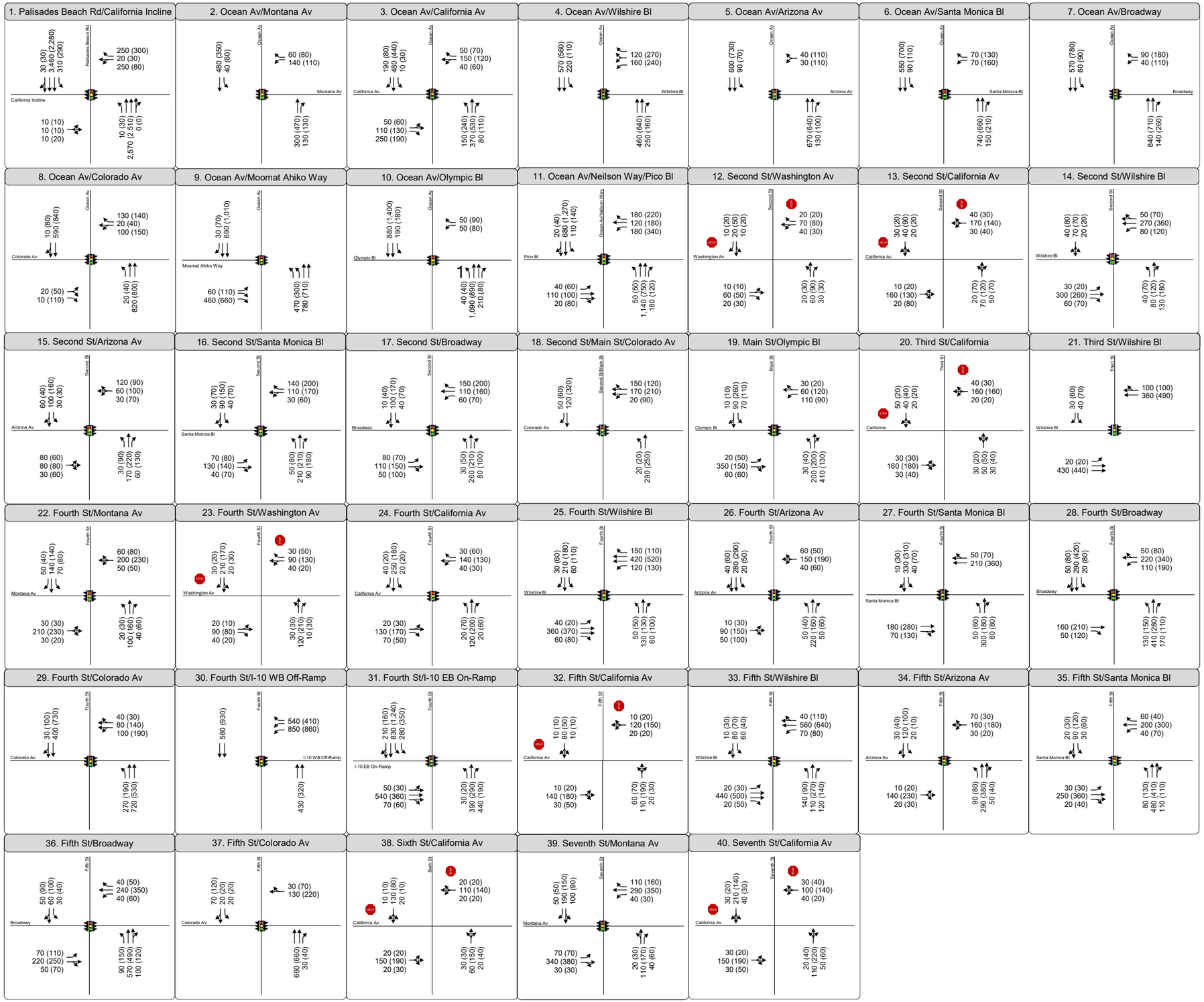
FEHR PEERS

Turning Movement Volumes - MD
Existing Conditions (2017/2018)
Appendix B1



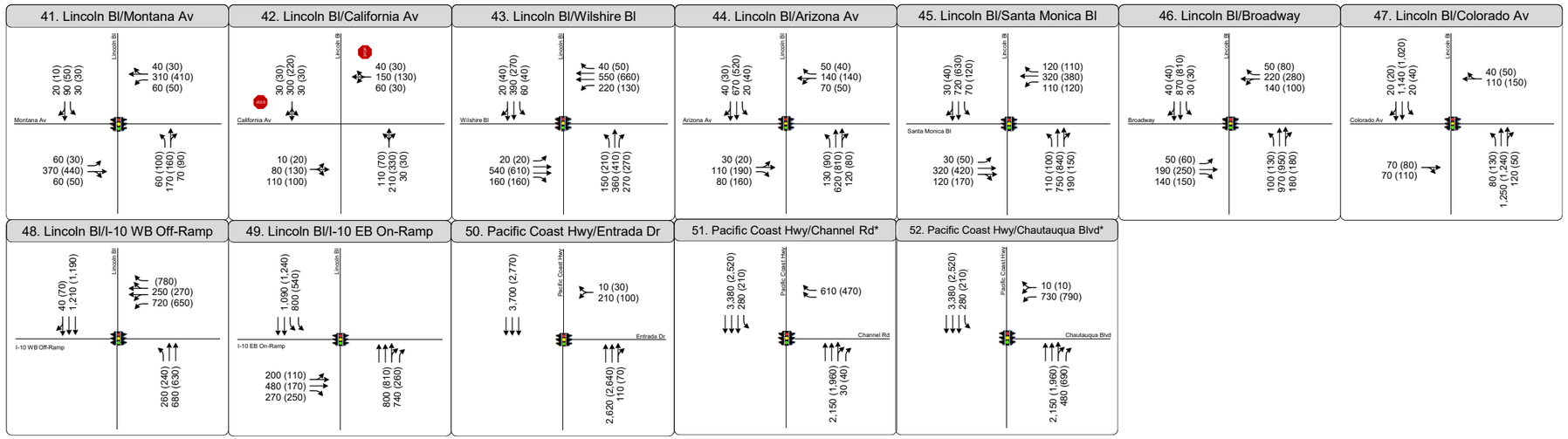
*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection

APPROVAL YEAR (2020) NO PROJECT CONDITIONS

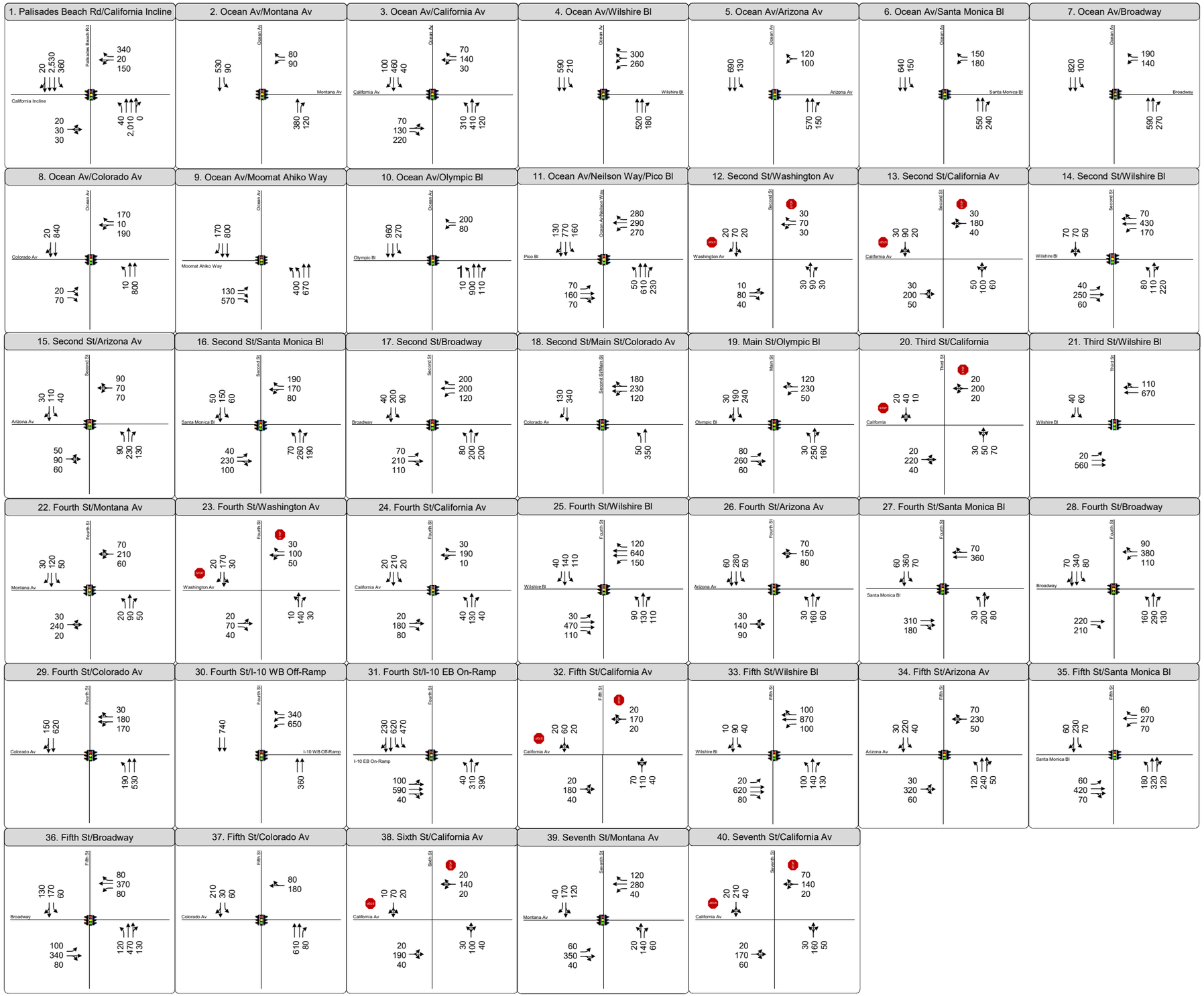


FEHR PEERS

Turning Movement Volumes - AM (PM)
Approval Year (2020)

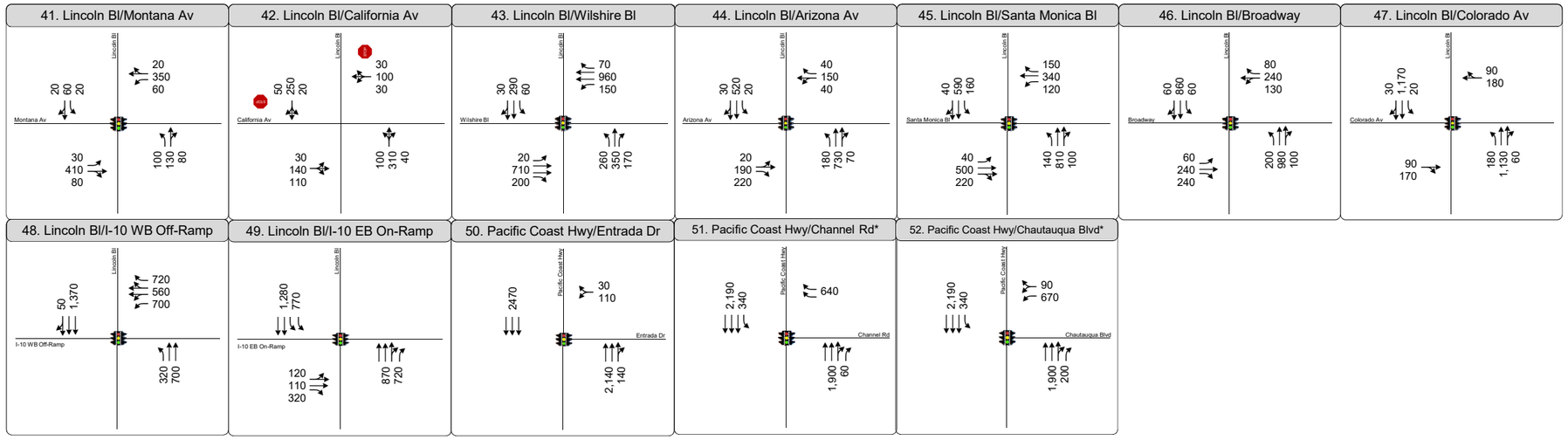


*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection



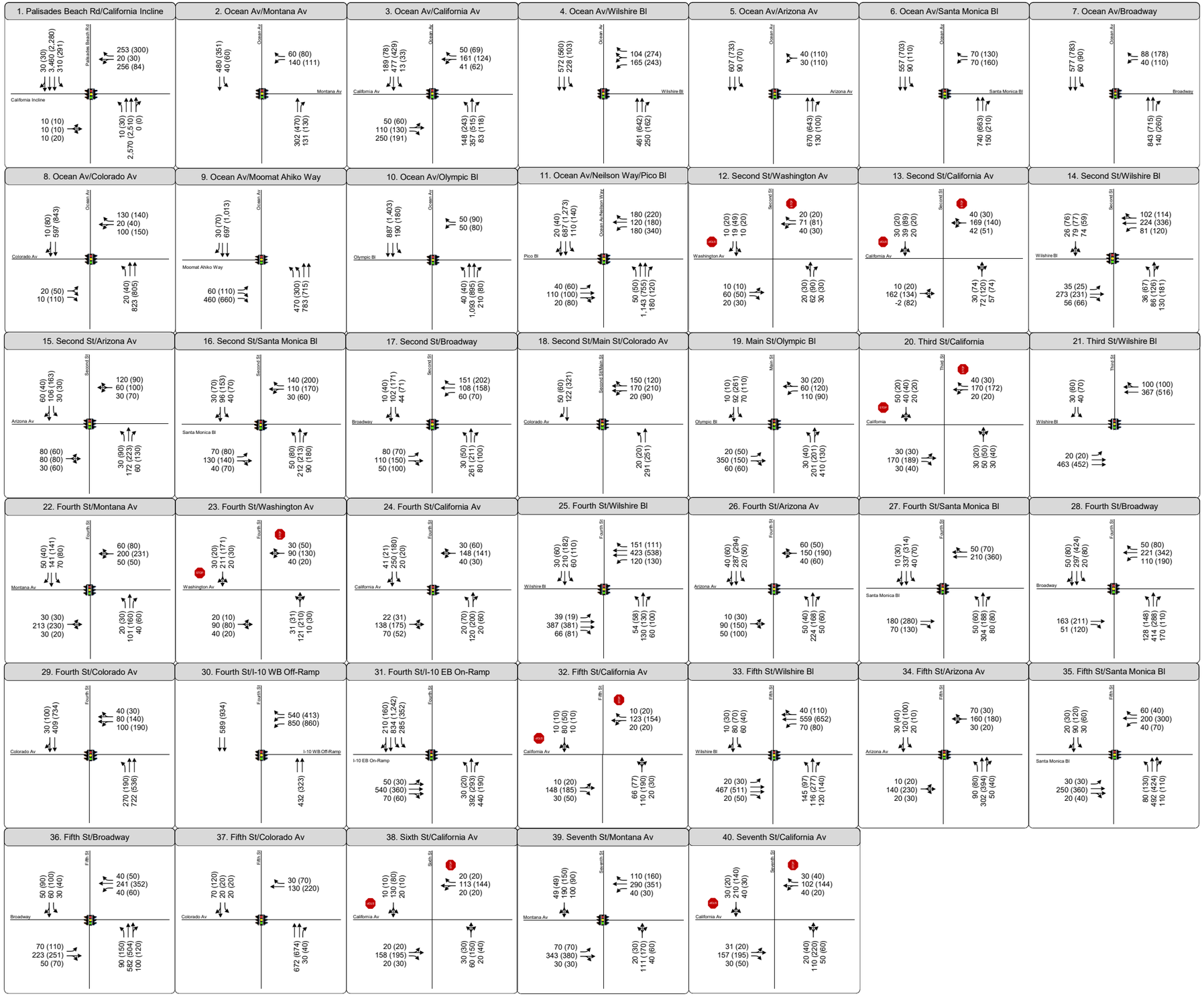
FEHR PEERS

Turning Movement Volumes - MD
Approval Year (2020)
Appendix B1



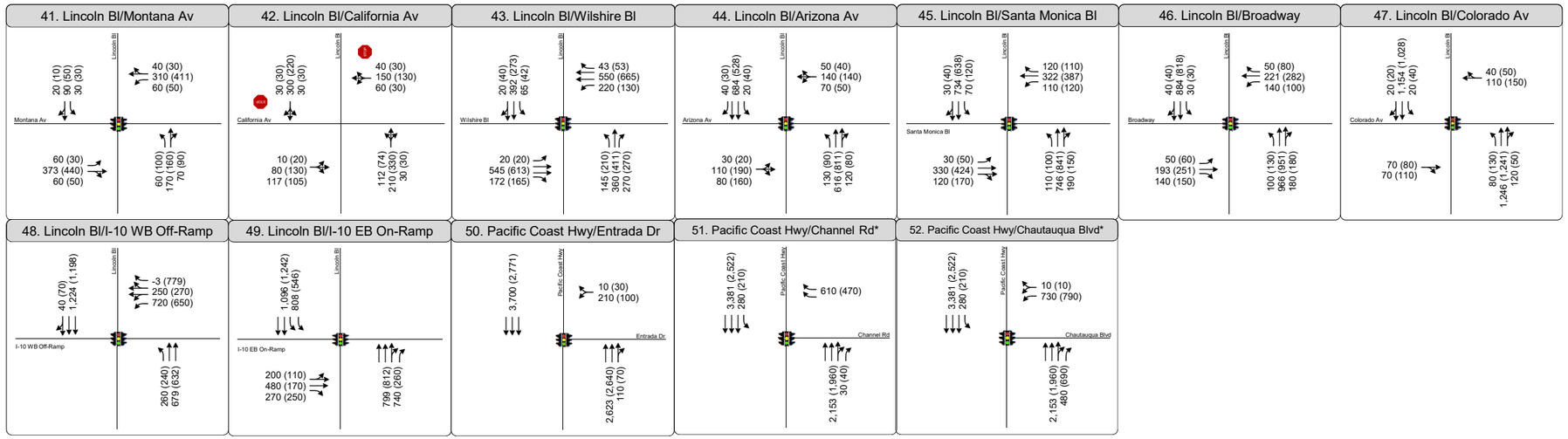
*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection

APPROVAL YEAR (2020) PLUS PROJECT CONDITIONS

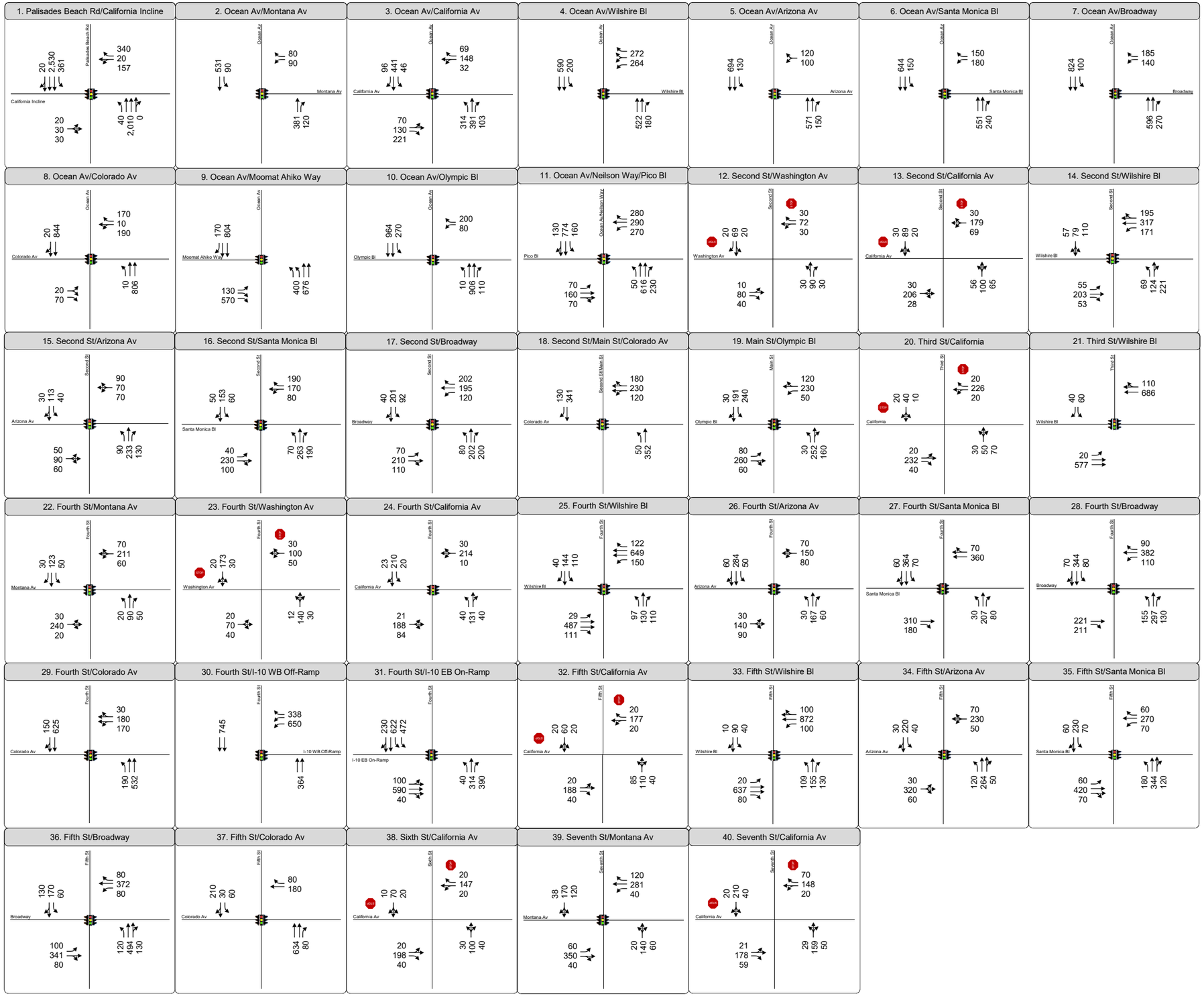


FEHR PEERS

Turning Movement Volumes - AM (PM)
Approval Year Plus Project (2020)
Appendix B1

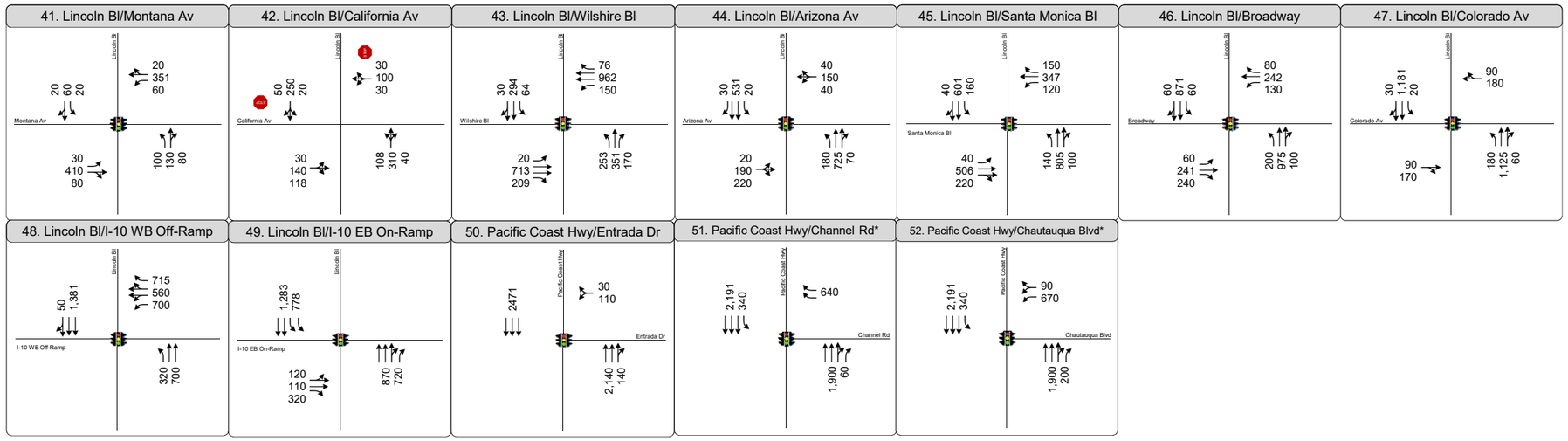


*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection



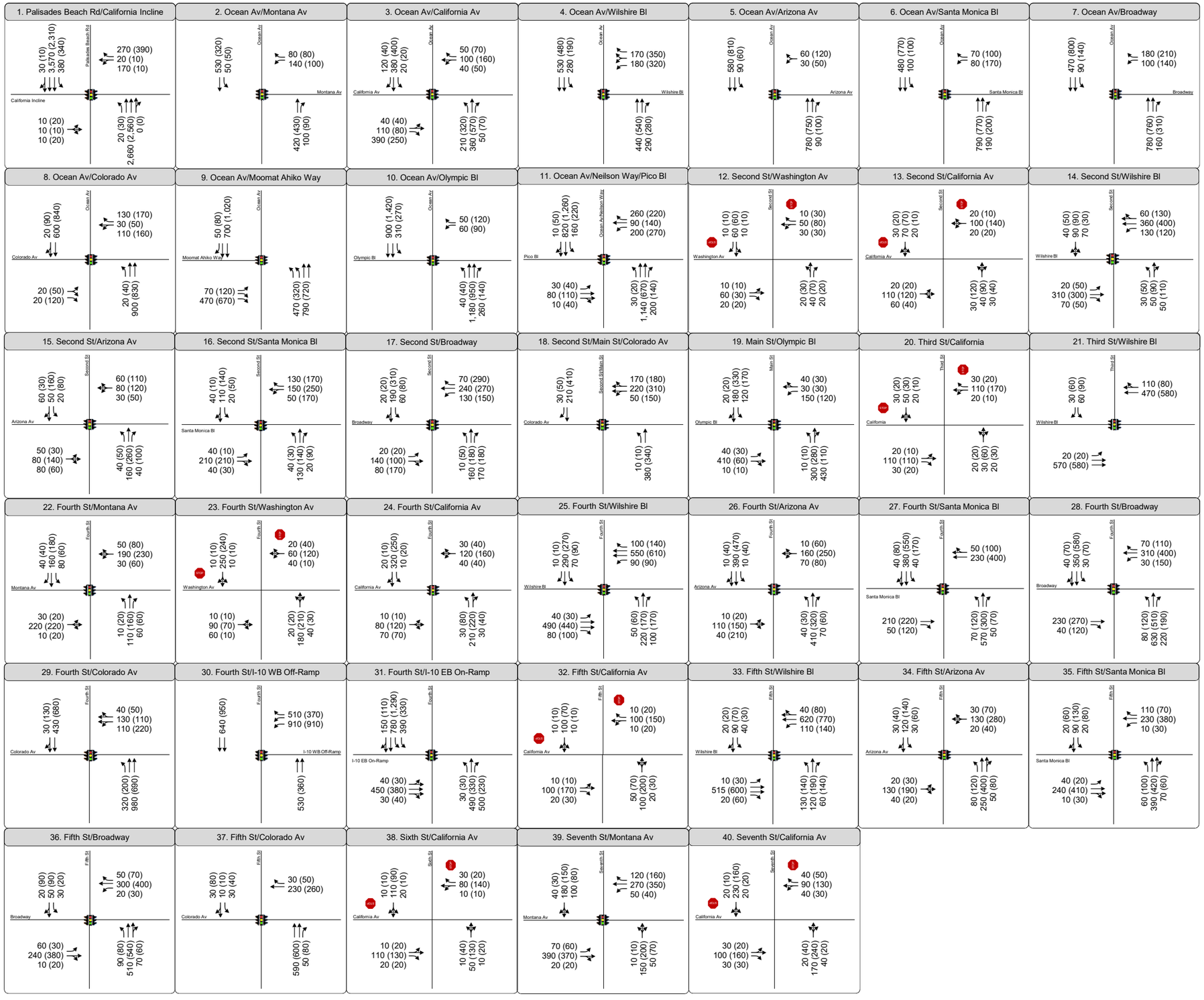
FEHR PEERS

Turning Movement Volumes - MD
Approval Year Plus Project (2020)
Appendix B1



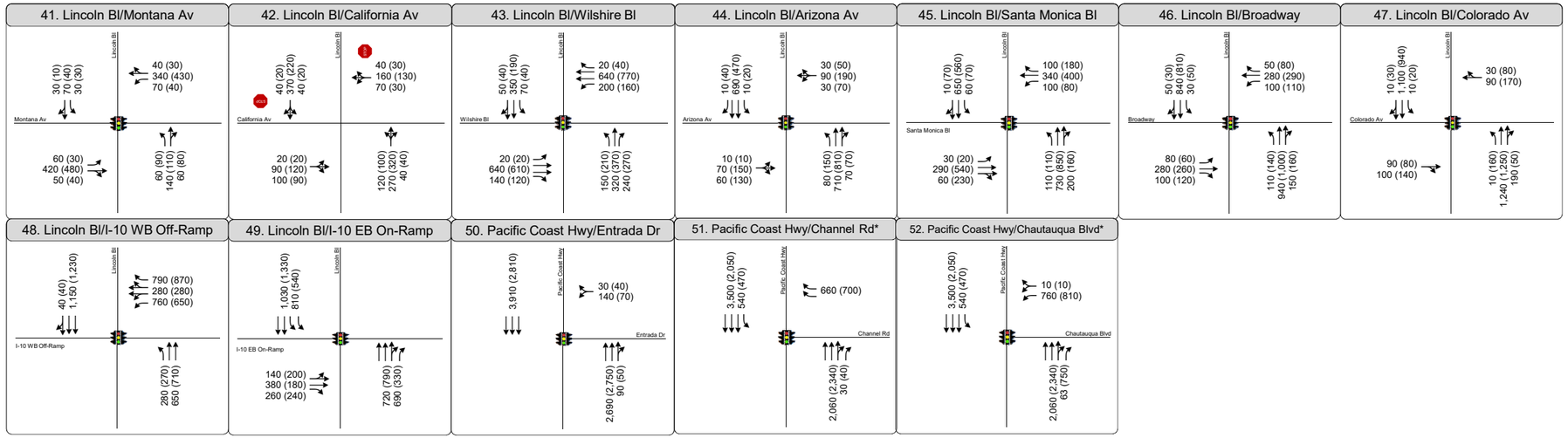
*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection

FUTURE (2025) NO PROJECT CONDITIONS

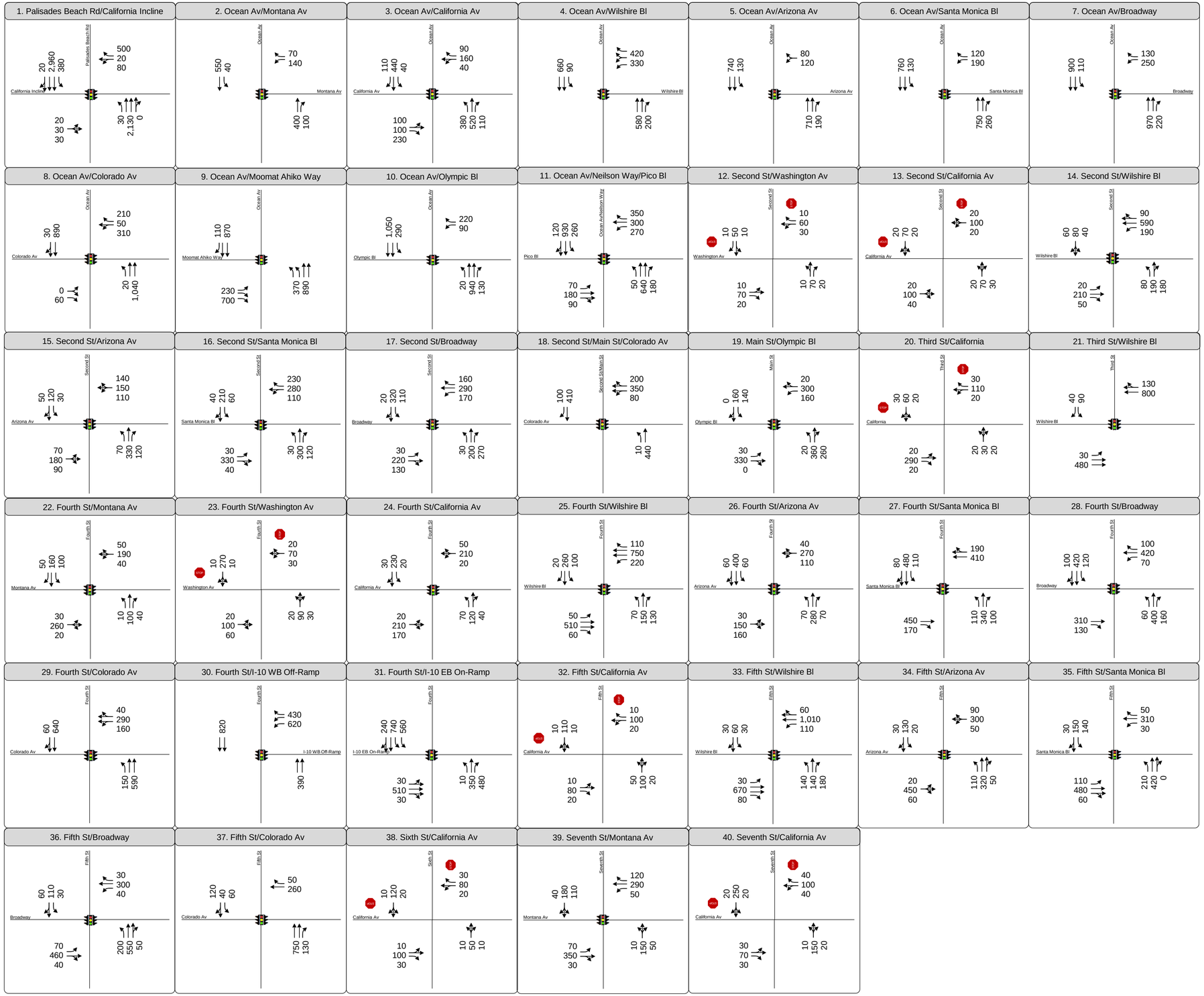


FEHR PEERS

Turning Movement Volumes - AM (PM)
Future Year (2025)
Appendix B1

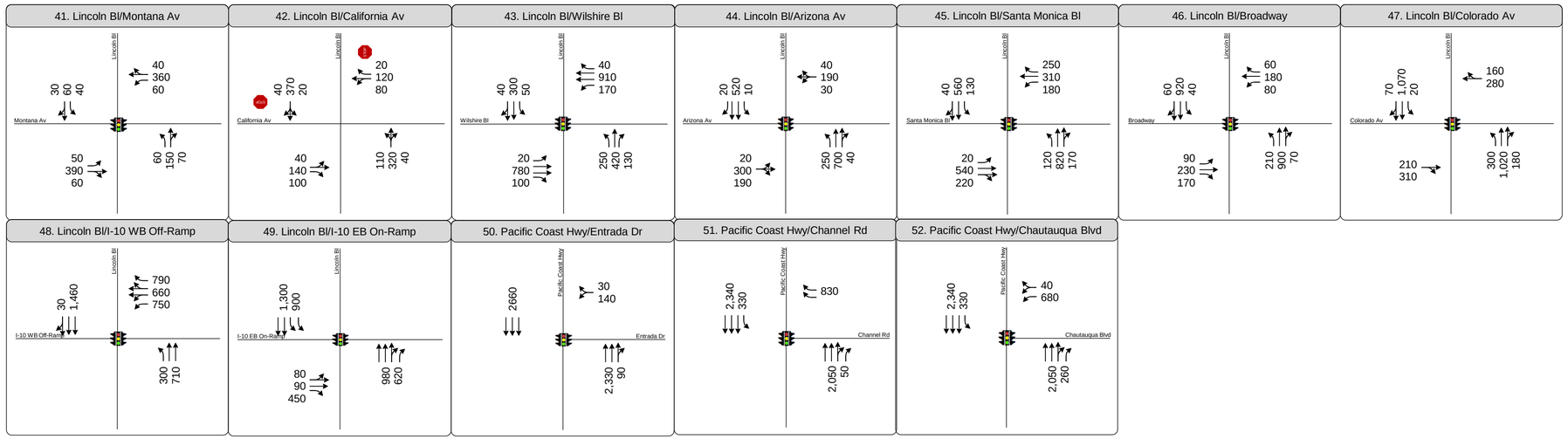


*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection



FEHR PEERS

Turning Movement Volumes - MD
Future Year (2025)
Appendix B1

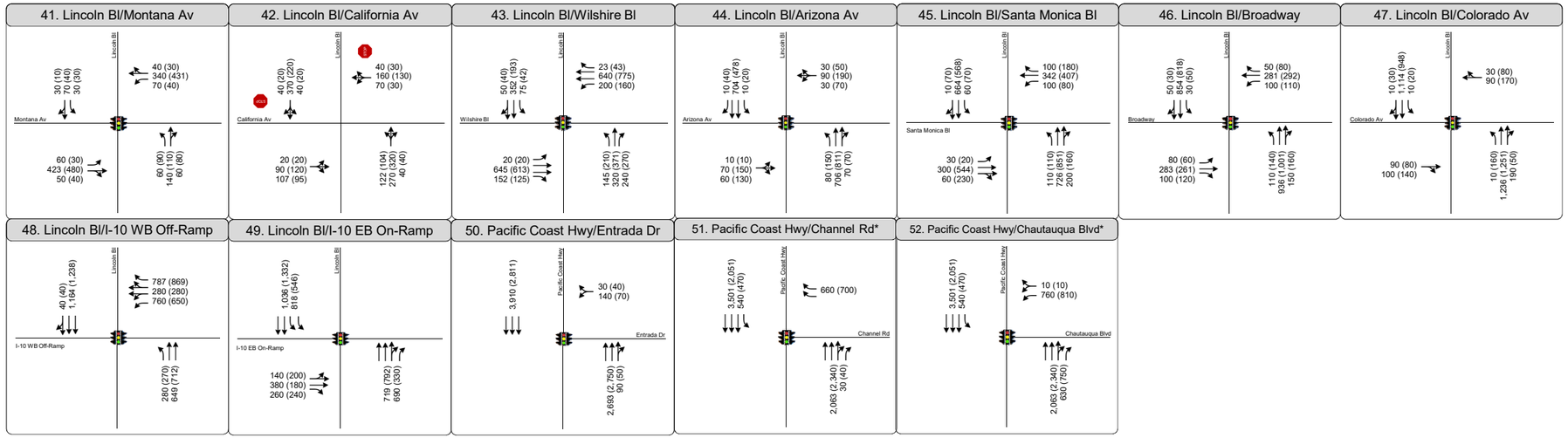


*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection

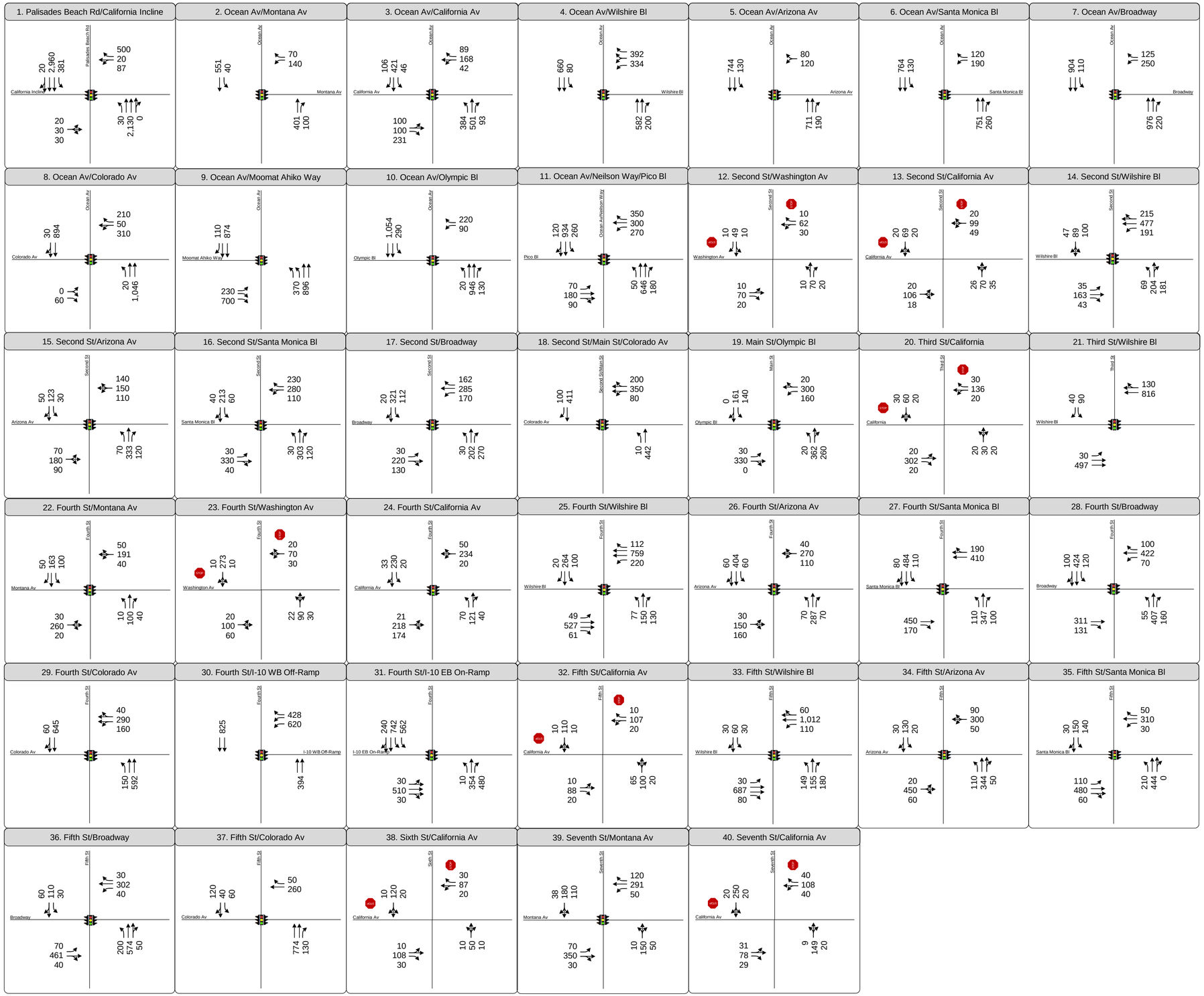
FUTURE (2025) PLUS PROJECT CONDITIONS

FEHR PEERS

Turning Movement Volumes - AM (PM)
Future Year Plus Project (2025)
Appendix B1

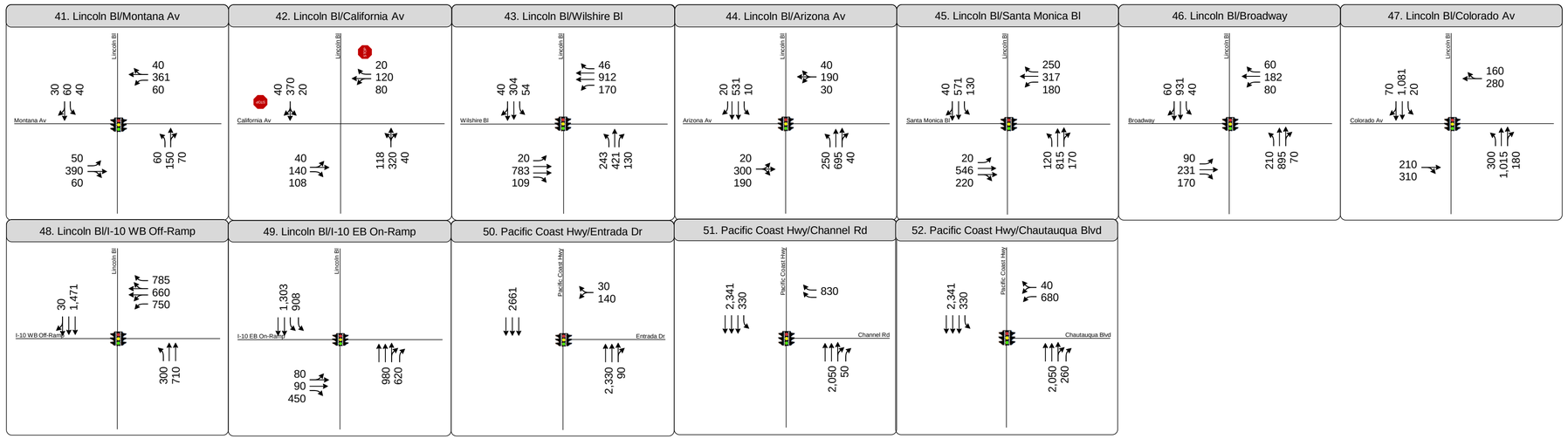


*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection



FEHR PEERS

Turning Movement Volumes - MD
Future Year Plus Project (2025)
Appendix B1



*Intersections 51 and 52 are displayed separately for graphical representation purposes but actually function together as a single, combined intersection

APPENDIX B2:
STUDY INTERSECTION LEVEL OF SERVICE WORKSHEETS

EXISTING CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	76.6
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.347

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	10	2569	2	297	3452	23	4	4	9	249	13	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	2569	2	297	3452	23	4	4	9	249	13	240
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	732	1	79	920	6	1	1	3	68	4	65
Total Analysis Volume [veh/h]	11	2926	2	317	3679	25	5	5	11	272	14	262
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	3	145	44	186	186	36	35	84
g / C, Green / Cycle	0.01	0.61	0.18	0.78	0.78	0.15	0.15	0.35
(v / s)_i Volume / Saturation Flow Rate	0.01	0.57	0.18	0.67	0.67	0.07	0.61	0.16
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1893	302	471	1594
c, Capacity [veh/h]	24	3132	334	2808	1470	64	98	560
d1, Uniform Delay [s]	117.59	43.07	96.81	18.30	18.43	89.80	108.03	60.49
k, delay calibration	0.04	0.50	0.20	0.50	0.50	0.04	0.50	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.12	6.67	21.23	3.86	7.18	1.11	895.58	2.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

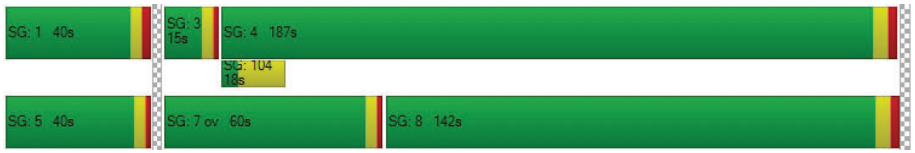
X, volume / capacity	0.46	0.93	0.95	0.86	0.87	0.33	2.93	0.47
d, Delay for Lane Group [s/veh]	122.72	49.74	118.04	22.16	25.61	90.91	1003.61	63.08
Lane Group LOS	F	D	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.72	52.99	21.50	43.42	47.27	1.16	30.53	13.14
50th-Percentile Queue Length [ft/ln]	18.07	1324.85	537.60	1085.50	1181.81	29.12	763.35	328.48
95th-Percentile Queue Length [veh/ln]	1.30	64.93	29.11	54.23	58.55	2.10	50.27	19.08
95th-Percentile Queue Length [ft/ln]	32.52	1623.31	727.73	1355.67	1463.70	52.41	1256.87	477.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	122.72	49.74	0.00	118.04	23.33	25.61	90.91	90.91	90.91	1003.61	1003.61	63.08
Movement LOS	F	D		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	50.02			30.81			90.91			553.94		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	76.56											
Intersection LOS	E											
Intersection V/C	1.347											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	131	369	71	0	9	472	186	0	42	101	250	0	39	140	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	369	71	0	9	472	186	0	42	101	250	0	39	140	47
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	39	109	21	0	2	129	51	0	13	30	75	0	10	37	12
Total Analysis Volume [veh/h]	154	434	84	0	10	515	203	0	50	121	300	0	41	149	50
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	63	63	1	54	54	18	37	18	18
g / C, Green / Cycle	0.10	0.63	0.63	0.01	0.54	0.54	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.09	0.23	0.06	0.01	0.27	0.14	0.37	0.19	0.35	0.04
s, saturation flow rate [veh/h]	1810	1900	1425	1810	1900	1441	460	1542	547	1212
c, Capacity [veh/h]	185	1187	890	23	1017	771	131	575	145	224
d1, Uniform Delay [s]	44.05	9.11	7.47	49.01	14.81	12.56	39.63	24.42	39.07	34.67
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.50	0.13	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.72	0.87	0.21	4.95	1.80	0.83	180.30	0.88	181.46	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

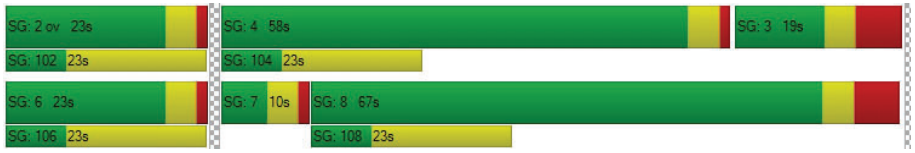
X, volume / capacity	0.83	0.37	0.09	0.44	0.51	0.26	1.30	0.52	1.31	0.22
d, Delay for Lane Group [s/veh]	47.77	9.98	7.68	53.97	16.61	13.39	219.92	25.30	220.53	34.86
Lane Group LOS	D	A	A	D	B	B	F	C	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.90	4.52	0.72	0.28	7.58	2.54	9.88	5.64	10.86	1.03
50th-Percentile Queue Length [ft/ln]	97.58	112.92	18.08	6.95	189.59	63.61	246.96	141.07	271.53	25.77
95th-Percentile Queue Length [veh/ln]	7.03	8.00	1.30	0.50	12.10	4.58	16.76	9.54	18.22	1.86
95th-Percentile Queue Length [ft/ln]	175.64	200.06	32.55	12.51	302.50	114.49	419.08	238.46	455.52	46.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.77	9.98	7.68	53.97	53.97	16.61	13.39	219.9	219.9	219.9	25.30	220.5	220.5	220.5	34.86
Movement LOS	D	A	A	D	D	B	B	F	F	F	C	F	F	F	C
d_A, Approach Delay [s/veh]	18.35			16.22				95.96				181.84			
Approach LOS	B			B				F				F			
d_I, Intersection Delay [s/veh]	53.52														
Intersection LOS	D														
Intersection V/C	0.798														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.291

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	451	247	0	212	557	0	156	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	451	247	0	212	557	0	156	111
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	124	68	0	61	159	0	44	31
Total Analysis Volume [veh/h]	0	496	272	0	243	637	0	175	125
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	61	61	61	73	73	14	14	14
g / C, Green / Cycle	0.61	0.61	0.61	0.73	0.73	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.18	0.24	0.18	0.06	0.06	0.07
s, saturation flow rate [veh/h]	1900	1729	1548	1034	3618	1690	1746	1428
c, Capacity [veh/h]	1197	1057	946	801	2631	238	245	201
d1, Uniform Delay [s]	8.76	8.76	9.17	4.58	4.51	39.35	39.19	39.54
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.49	0.77	0.98	0.22	0.48	0.41	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

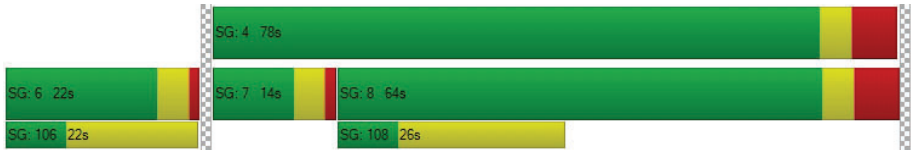
X, volume / capacity	0.22	0.22	0.29	0.30	0.24	0.44	0.41	0.47
d, Delay for Lane Group [s/veh]	9.17	9.25	9.94	5.56	4.73	39.83	39.60	40.18
Lane Group LOS	A	A	A	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.52	2.31	2.81	1.53	1.89	2.36	2.28	2.16
50th-Percentile Queue Length [ft/ln]	62.93	57.71	70.27	38.30	47.26	59.12	57.04	54.01
95th-Percentile Queue Length [veh/ln]	4.53	4.16	5.06	2.76	3.40	4.26	4.11	3.89
95th-Percentile Queue Length [ft/ln]	113.27	103.88	126.49	68.94	85.07	106.41	102.68	97.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.17	9.21	9.94	5.56	5.56	4.73	39.83	39.73	40.06
Movement LOS	A	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	9.46			4.96			39.86		
Approach LOS	A			A			D		
d_I, Intersection Delay [s/veh]	12.11								
Intersection LOS	B								
Intersection V/C	0.291								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	662	121	89	595	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	662	121	89	595	30	40
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	180	33	24	163	10	13
Total Analysis Volume [veh/h]	720	132	97	651	39	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	73	73	73	73	14
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.14
(v / s)_i Volume / Saturation Flow Rate	0.20	0.09	0.13	0.18	0.05
s, saturation flow rate [veh/h]	3618	1496	739	3618	1692
c, Capacity [veh/h]	2627	1086	539	2627	240
d1, Uniform Delay [s]	4.68	4.11	7.76	4.57	38.89
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.23	0.73	0.23	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

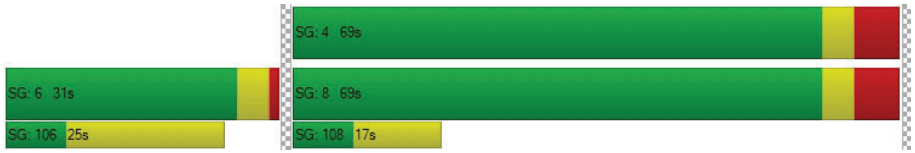
X, volume / capacity	0.27	0.12	0.18	0.25	0.38
d, Delay for Lane Group [s/veh]	4.94	4.34	8.49	4.80	39.27
Lane Group LOS	A	A	A	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.22	0.75	0.93	1.96	2.04
50th-Percentile Queue Length [ft/ln]	55.38	18.81	23.15	48.88	51.00
95th-Percentile Queue Length [veh/ln]	3.99	1.35	1.67	3.52	3.67
95th-Percentile Queue Length [ft/ln]	99.68	33.85	41.67	87.99	91.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.94	4.34	8.49	4.80	39.27	39.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.85		5.28		39.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	6.91					
Intersection LOS	A					
Intersection V/C	0.253					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	733	146	79	547	66	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	733	146	79	547	66	63
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	198	40	21	147	21	20
Total Analysis Volume [veh/h]	794	158	85	587	84	80
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	68	68	79	79	8	19
g / C, Green / Cycle	0.68	0.68	0.79	0.79	0.08	0.19
(v / s)_i Volume / Saturation Flow Rate	0.22	0.11	0.10	0.16	0.06	0.06
s, saturation flow rate [veh/h]	3618	1489	821	3618	1378	1409
c, Capacity [veh/h]	2454	1010	689	2850	110	267
d1, Uniform Delay [s]	6.62	5.78	2.87	2.69	45.03	34.80
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.33	0.37	0.16	4.01	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

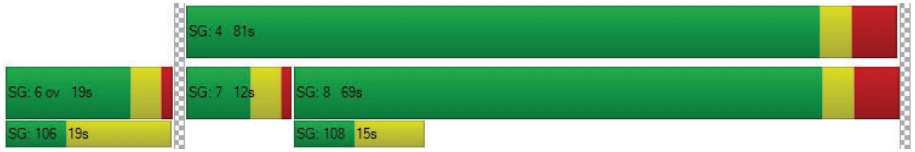
X, volume / capacity	0.32	0.16	0.12	0.21	0.76	0.30
d, Delay for Lane Group [s/veh]	6.97	6.11	3.24	2.85	49.05	35.03
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.19	1.16	0.34	1.12	2.15	1.68
50th-Percentile Queue Length [ft/ln]	79.83	29.02	8.46	27.93	53.76	42.05
95th-Percentile Queue Length [veh/ln]	5.75	2.09	0.61	2.01	3.87	3.03
95th-Percentile Queue Length [ft/ln]	143.69	52.23	15.22	50.28	96.77	75.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.97	6.11	3.24	2.85	49.05	35.03
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.83		2.90		42.21	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.60					
Intersection LOS	A					
Intersection V/C	0.295					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	12	809	142	67	584	8	14	13	10	96	16	126
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	809	142	67	584	8	14	13	10	96	16	126
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	212	41	18	162	2	5	6	4	28	5	37
Total Analysis Volume [veh/h]	13	847	165	71	647	9	21	24	15	113	19	148
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	66	66	60	60	5	14	14
g / C, Green / Cycle	0.55	0.55	0.50	0.50	0.04	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.17	0.17	0.02	0.07	0.10
s, saturation flow rate [veh/h]	858	3618	1900	1889	1723	1822	1454
c, Capacity [veh/h]	473	1988	943	937	71	217	174
d1, Uniform Delay [s]	13.03	15.91	18.42	18.45	56.37	50.20	51.84
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.67	1.02	1.03	2.08	1.02	4.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

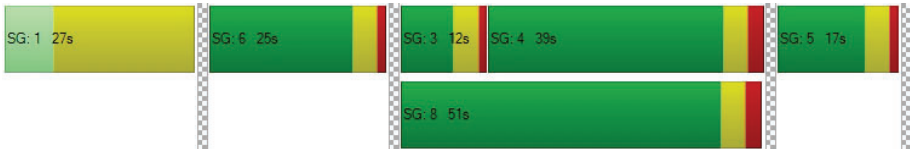
X, volume / capacity	0.03	0.43	0.35	0.35	0.51	0.61	0.85
d, Delay for Lane Group [s/veh]	13.04	16.58	19.44	19.48	58.45	51.22	56.36
Lane Group LOS	B	B	B	B	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.16	6.89	5.78	5.79	1.10	3.86	4.62
50th-Percentile Queue Length [ft/ln]	4.00	172.25	144.39	144.63	27.56	96.57	115.48
95th-Percentile Queue Length [veh/ln]	0.29	11.19	9.72	9.73	1.98	6.95	8.14
95th-Percentile Queue Length [ft/ln]	7.20	279.87	242.93	243.25	49.61	173.83	203.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.04	16.58	0.00	0.00	19.46	19.48	58.45	0.00	58.45	51.22	51.22	56.36
Movement LOS	B	B			B	B	E		E	D	D	E
d_A, Approach Delay [s/veh]	16.53			19.46			58.45			53.94		
Approach LOS	B			B			E			D		
d_I, Intersection Delay [s/veh]	24.12											
Intersection LOS	C											
Intersection V/C	0.357											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	465	775	681	30	56	456
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	465	775	681	30	56	456
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	128	213	183	8	16	134
Total Analysis Volume [veh/h]	512	853	732	32	66	534
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	81	81	81	6	30
g / C, Green / Cycle	0.16	0.67	0.67	0.67	0.05	0.25
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.20	0.02	0.04	0.20
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2667
c, Capacity [veh/h]	565	2430	2430	1085	95	671
d1, Uniform Delay [s]	49.44	8.45	8.10	6.59	55.87	42.00
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.35	0.40	0.32	0.05	3.39	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

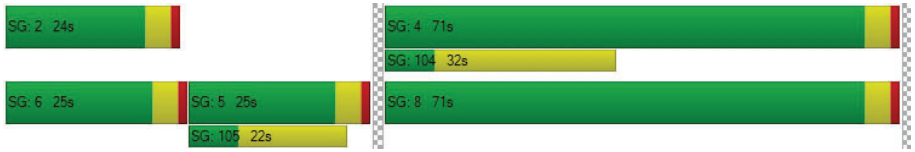
X, volume / capacity	0.91	0.35	0.30	0.03	0.70	0.80
d, Delay for Lane Group [s/veh]	51.79	8.85	8.42	6.64	59.26	42.83
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.70	4.63	3.80	0.28	2.15	7.89
50th-Percentile Queue Length [ft/ln]	192.48	115.64	94.99	6.95	53.68	197.29
95th-Percentile Queue Length [veh/ln]	12.25	8.15	6.84	0.50	3.87	12.50
95th-Percentile Queue Length [ft/ln]	306.25	203.82	170.98	12.50	96.63	312.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.79	8.85	8.42	6.64	59.26	42.83
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	24.96		8.34		44.64	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.63					
Intersection LOS	C					
Intersection V/C	0.436					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	34	103	18	0	175	0	117	179
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	34	103	18	0	175	0	117	179
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	9	28	5	0	46	0	31	47
Total Analysis Volume [veh/h]	0	0	0	0	37	111	19	0	184	0	124	189
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		19	19	19	31	31	31
g / C, Green / Cycle		0.21	0.21	0.21	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate		0.03	0.03	0.04	0.13	0.07	0.12
s, saturation flow rate [veh/h]		1259	1900	1766	1450	1900	1517
c, Capacity [veh/h]		263	403	375	586	656	524
d1, Uniform Delay [s]		33.88	28.95	29.01	21.52	20.64	22.04
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.24	0.19	0.22	1.40	0.14	0.42
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.14	0.16	0.17	0.31	0.19	0.36
d, Delay for Lane Group [s/veh]		34.12	29.13	29.22	22.92	20.78	22.46
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.71	1.15	1.13	2.95	1.79	2.93
50th-Percentile Queue Length [ft/ln]		17.86	28.69	28.34	73.65	44.64	73.14
95th-Percentile Queue Length [veh/ln]		1.29	2.07	2.04	5.30	3.21	5.27
95th-Percentile Queue Length [ft/ln]		32.14	51.65	51.00	132.57	80.35	131.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	34.12	29.17	29.22	0.00	22.92	0.00	20.78	22.46
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.27				22.21			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.15											
Intersection LOS	C											
Intersection V/C	0.489											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	1136	179	110	672	0	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	1136	179	110	672	0	20
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	298	47	29	180	0	5
Total Analysis Volume [veh/h]	0	52	1193	188	118	719	0	21
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	50	50	50
g / C, Green / Cycle	0.45	0.45	0.45	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.07	0.33	0.12	0.17	0.20	0.20
s, saturation flow rate [veh/h]	727	3618	1537	676	1900	1874
c, Capacity [veh/h]	306	1620	688	360	1050	1035
d1, Uniform Delay [s]	23.08	20.50	15.65	14.35	11.22	11.23
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.20	3.03	0.98	2.42	0.94	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

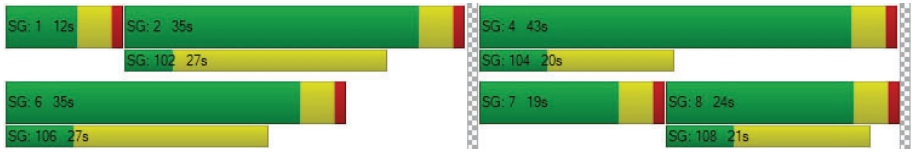
X, volume / capacity	0.17	0.74	0.27	0.33	0.35	0.36
d, Delay for Lane Group [s/veh]	24.28	23.53	16.63	16.77	12.16	12.19
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.91	10.39	2.52	1.29	4.11	4.08
50th-Percentile Queue Length [ft/ln]	22.64	259.77	63.10	32.25	102.79	101.97
95th-Percentile Queue Length [veh/ln]	1.63	15.68	4.54	2.32	7.40	7.34
95th-Percentile Queue Length [ft/ln]	40.76	391.94	113.58	58.05	185.01	183.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.28	23.53	16.63	16.77	12.17	0.00	12.19
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	22.65				12.80			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.15							
Intersection LOS	C							
Intersection V/C	0.489							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.328

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	33	74	121	19	69	39	29	293	54	71	264	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	74	121	19	69	39	29	293	54	71	264	46
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	20	33	6	21	12	11	111	20	18	69	12
Total Analysis Volume [veh/h]	36	80	131	24	86	49	44	442	81	74	274	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.12	0.21	0.04	0.12	0.05	0.08	0.09	0.09
s, saturation flow rate [veh/h]	1274	1697	771	1075	3618	1589	962	1900	1776
c, Capacity [veh/h]	74	263	153	498	1709	751	432	898	839
d1, Uniform Delay [s]	50.01	40.77	42.49	19.02	15.86	14.67	21.25	15.23	15.28
k, delay calibration	0.04	0.04	0.13	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.86	2.16	46.79	0.35	0.37	0.29	0.86	0.45	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.80	1.04	0.09	0.26	0.11	0.17	0.18	0.19
d, Delay for Lane Group [s/veh]	51.88	42.94	89.27	19.37	16.22	14.96	22.11	15.68	15.78
Lane Group LOS	D	D	F	B	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.93	5.07	5.78	0.69	3.05	1.06	1.26	2.22	2.16
50th-Percentile Queue Length [ft/ln]	23.16	126.71	144.38	17.13	76.13	26.58	31.62	55.42	53.94
95th-Percentile Queue Length [veh/ln]	1.67	8.76	9.86	1.23	5.48	1.91	2.28	3.99	3.88
95th-Percentile Queue Length [ft/ln]	41.68	219.02	246.59	30.83	137.04	47.85	56.92	99.76	97.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.88	42.94	42.94	89.27	89.27	89.27	19.37	16.22	14.96	22.11	15.72	15.78
Movement LOS	D	D	D	F	F	F	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	44.24			89.27			16.29			16.92		
Approach LOS	D			F			B			B		
d_I, Intersection Delay [s/veh]	29.99											
Intersection LOS	C											
Intersection V/C	0.328											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	29	170	53	26	100	51	73	75	29	23	54	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	170	53	26	100	51	73	75	29	23	54	115
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	51	16	8	30	15	21	21	8	7	15	33
Total Analysis Volume [veh/h]	35	205	64	31	120	61	82	85	33	26	62	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	17	17	17	17	17	53	53
g / C, Green / Cycle	0.17	0.17	0.17	0.17	0.17	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.03	0.11	0.04	0.03	0.10	0.14	0.20
s, saturation flow rate [veh/h]	1222	1900	1544	1196	1772	1387	1100
c, Capacity [veh/h]	134	326	265	126	304	781	619
d1, Uniform Delay [s]	46.37	38.47	35.81	46.83	38.23	13.12	14.02
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.75	0.17	0.38	0.70	0.79	1.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.63	0.24	0.25	0.60	0.26	0.36
d, Delay for Lane Group [s/veh]	46.75	39.22	35.98	47.20	38.92	13.91	15.61
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.85	4.64	1.34	0.76	4.07	2.56	3.10
50th-Percentile Queue Length [ft/ln]	21.28	115.89	33.50	18.94	101.65	64.10	77.62
95th-Percentile Queue Length [veh/ln]	1.53	8.17	2.41	1.36	7.32	4.62	5.59
95th-Percentile Queue Length [ft/ln]	38.30	204.17	60.30	34.10	182.97	115.38	139.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.75	39.22	35.98	47.20	38.92	38.92	13.91	13.91	13.91	15.61	15.61	15.61
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	39.41			40.14			13.91			15.61		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	28.53											
Intersection LOS	C											
Intersection V/C	0.308											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.360

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	44	208	85	36	81	24	64	119	37	30	103	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	208	85	36	81	24	64	119	37	30	103	140
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	59	24	12	26	8	17	31	10	8	28	38
Total Analysis Volume [veh/h]	50	235	96	47	106	31	66	123	38	33	113	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.04	0.12	0.11	0.04	0.08	0.24	0.02	0.16	0.10
s, saturation flow rate [veh/h]	1272	1900	900	1163	1812	799	1566	895	1584
c, Capacity [veh/h]	205	365	173	137	348	452	792	497	801
d1, Uniform Delay [s]	41.75	37.24	36.53	46.41	35.30	22.25	12.51	16.62	13.53
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.71	1.04	0.55	0.27	2.82	0.11	1.50	0.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

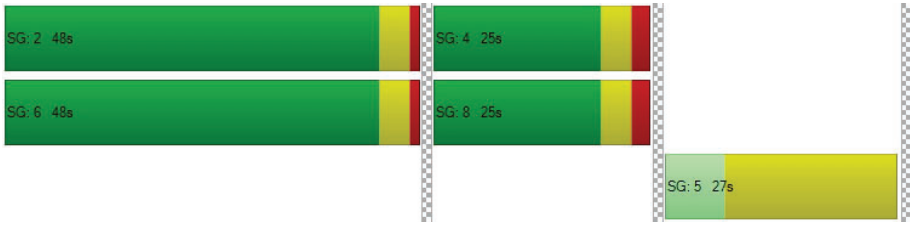
X, volume / capacity	0.24	0.64	0.56	0.34	0.39	0.42	0.05	0.29	0.19
d, Delay for Lane Group [s/veh]	41.98	37.95	37.57	46.95	35.57	25.07	12.63	18.12	14.06
Lane Group LOS	D	D	D	D	D	C	B	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.14	5.25	2.12	1.15	2.89	4.21	0.45	1.93	1.97
50th-Percentile Queue Length [ft/ln]	28.61	131.22	53.11	28.78	72.17	105.35	11.21	48.15	49.32
95th-Percentile Queue Length [veh/ln]	2.06	9.01	3.82	2.07	5.20	7.58	0.81	3.47	3.55
95th-Percentile Queue Length [ft/ln]	51.50	225.16	95.59	51.80	129.91	189.51	20.18	86.66	88.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.98	37.95	37.57	46.95	35.57	35.57	25.07	25.07	12.63	18.12	18.12	14.06
Movement LOS	D	D	D	D	D	D	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	38.39			38.48			22.99			16.04		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.06											
Intersection LOS	C											
Intersection V/C	0.360											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	74	95	48	51	103	141	34	94	9	26	252	71
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	95	48	51	103	141	34	94	9	26	252	71
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	27	14	15	30	41	10	26	3	8	81	23
Total Analysis Volume [veh/h]	86	110	56	60	120	165	38	106	10	33	325	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.04	0.05	0.17	0.04	0.06	0.03	0.17	0.06
s, saturation flow rate [veh/h]	1112	1900	1548	1304	1674	1072	1864	1296	1900	1552
c, Capacity [veh/h]	152	465	379	306	410	381	806	551	821	671
d1, Uniform Delay [s]	46.63	30.28	29.60	35.28	34.38	26.24	17.18	20.41	19.44	17.12
k, delay calibration	0.04	0.04	0.04	0.04	0.05	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.22	0.10	0.07	0.12	0.92	0.52	0.38	0.21	1.43	0.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

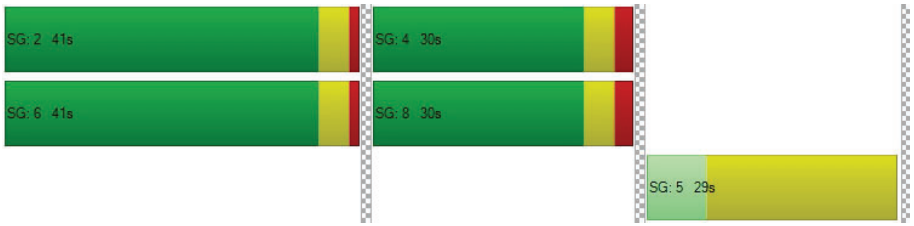
X, volume / capacity	0.56	0.24	0.15	0.20	0.70	0.10	0.14	0.06	0.40	0.14
d, Delay for Lane Group [s/veh]	47.85	30.38	29.66	35.39	35.30	26.76	17.56	20.61	20.87	17.54
Lane Group LOS	D	C	C	D	D	C	B	C	C	B
Critical Lane Group	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.16	2.10	1.05	1.25	6.25	0.71	1.65	0.52	5.28	1.30
50th-Percentile Queue Length [ft/ln]	54.12	52.50	26.14	31.20	156.14	17.76	41.17	12.97	131.99	32.49
95th-Percentile Queue Length [veh/ln]	3.90	3.78	1.88	2.25	10.34	1.28	2.96	0.93	9.05	2.34
95th-Percentile Queue Length [ft/ln]	97.42	94.50	47.06	56.16	258.60	31.96	74.11	23.35	226.19	58.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.85	30.38	29.66	35.39	35.30	35.30	26.76	17.56	17.56	20.61	20.87	17.54
Movement LOS	D	C	C	D	D	D	C	B	B	C	C	B
d_A, Approach Delay [s/veh]	36.18			35.31			19.83			20.17		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	27.84											
Intersection LOS	C											
Intersection V/C	0.341											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	19	281	0	29	107	41	66	90	0	18	157	146
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	281	0	29	107	41	66	90	0	18	157	146
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	80	0	8	27	11	20	27	0	5	44	40
Total Analysis Volume [veh/h]	22	318	0	31	110	42	79	108	0	20	174	162
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	22	22	22	22		68	68
g / C, Green / Cycle	0.19	0.19	0.19	0.19		0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.02	0.17	0.06	0.03		0.10	0.11
s, saturation flow rate [veh/h]	1278	1863	1863	1543		1890	1443
c, Capacity [veh/h]	212	346	346	287		1077	822
d1, Uniform Delay [s]	47.36	47.91	42.22	40.84		12.35	12.48
k, delay calibration	0.04	0.08	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.08	7.41	0.19	0.09		0.37	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.92	0.32	0.15		0.18	0.20
d, Delay for Lane Group [s/veh]	47.44	55.31	42.42	40.93		12.72	13.02
Lane Group LOS	D	E	D	D		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.60	10.00	2.82	1.04		2.63	2.25
50th-Percentile Queue Length [ft/ln]	14.93	250.08	70.62	26.08		65.76	56.26
95th-Percentile Queue Length [veh/ln]	1.07	15.19	5.08	1.88		4.74	4.05
95th-Percentile Queue Length [ft/ln]	26.87	379.75	127.11	46.94		118.38	101.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.44	55.31	0.00	0.00	42.42	40.93	0.00	0.00	0.00	12.72	12.72	13.02
Movement LOS	D	E			D	D				B	B	B
d_A, Approach Delay [s/veh]	54.80			42.00			0.00			12.85		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	34.90											
Intersection LOS	C											
Intersection V/C	0.283											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	31	25	0	17	428	0	358	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	31	25	0	17	428	0	358	95
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	7	0	5	114	0	94	25
Total Analysis Volume [veh/h]	0	35	29	0	18	458	0	378	100
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	6	58	58	58	58
g / C, Green / Cycle	0.06	0.06	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02	0.13	0.14	0.14
s, saturation flow rate [veh/h]	1810	1541	931	3618	1900	1584
c, Capacity [veh/h]	106	90	524	2094	1136	917
d1, Uniform Delay [s]	45.16	45.14	13.49	10.15	10.25	10.30
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.67	0.75	0.12	0.24	0.46	0.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.32	0.03	0.22	0.23	0.24
d, Delay for Lane Group [s/veh]	45.83	45.89	13.61	10.39	10.71	10.92
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.84	0.70	0.23	2.38	2.76	2.42
50th-Percentile Queue Length [ft/ln]	21.05	17.50	5.67	59.42	69.05	60.42
95th-Percentile Queue Length [veh/ln]	1.52	1.26	0.41	4.28	4.97	4.35
95th-Percentile Queue Length [ft/ln]	37.89	31.49	10.21	106.95	124.30	108.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.83	45.83	45.89	13.61	13.61	10.39	10.71	10.78	10.92
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	45.86			10.51			10.81		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	12.87								
Intersection LOS	B								
Intersection V/C	0.159								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	18	100	36	64	135	42	27	209	21	45	193	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	100	36	64	135	42	27	209	21	45	193	57
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	28	10	17	36	11	7	57	6	13	55	16
Total Analysis Volume [veh/h]	20	112	40	68	143	45	29	228	23	51	220	65
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	10	10
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.26	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.06	0.03	0.05	0.08	0.03	0.16	0.20
s, saturation flow rate [veh/h]	1245	1900	1479	1265	1900	1516	1797	1694
c, Capacity [veh/h]	436	498	388	457	498	397	857	823
d1, Uniform Delay [s]	10.20	7.75	7.50	10.26	7.89	7.52	5.78	6.05
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.08	0.04	0.06	0.12	0.05	0.08	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

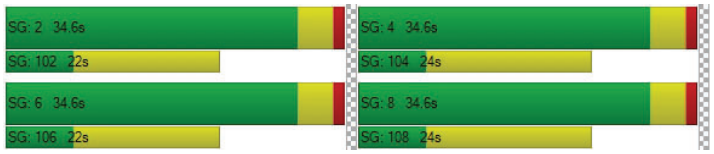
X, volume / capacity	0.05	0.22	0.10	0.15	0.29	0.11	0.33	0.41
d, Delay for Lane Group [s/veh]	10.21	7.84	7.54	10.31	8.00	7.56	5.86	6.17
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.07	0.29	0.10	0.25	0.42	0.12	0.62	0.69
50th-Percentile Queue Length [ft/ln]	1.73	7.29	2.53	6.33	10.38	3.12	15.57	17.30
95th-Percentile Queue Length [veh/ln]	0.12	0.53	0.18	0.46	0.75	0.22	1.12	1.25
95th-Percentile Queue Length [ft/ln]	3.11	13.13	4.56	11.39	18.68	5.62	28.02	31.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.21	7.84	7.54	10.31	8.00	7.56	5.86	5.86	5.86	6.17	6.17	6.17
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.04			8.54			5.86			6.17		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.98											
Intersection LOS	A											
Intersection V/C	0.274											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	18	114	13	11	244	36	15	125	68	36	135	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	114	13	11	244	36	15	125	68	36	135	28
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	31	4	3	74	11	5	38	21	10	39	8
Total Analysis Volume [veh/h]	20	126	14	13	295	44	18	154	84	42	157	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	25	25	25	25	25	25
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	8	8
g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.01	0.19	0.15	0.13
s, saturation flow rate [veh/h]	1025	1849	1229	1825	1746	1764
c, Capacity [veh/h]	403	634	548	626	671	692
d1, Uniform Delay [s]	10.14	5.98	7.94	6.79	7.38	7.24
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.06	0.01	0.27	0.13	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

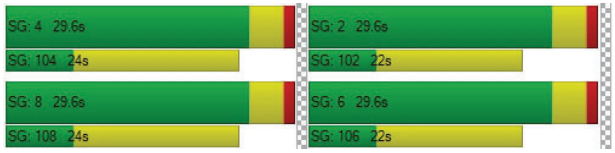
X, volume / capacity	0.05	0.22	0.02	0.54	0.38	0.34
d, Delay for Lane Group [s/veh]	10.16	6.05	7.95	7.07	7.52	7.35
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	0.25	0.03	0.69	1.05	0.52
50th-Percentile Queue Length [ft/ln]	1.65	6.13	0.83	17.26	26.31	12.90
95th-Percentile Queue Length [veh/ln]	0.12	0.44	0.06	1.24	1.89	0.93
95th-Percentile Queue Length [ft/ln]	2.98	11.04	1.49	31.07	47.36	23.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.16	6.05	6.05	7.95	7.07	7.07	7.52	7.52	7.52	7.35	7.35	7.35
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.56			7.10			7.52			7.35		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.18											
Intersection LOS	A											
Intersection V/C	0.332											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.280

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	41	127	60	52	205	22	35	356	52	113	417	142
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	127	60	52	205	22	35	356	52	113	417	142
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	41	19	14	55	6	9	96	14	30	109	37
Total Analysis Volume [veh/h]	53	165	78	56	220	24	38	386	56	118	437	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	45	45	45
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.05	0.05	0.12	0.02	0.05	0.11	0.04	0.10	0.16	0.16
s, saturation flow rate [veh/h]	1179	1900	1579	1240	1900	1586	843	3618	1588	1181	1900	1710
c, Capacity [veh/h]	149	362	301	190	362	302	242	1206	529	553	850	765
d1, Uniform Delay [s]	45.76	35.91	34.50	42.96	37.09	33.30	33.38	24.91	23.06	16.73	18.20	18.28
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.33	0.17	0.32	0.61	0.04	1.38	0.70	0.40	0.07	1.18	1.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

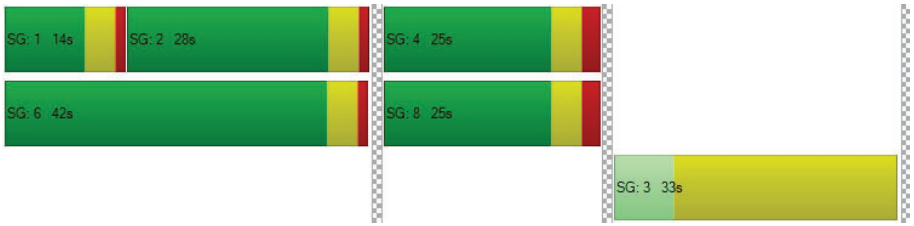
X, volume / capacity	0.35	0.46	0.26	0.30	0.61	0.08	0.16	0.32	0.11	0.21	0.36	0.37
d, Delay for Lane Group [s/veh]	46.29	36.25	34.67	43.28	37.70	33.34	34.76	25.61	23.46	16.80	19.38	19.64
Lane Group LOS	D	D	C	D	D	C	C	C	C	B	B	B
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.29	3.54	1.61	1.31	4.89	0.48	0.86	3.49	0.97	1.58	4.81	4.47
50th-Percentile Queue Length [ft/ln]	32.29	88.49	40.15	32.78	122.24	11.91	21.49	87.30	24.14	39.58	120.17	111.86
95th-Percentile Queue Length [veh/ln]	2.33	6.37	2.89	2.36	8.52	0.86	1.55	6.29	1.74	2.85	8.40	7.94
95th-Percentile Queue Length [ft/ln]	58.13	159.28	72.28	59.00	212.90	21.43	38.68	157.14	43.46	71.25	210.06	198.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.29	36.25	34.67	43.28	37.70	33.34	34.76	25.61	23.46	16.80	19.46	19.64
Movement LOS	D	D	C	D	D	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	37.63			38.40			26.08			19.05		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	27.30											
Intersection LOS	C											
Intersection V/C	0.280											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	41	216	46	14	275	33	9	86	44	37	145	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	216	46	14	275	33	9	86	44	37	145	53
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	61	13	4	75	9	3	26	13	11	43	16
Total Analysis Volume [veh/h]	46	242	52	15	301	36	11	104	53	44	173	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	49	49	49	49	49	49	19	19
g / C, Green / Cycle	0.49	0.49	0.49	0.49	0.49	0.49	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.03	0.01	0.09	0.09	0.10	0.17
s, saturation flow rate [veh/h]	1060	1900	1558	1156	1900	1818	1731	1671
c, Capacity [veh/h]	517	936	768	531	936	895	359	351
d1, Uniform Delay [s]	17.57	14.75	13.31	18.40	14.14	14.17	36.66	39.78
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.67	0.17	0.10	0.43	0.46	0.35	5.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

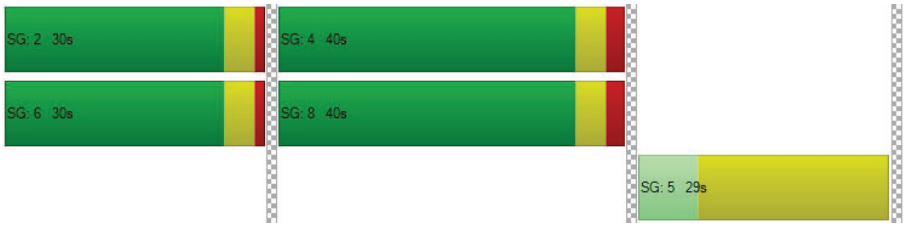
X, volume / capacity	0.09	0.26	0.07	0.03	0.18	0.19	0.47	0.80
d, Delay for Lane Group [s/veh]	17.91	15.42	13.48	18.50	14.56	14.63	37.01	44.81
Lane Group LOS	B	B	B	B	B	B	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.67	3.22	0.63	0.22	2.17	2.13	3.70	7.06
50th-Percentile Queue Length [ft/ln]	16.85	80.54	15.69	5.54	54.20	53.25	92.42	176.44
95th-Percentile Queue Length [veh/ln]	1.21	5.80	1.13	0.40	3.90	3.83	6.65	11.41
95th-Percentile Queue Length [ft/ln]	30.32	144.97	28.24	9.98	97.56	95.85	166.36	285.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.91	15.42	13.48	18.50	14.59	14.63	37.01	37.01	37.01	44.81	44.81	44.81
Movement LOS	B	B	B	B	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.46			14.76			37.01			44.81		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	25.63											
Intersection LOS	C											
Intersection V/C	0.295											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	44	292	74	39	329	10	0	174	62	0	198	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	292	74	39	329	10	0	174	62	0	198	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	87	22	11	91	3	0	48	17	0	52	13
Total Analysis Volume [veh/h]	52	348	88	43	366	11	0	194	69	0	209	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	58	58	58	12	12	12	12
g / C, Green / Cycle	0.58	0.58	0.58	0.58	0.58	0.58	0.12	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.05	0.18	0.06	0.04	0.10	0.10	0.10	0.04	0.07	0.07
s, saturation flow rate [veh/h]	1022	1900	1588	1049	1900	1879	1900	1563	1900	1752
c, Capacity [veh/h]	583	1092	913	545	1092	1080	233	192	233	215
d1, Uniform Delay [s]	13.14	11.06	9.56	15.70	10.03	10.04	42.87	40.27	41.34	41.60
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.77	0.21	0.28	0.34	0.35	2.99	0.42	0.80	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.32	0.10	0.08	0.17	0.17	0.83	0.36	0.56	0.61
d, Delay for Lane Group [s/veh]	13.44	11.83	9.77	15.98	10.38	10.39	45.86	40.69	42.14	42.65
Lane Group LOS	B	B	A	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.64	3.93	0.86	0.59	1.93	1.92	4.84	1.57	3.08	3.11
50th-Percentile Queue Length [ft/ln]	15.94	98.27	21.55	14.65	48.20	47.92	120.95	39.36	76.90	77.65
95th-Percentile Queue Length [veh/ln]	1.15	7.08	1.55	1.05	3.47	3.45	8.45	2.83	5.54	5.59
95th-Percentile Queue Length [ft/ln]	28.69	176.89	38.79	26.37	86.76	86.25	211.13	70.85	138.42	139.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.44	11.83	9.77	15.98	10.38	10.39	0.00	45.86	40.69	0.00	42.33	42.65
Movement LOS	B	B	A	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	11.63			10.96			44.50			42.39		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.09											
Intersection LOS	C											
Intersection V/C	0.285											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	33.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	122	409	153	11	281	42	0	143	43	101	200	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	409	153	11	281	42	0	143	43	101	200	43
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	112	42	3	72	11	0	39	12	28	56	12
Total Analysis Volume [veh/h]	133	447	167	11	289	43	0	157	47	114	226	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	57	57	64	49	49	12	27	24	24	24
g / C, Green / Cycle	0.09	0.48	0.48	0.53	0.40	0.40	0.10	0.23	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.07	0.24	0.11	0.01	0.09	0.09	0.08	0.03	0.08	0.12	0.03
s, saturation flow rate [veh/h]	1810	1900	1574	1022	1900	1796	1900	1588	1483	1900	1590
c, Capacity [veh/h]	161	903	748	472	769	727	189	360	288	379	318
d1, Uniform Delay [s]	53.78	21.62	18.50	14.96	23.35	23.42	53.06	36.98	41.45	43.64	39.67
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.06	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.05	1.94	0.69	0.09	0.65	0.72	3.57	0.06	0.51	0.56	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

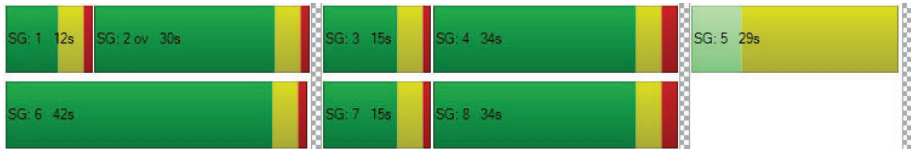
X, volume / capacity	0.83	0.50	0.22	0.02	0.22	0.23	0.83	0.13	0.40	0.60	0.15
d, Delay for Lane Group [s/veh]	57.83	23.56	19.19	15.05	24.01	24.14	56.63	37.04	41.96	44.20	39.75
Lane Group LOS	E	C	B	B	C	C	E	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.09	8.88	2.83	0.15	3.23	3.16	4.83	1.12	2.91	6.11	1.20
50th-Percentile Queue Length [ft/ln]	102.37	222.12	70.70	3.75	80.69	79.02	120.84	27.88	72.76	152.71	29.99
95th-Percentile Queue Length [veh/ln]	7.37	13.77	5.09	0.27	5.81	5.69	8.44	2.01	5.24	10.16	2.16
95th-Percentile Queue Length [ft/ln]	184.26	344.33	127.25	6.75	145.24	142.24	210.98	50.19	130.96	254.05	53.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.83	23.56	19.19	15.05	24.06	24.14	0.00	56.63	37.04	41.96	44.20	39.75
Movement LOS	E	C	B	B	C	C		E	D	D	D	D
d_A, Approach Delay [s/veh]	28.68			23.78			52.12			42.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.83											
Intersection LOS	C											
Intersection V/C	0.377											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	14.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.281

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	261	707	0	0	384	30	181	0	84	71	66	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	707	0	0	384	30	181	0	84	71	66	31
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	205	0	0	107	8	52	0	24	19	18	8
Total Analysis Volume [veh/h]	303	821	0	0	427	33	208	0	96	78	72	34
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	82	82	68	68		9	9
g / C, Green / Cycle	0.68	0.68	0.56	0.56		0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.28	0.23	0.12	0.12		0.05	0.05
s, saturation flow rate [veh/h]	1079	3618	1900	1842		1826	1601
c, Capacity [veh/h]	765	2477	1069	1037		131	115
d1, Uniform Delay [s]	7.57	7.72	13.06	13.11		54.59	54.68
k, delay calibration	0.20	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.62	0.36	0.46	0.49		3.01	3.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

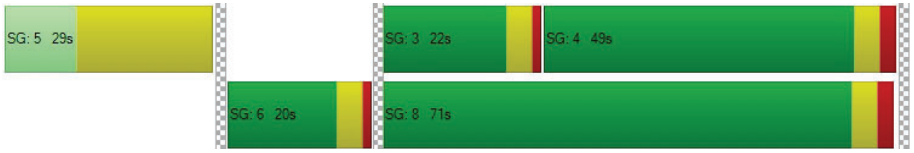
X, volume / capacity	0.40	0.33	0.22	0.22		0.74	0.76
d, Delay for Lane Group [s/veh]	8.19	8.08	13.52	13.61		57.60	58.48
Lane Group LOS	A	A	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	2.90	4.17	3.13	3.15		3.00	2.73
50th-Percentile Queue Length [ft/ln]	72.61	104.25	78.27	78.73		75.01	68.28
95th-Percentile Queue Length [veh/ln]	5.23	7.51	5.64	5.67		5.40	4.92
95th-Percentile Queue Length [ft/ln]	130.69	187.64	140.88	141.71		135.03	122.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.19	8.08	0.00	0.00	13.56	13.61	0.00	0.00	0.00	57.60	58.25	58.48
Movement LOS	A	A			B	B				E	E	E
d_A, Approach Delay [s/veh]	8.11			13.56			0.00			58.01		
Approach LOS	A			B			A			E		
d_I, Intersection Delay [s/veh]	14.72											
Intersection LOS	B											
Intersection V/C	0.281											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	37.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	420	0	0	536	841	531
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	420	0	0	536	841	531
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	0	0	161	219	138
Total Analysis Volume [veh/h]	464	0	0	644	875	553
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.13	0.18	0.35	0.50
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	492
d1, Uniform Delay [s]	15.60	16.54	21.09	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	0.72	0.46	78.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.40	0.78	1.12
d, Delay for Lane Group [s/veh]	16.04	17.26	21.55	103.58
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.99	4.42	6.64	19.48
50th-Percentile Queue Length [ft/ln]	74.82	110.55	166.06	486.98
95th-Percentile Queue Length [veh/ln]	5.39	7.87	10.87	28.92
95th-Percentile Queue Length [ft/ln]	134.67	196.76	271.73	722.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.04	0.00	0.00	17.26	21.55	103.58
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.04		17.26		53.32	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	37.34					
Intersection LOS	D					
Intersection V/C	0.681					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	39.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	24	374	431	244	818	207	45	533	67	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	374	431	244	818	207	45	533	67	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	105	121	67	224	57	15	172	22	0	0	0
Total Analysis Volume [veh/h]	27	419	482	267	895	226	58	688	86	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	34	57	57	17	17	17
g / C, Green / Cycle	0.03	0.28	0.28	0.38	0.63	0.63	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.31	0.08	0.30	0.32	0.16	0.16	0.16
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1680	1882	1729	1617
c, Capacity [veh/h]	51	528	426	1344	1201	1062	351	322	301
d1, Uniform Delay [s]	43.13	30.11	32.50	18.57	8.75	9.01	35.39	35.38	35.52
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.10	11.66	84.70	0.03	1.38	1.77	2.25	2.41	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

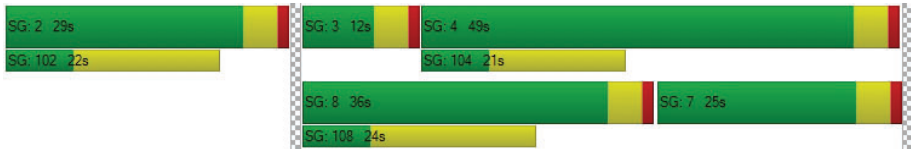
X, volume / capacity	0.53	0.79	1.13	0.20	0.48	0.51	0.85	0.85	0.87
d, Delay for Lane Group [s/veh]	46.23	41.77	117.20	18.60	10.13	10.78	37.64	37.79	38.46
Lane Group LOS	D	D	F	B	B	B	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	9.86	18.97	1.82	5.68	5.59	6.32	5.81	5.61
50th-Percentile Queue Length [ft/ln]	15.78	246.61	474.16	45.45	141.92	139.79	157.96	145.21	140.16
95th-Percentile Queue Length [veh/ln]	1.14	15.02	28.05	3.27	9.58	9.47	10.44	9.76	9.49
95th-Percentile Queue Length [ft/ln]	28.41	375.39	701.35	81.81	239.60	236.74	261.01	244.03	237.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.23	41.77	117.20	18.60	10.36	10.78	37.64	37.91	38.46	0.00	0.00	0.00
Movement LOS	D	D	F	B	B	B	D	D	D			
d_A, Approach Delay [s/veh]	81.08			12.01			37.95			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	39.23											
Intersection LOS	D											
Intersection V/C	0.552											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.275

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	130	108	102	51	77	10	18	436	19	59	550	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	108	102	51	77	10	18	436	19	59	550	32
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	28	26	16	24	3	5	117	5	16	147	9
Total Analysis Volume [veh/h]	135	112	106	64	96	12	19	468	20	63	587	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	22	22	22	22	22	65	65	65	65	65	65
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.65	0.65	0.65	0.65	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.11	0.06	0.07	0.05	0.06	0.02	0.13	0.01	0.07	0.16	0.17
s, saturation flow rate [veh/h]	1256	1900	1535	1272	1845	805	3618	1538	929	1900	1841
c, Capacity [veh/h]	256	414	334	258	401	524	2352	1000	610	1236	1197
d1, Uniform Delay [s]	40.81	32.50	32.86	38.39	32.49	9.83	7.02	6.19	9.47	7.32	7.34
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.13	0.20	0.19	0.13	0.13	0.19	0.04	0.34	0.49	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

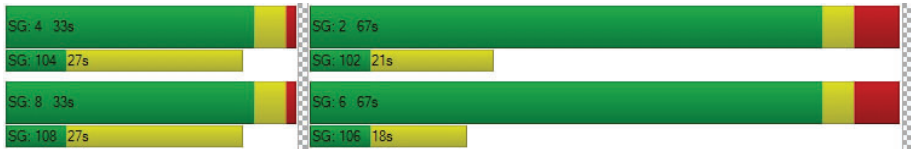
X, volume / capacity	0.53	0.27	0.32	0.25	0.27	0.04	0.20	0.02	0.10	0.25	0.26
d, Delay for Lane Group [s/veh]	41.44	32.63	33.06	38.57	32.62	9.96	7.21	6.23	9.81	7.81	7.86
Lane Group LOS	D	C	C	D	C	A	A	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.16	2.23	2.14	1.40	2.15	0.20	1.90	0.15	0.65	2.73	2.69
50th-Percentile Queue Length [ft/ln]	79.02	55.77	53.46	35.05	53.76	4.99	47.40	3.71	16.28	68.22	67.36
95th-Percentile Queue Length [veh/ln]	5.69	4.02	3.85	2.52	3.87	0.36	3.41	0.27	1.17	4.91	4.85
95th-Percentile Queue Length [ft/ln]	142.23	100.38	96.23	63.10	96.77	8.98	85.32	6.68	29.31	122.80	121.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.44	32.63	33.06	38.57	32.62	32.62	9.96	7.21	6.23	9.81	7.83	7.86
Movement LOS	D	C	C	D	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	36.13			34.83			7.27			8.02		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	16.27											
Intersection LOS	B											
Intersection V/C	0.275											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.262

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	272	46	19	99	26	9	139	14	21	153	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	272	46	19	99	26	9	139	14	21	153	63
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	76	13	6	29	8	3	43	4	6	45	19
Total Analysis Volume [veh/h]	101	304	51	22	116	30	11	172	17	25	181	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	69	21	21
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.69	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.10	0.02	0.08	0.11	0.16
s, saturation flow rate [veh/h]	1246	1900	1778	1037	1813	1827	1712
c, Capacity [veh/h]	871	1317	1233	730	1257	430	407
d1, Uniform Delay [s]	6.99	5.19	5.21	6.80	5.11	34.52	36.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	0.22	0.24	0.08	0.19	0.78	2.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.14	0.14	0.03	0.12	0.47	0.69
d, Delay for Lane Group [s/veh]	7.26	5.41	5.45	6.88	5.29	35.31	38.79
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.82	1.16	1.13	0.17	0.92	4.28	6.47
50th-Percentile Queue Length [ft/ln]	20.43	28.95	28.14	4.33	23.08	107.08	161.69
95th-Percentile Queue Length [veh/ln]	1.47	2.08	2.03	0.31	1.66	7.68	10.64
95th-Percentile Queue Length [ft/ln]	36.78	52.10	50.65	7.80	41.54	191.93	265.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.26	5.42	5.45	6.88	5.29	5.29	35.31	35.31	35.31	38.79	38.79	38.79
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	5.83			5.50			35.31			38.79		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	19.48											
Intersection LOS	B											
Intersection V/C	0.262											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	69	465	89	23	68	14	26	249	16	22	192	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	465	89	23	68	14	26	249	16	22	192	51
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	122	23	7	20	4	7	68	4	6	51	14
Total Analysis Volume [veh/h]	72	487	93	27	80	17	29	274	18	24	206	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	22	22	22	22	22	65	65	65	65	65	65
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.65	0.65	0.65	0.65	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.06	0.16	0.16	0.03	0.05	0.02	0.08	0.08	0.02	0.11	0.04
s, saturation flow rate [veh/h]	1224	1900	1735	841	1790	1161	1900	1836	1069	1900	1495
c, Capacity [veh/h]	264	419	382	114	394	749	1231	1189	709	1231	968
d1, Uniform Delay [s]	37.76	36.04	36.32	46.61	32.14	8.90	6.72	6.74	8.34	6.96	6.44
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	0.84	1.07	0.39	0.12	0.10	0.20	0.21	0.09	0.29	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

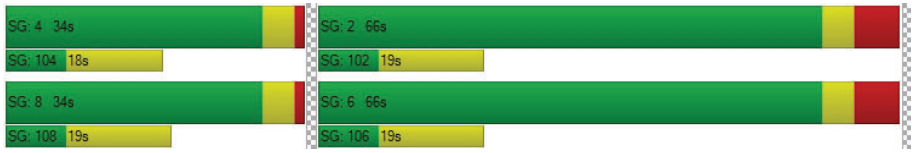
X, volume / capacity	0.27	0.71	0.74	0.24	0.25	0.04	0.12	0.12	0.03	0.17	0.06
d, Delay for Lane Group [s/veh]	37.97	36.88	37.38	47.00	32.26	9.00	6.92	6.95	8.43	7.25	6.55
Lane Group LOS	D	D	D	D	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.57	6.64	6.38	0.66	1.92	0.28	1.16	1.15	0.22	1.69	0.42
50th-Percentile Queue Length [ft/ln]	39.24	166.01	159.54	16.55	47.92	6.95	29.10	28.87	5.55	42.29	10.58
95th-Percentile Queue Length [veh/ln]	2.83	10.87	10.52	1.19	3.45	0.50	2.10	2.08	0.40	3.05	0.76
95th-Percentile Queue Length [ft/ln]	70.64	271.66	263.12	29.79	86.25	12.52	52.38	51.97	9.98	76.13	19.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.97	37.07	37.38	47.00	32.26	32.26	9.00	6.93	6.95	8.43	7.25	6.55
Movement LOS	D	D	D	D	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	37.22			35.47			7.12			7.22		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	23.88											
Intersection LOS	C											
Intersection V/C	0.271											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	69	531	60	25	33	47	66	214	22	18	233	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	531	60	25	33	47	66	214	22	18	233	32
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	156	18	7	9	13	17	57	6	5	66	9
Total Analysis Volume [veh/h]	81	624	71	29	38	54	70	227	23	20	263	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	26	26	65	65	65	65	65
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.65	0.65	0.65	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.19	0.04	0.06	0.06	0.13	0.02	0.14	0.02
s, saturation flow rate [veh/h]	1291	1900	1786	761	1602	1112	1859	1128	1900	1518
c, Capacity [veh/h]	309	485	456	111	409	721	1213	732	1240	991
d1, Uniform Delay [s]	35.53	34.08	34.29	46.77	29.42	9.26	6.96	8.76	6.99	6.17
k, delay calibration	0.04	0.08	0.10	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.17	1.65	2.26	0.46	0.10	0.27	0.38	0.07	0.39	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.73	0.75	0.26	0.23	0.10	0.21	0.03	0.21	0.04
d, Delay for Lane Group [s/veh]	35.69	35.72	36.55	47.22	29.53	9.53	7.35	8.83	7.38	6.24
Lane Group LOS	D	D	D	D	C	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.70	7.85	7.71	0.71	1.73	0.69	2.02	0.19	2.13	0.26
50th-Percentile Queue Length [ft/ln]	42.60	196.35	192.66	17.86	43.17	17.16	50.45	4.64	53.24	6.50
95th-Percentile Queue Length [veh/ln]	3.07	12.45	12.26	1.29	3.11	1.24	3.63	0.33	3.83	0.47
95th-Percentile Queue Length [ft/ln]	76.68	311.25	306.47	32.15	77.71	30.88	90.80	8.35	95.84	11.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.69	36.08	36.55	47.22	29.53	29.53	9.53	7.35	7.35	8.83	7.38	6.24
Movement LOS	D	D	D	D	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	36.09			33.77			7.82			7.35		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	24.05											
Intersection LOS	C											
Intersection V/C	0.330											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.297

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	632	27	13	17	42	0	0	0	6	122	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	632	27	13	17	42	0	0	0	6	122	19
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	177	8	4	5	13	0	0	0	2	36	6
Total Analysis Volume [veh/h]	15	710	30	17	22	54	0	0	0	6	145	23
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	42	42	3	49		40
g / C, Green / Cycle	0.42	0.42	0.03	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.20	0.02	0.01	0.05		0.09
s, saturation flow rate [veh/h]	3618	1347	1810	1630		1849
c, Capacity [veh/h]	1522	567	48	804		749
d1, Uniform Delay [s]	20.87	17.16	47.83	13.47		19.47
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.03	0.18	1.66	0.23		0.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

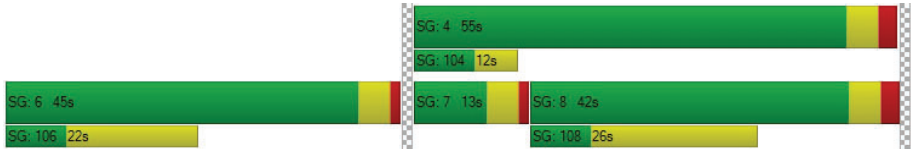
X, volume / capacity	0.47	0.05	0.36	0.09		0.22
d, Delay for Lane Group [s/veh]	21.90	17.34	49.49	13.71		20.17
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.04	0.43	0.43	0.93		2.67
50th-Percentile Queue Length [ft/ln]	151.12	10.82	10.82	23.14		66.70
95th-Percentile Queue Length [veh/ln]	10.08	0.78	0.78	1.67		4.80
95th-Percentile Queue Length [ft/ln]	251.93	19.47	19.47	41.65		120.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.90	17.34	49.49	13.71	13.71	0.00	0.00	0.00	0.00	20.17	20.17
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	21.72			20.25			0.00			20.17		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	21.32											
Intersection LOS	C											
Intersection V/C	0.297											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	11	101	34	99	182	41	61	338	25	33	286	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	101	34	99	182	41	61	338	25	33	286	103
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	27	9	28	51	11	18	97	7	9	80	29
Total Analysis Volume [veh/h]	12	108	36	111	203	46	70	389	29	37	320	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.20	0.06	0.52	0.08	0.07	0.23	0.04	0.17	0.09
s, saturation flow rate [veh/h]	600	600	600	600	1012	1844	953	1900	1296
c, Capacity [veh/h]	276	219	289	219	477	929	412	957	652
d1, Uniform Delay [s]	17.63	15.01	25.30	15.28	14.94	11.15	16.62	10.37	9.47
k, delay calibration	0.04	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.13	78.43	0.18	0.65	1.58	0.43	0.94	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.16	1.09	0.21	0.15	0.45	0.09	0.33	0.18
d, Delay for Lane Group [s/veh]	18.04	15.14	103.72	15.45	15.59	12.73	17.05	11.32	10.06
Lane Group LOS	B	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.45	0.37	11.07	0.48	0.79	4.05	0.44	2.85	0.96
50th-Percentile Queue Length [ft/ln]	36.33	9.28	276.69	12.08	19.73	101.34	11.08	71.17	23.96
95th-Percentile Queue Length [veh/ln]	2.62	0.67	17.39	0.87	1.42	7.30	0.80	5.12	1.72
95th-Percentile Queue Length [ft/ln]	65.39	16.70	434.66	21.74	35.51	182.40	19.94	128.11	43.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.04	18.04	15.14	103.72	103.72	15.45	15.59	12.73	12.73	17.05	11.32	10.06
Movement LOS	B	B	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	17.37			92.44			13.14			11.46		
Approach LOS	B			F			B			B		
d_I, Intersection Delay [s/veh]	32.39											
Intersection LOS	C											
Intersection V/C	0.750											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	57	165	60	30	87	20	54	367	54	58	303	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	165	60	30	87	20	54	367	54	58	303	36
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	53	19	11	32	7	15	100	15	17	88	10
Total Analysis Volume [veh/h]	73	211	77	45	130	30	59	399	59	67	351	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	41	41	41	41	41	41	41	41
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	15	15	17	17	17	17
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.04	0.09	0.07	0.27	0.08	0.22
s, saturation flow rate [veh/h]	1073	1734	1051	1736	897	1718	833	1784
c, Capacity [veh/h]	459	649	386	650	349	695	296	721
d1, Uniform Delay [s]	12.01	9.76	13.81	8.96	14.38	10.06	16.44	9.47
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.18	0.05	0.07	0.08	0.40	0.14	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

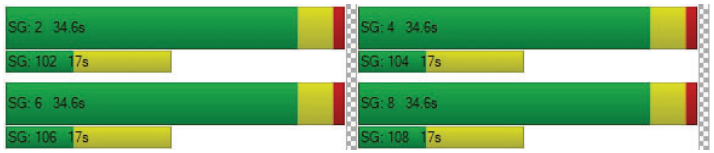
X, volume / capacity	0.16	0.44	0.12	0.25	0.17	0.66	0.23	0.54
d, Delay for Lane Group [s/veh]	12.07	9.94	13.86	9.04	14.47	10.46	16.58	9.70
Lane Group LOS	B	A	B	A	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.43	1.45	0.29	0.74	0.41	2.56	0.52	2.05
50th-Percentile Queue Length [ft/ln]	10.69	36.30	7.30	18.44	10.28	64.00	12.94	51.31
95th-Percentile Queue Length [veh/ln]	0.77	2.61	0.53	1.33	0.74	4.61	0.93	3.69
95th-Percentile Queue Length [ft/ln]	19.24	65.34	13.14	33.20	18.50	115.21	23.30	92.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.07	9.94	9.94	13.86	9.04	9.04	14.47	10.46	10.46	16.58	9.70	9.70
Movement LOS	B	A	A	B	A	A	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	10.37			10.10			10.92			10.71		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.62											
Intersection LOS	B											
Intersection V/C	0.433											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	141	352	260	58	379	19	15	517	160	210	536	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	141	352	260	58	379	19	15	517	160	210	536	37
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	97	72	16	103	5	4	148	46	56	143	10
Total Analysis Volume [veh/h]	156	389	287	63	412	21	17	592	183	224	572	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.13	0.20	0.18	0.06	0.11	0.12	0.02	0.16	0.12	0.22	0.16	0.03
s, saturation flow rate [veh/h]	1209	1900	1560	1002	1900	1858	846	3618	1551	1013	3618	1542
c, Capacity [veh/h]	435	670	551	116	442	432	354	1574	675	579	2008	856
d1, Uniform Delay [s]	23.54	26.33	25.66	48.48	33.25	33.29	22.71	19.09	18.10	12.11	11.76	10.16
k, delay calibration	0.25	0.08	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.17	0.56	0.29	1.47	0.32	0.33	0.26	0.69	0.99	1.95	0.36	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.58	0.52	0.54	0.49	0.50	0.05	0.38	0.27	0.39	0.28	0.05
d, Delay for Lane Group [s/veh]	24.72	26.89	25.95	49.96	33.57	33.62	22.97	19.78	19.09	14.06	12.11	10.26
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.72	7.48	5.35	1.60	4.52	4.46	0.30	4.69	2.85	2.68	3.25	0.40
50th-Percentile Queue Length [ft/ln]	67.90	187.01	133.68	40.04	112.89	111.60	7.42	117.22	71.16	67.02	81.14	10.12
95th-Percentile Queue Length [veh/ln]	4.89	11.97	9.14	2.88	8.00	7.93	0.53	8.24	5.12	4.83	5.84	0.73
95th-Percentile Queue Length [ft/ln]	122.23	299.15	228.48	72.07	200.02	198.22	13.36	206.00	128.08	120.64	146.06	18.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.72	26.89	25.95	49.96	33.59	33.62	22.97	19.78	19.09	14.06	12.11	10.26
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	26.16			35.67			19.69			12.55		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.17											
Intersection LOS	C											
Intersection V/C	0.436											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	46.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	124	616	119	19	667	33	23	106	77	61	133	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	616	119	19	667	33	23	106	77	61	133	44
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	169	33	5	176	9	8	36	26	17	36	12
Total Analysis Volume [veh/h]	136	674	130	20	705	35	31	144	105	67	145	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	56	56	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.56	0.56	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.15	0.22	0.22	0.03	0.20	0.20	0.28	0.08	0.65	0.03
s, saturation flow rate [veh/h]	891	1900	1741	787	1900	1839	615	1323	327	1412
c, Capacity [veh/h]	589	1062	973	521	989	958	210	361	137	385
d1, Uniform Delay [s]	8.03	12.42	12.52	7.54	14.28	14.34	30.86	28.73	34.94	27.38
k, delay calibration	0.38	0.50	0.50	0.50	0.50	0.50	0.38	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	1.08	1.23	0.14	1.10	1.16	24.63	0.16	281.24	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

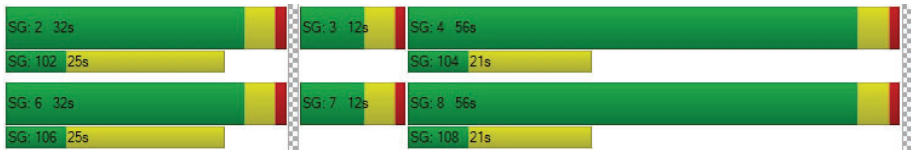
X, volume / capacity	0.23	0.39	0.40	0.04	0.38	0.38	0.83	0.29	1.55	0.12
d, Delay for Lane Group [s/veh]	8.72	13.49	13.76	7.68	15.38	15.50	55.50	28.89	316.17	27.43
Lane Group LOS	A	B	B	A	B	B	E	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.18	5.27	5.05	0.17	5.15	5.10	4.73	1.96	14.04	0.85
50th-Percentile Queue Length [ft/ln]	29.52	131.76	126.31	4.17	128.66	127.44	118.20	49.09	350.94	21.35
95th-Percentile Queue Length [veh/ln]	2.13	9.04	8.74	0.30	8.87	8.80	8.29	3.53	24.32	1.54
95th-Percentile Queue Length [ft/ln]	53.14	225.88	218.47	7.50	221.67	220.01	207.35	88.36	607.88	38.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.72	13.59	13.76	7.68	15.44	15.50	55.50	55.50	28.89	316.17	316.17	27.43
Movement LOS	A	B	B	A	B	B	E	E	C	F	F	C
d_A, Approach Delay [s/veh]	12.91			15.24			45.52			262.87		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	46.79											
Intersection LOS	D											
Intersection V/C	0.882											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.474

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	103	741	182	72	711	17	19	301	111	109	305	116
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	741	182	72	711	17	19	301	111	109	305	116
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	197	48	20	201	5	5	82	30	29	80	30
Total Analysis Volume [veh/h]	110	789	194	81	803	19	21	327	121	114	320	122
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	59	48	48	59	48	48	20	20	20	32	32	32
g / C, Green / Cycle	0.59	0.48	0.48	0.59	0.48	0.48	0.20	0.20	0.20	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.27	0.11	0.22	0.22	0.02	0.12	0.13	0.09	0.17	0.08
s, saturation flow rate [veh/h]	853	1900	1745	765	1900	1880	1046	1900	1651	1210	1900	1509
c, Capacity [veh/h]	518	921	846	450	914	904	115	383	333	372	598	475
d1, Uniform Delay [s]	10.03	18.13	18.24	10.81	17.22	17.23	46.91	36.33	36.70	25.92	28.25	25.56
k, delay calibration	0.25	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.07	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	2.38	2.69	0.87	1.61	1.64	0.28	0.58	0.80	0.31	0.28	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

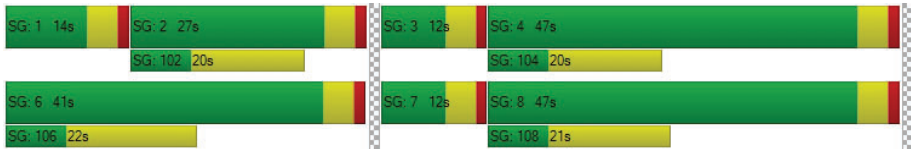
X, volume / capacity	0.21	0.55	0.56	0.18	0.45	0.45	0.18	0.61	0.65	0.31	0.54	0.26
d, Delay for Lane Group [s/veh]	10.50	20.51	20.93	11.68	18.83	18.87	47.19	36.91	37.50	26.23	28.53	25.67
Lane Group LOS	B	C	C	B	B	B	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.06	8.56	8.10	0.82	6.50	6.46	0.52	5.15	4.87	2.00	6.26	2.16
50th-Percentile Queue Length [ft/ln]	26.39	213.89	202.42	20.60	162.58	161.50	12.94	128.80	121.76	49.89	156.41	53.90
95th-Percentile Queue Length [veh/ln]	1.90	13.35	12.76	1.48	10.69	10.63	0.93	8.87	8.49	3.59	10.36	3.88
95th-Percentile Queue Length [ft/ln]	47.51	333.81	319.08	37.09	267.13	265.70	23.29	221.86	212.24	89.80	258.96	97.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.50	20.66	20.93	11.68	18.85	18.87	47.19	37.08	37.50	26.23	28.53	25.67
Movement LOS	B	C	C	B	B	B	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	19.69			18.21			37.64			27.43		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	23.46											
Intersection LOS	C											
Intersection V/C	0.474											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	78	960	180	24	854	32	43	175	119	138	212	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	960	180	24	854	32	43	175	119	138	212	43
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	246	46	6	225	8	13	51	35	39	60	12
Total Analysis Volume [veh/h]	80	984	184	25	901	34	51	206	140	157	242	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	6	51	51	41	41	41	26	26	26	35	35
g / C, Green / Cycle	0.06	0.51	0.51	0.41	0.41	0.41	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.04	0.32	0.33	0.05	0.25	0.25	0.04	0.11	0.09	0.29	0.03
s, saturation flow rate [veh/h]	1810	1900	1733	488	1900	1860	1156	1900	1481	1375	1486
c, Capacity [veh/h]	104	978	893	147	782	765	73	488	380	497	524
d1, Uniform Delay [s]	46.47	17.18	17.51	37.68	23.01	23.08	50.00	30.97	30.49	29.19	21.64
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.45	2.86	3.47	2.48	3.41	3.56	4.56	0.22	0.22	12.93	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

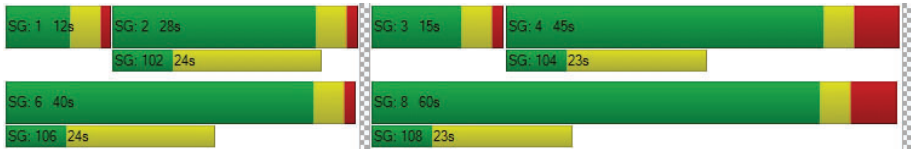
X, volume / capacity	0.77	0.61	0.64	0.17	0.60	0.61	0.70	0.42	0.37	0.80	0.09
d, Delay for Lane Group [s/veh]	50.92	20.03	20.98	40.16	26.43	26.64	54.56	31.19	30.72	42.11	21.67
Lane Group LOS	D	C	C	D	C	C	D	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.08	10.05	9.84	0.64	9.16	9.09	1.35	4.08	2.73	9.32	0.76
50th-Percentile Queue Length [ft/ln]	51.98	251.19	246.02	16.11	229.05	227.34	33.75	101.92	68.30	233.06	18.91
95th-Percentile Queue Length [veh/ln]	3.74	15.25	14.99	1.16	14.13	14.04	2.43	7.34	4.92	14.33	1.36
95th-Percentile Queue Length [ft/ln]	93.56	381.15	374.64	29.00	353.15	350.97	60.74	183.46	122.94	358.24	34.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.92	20.40	20.98	40.16	26.53	26.64	54.56	31.19	30.72	42.11	42.11	21.67
Movement LOS	D	C	C	D	C	C	D	C	C	D	D	C
d_A, Approach Delay [s/veh]	22.45			26.89			34.02			39.88		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	27.90											
Intersection LOS	C											
Intersection V/C	0.533											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	63.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	67	1234	111	19	1108	11	6	55	58	66	101	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	1234	111	19	1108	11	6	55	58	66	101	34
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	336	30	5	304	3	2	18	19	18	30	10
Total Analysis Volume [veh/h]	73	1342	121	21	1215	12	7	72	76	70	122	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	33	33	3	30	30	40	40
g / C, Green / Cycle	0.07	0.37	0.37	0.03	0.33	0.33	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.04	0.39	0.40	0.01	0.32	0.32	0.09	0.09
s, saturation flow rate [veh/h]	1810	1900	1826	1810	1900	1890	1713	1800
c, Capacity [veh/h]	120	698	671	60	635	632	763	802
d1, Uniform Delay [s]	40.77	28.38	28.38	42.46	29.39	29.42	15.09	15.16
k, delay calibration	0.04	0.50	0.50	0.04	0.40	0.40	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.85	50.30	58.17	1.31	24.91	25.42	0.57	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

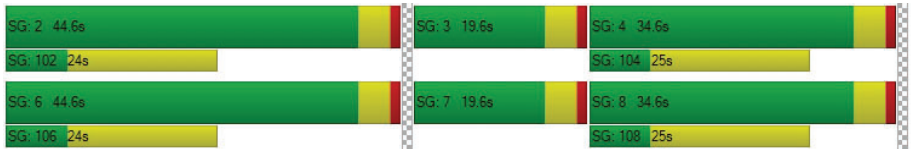
X, volume / capacity	0.61	1.06	1.08	0.35	0.97	0.97	0.19	0.20
d, Delay for Lane Group [s/veh]	42.62	78.68	86.55	43.77	54.31	54.84	15.66	15.73
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.61	23.97	24.50	0.47	16.84	16.88	1.89	2.08
50th-Percentile Queue Length [ft/ln]	40.33	599.18	612.42	11.82	420.95	421.93	47.24	52.12
95th-Percentile Queue Length [veh/ln]	2.90	33.26	34.36	0.85	23.57	23.61	3.40	3.75
95th-Percentile Queue Length [ft/ln]	72.59	831.57	859.07	21.27	589.19	590.37	85.03	93.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.62	82.22	86.55	43.77	54.57	54.84	0.00	15.66	15.66	0.00	15.73	15.73
Movement LOS	D	F	F	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	80.68			54.39			15.66			15.73		
Approach LOS	F			D			B			B		
d_I, Intersection Delay [s/veh]	63.55											
Intersection LOS	E											
Intersection V/C	0.499											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	87.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.941

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	257	665	0	0	1171	40	0	0	0	711	239	789
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	257	665	0	0	1171	40	0	0	0	711	239	789
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	191	0	0	328	11	0	0	0	188	63	209
Total Analysis Volume [veh/h]	295	765	0	0	1311	45	0	0	0	752	253	835
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	50	29	29		30	30	30	30
g / C, Green / Cycle	0.18	0.56	0.33	0.33		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.16	0.21	0.25	0.24		0.53	0.26	0.29	0.51
s, saturation flow rate [veh/h]	1810	3618	3618	1865		900	1847	1470	900
c, Capacity [veh/h]	330	2026	1182	609		304	624	497	304
d1, Uniform Delay [s]	35.96	11.05	27.19	26.92		29.80	26.61	27.72	29.80
k, delay calibration	0.22	0.50	0.50	0.50		0.50	0.23	0.30	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.57	0.54	4.74	7.94		269.2	4.15	10.93	252.1
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.38	0.76	0.74		1.56	0.77	0.85	1.52
d, Delay for Lane Group [s/veh]	51.53	11.59	31.94	34.87		299.0	30.76	38.64	281.9
Lane Group LOS	D	B	C	C		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	7.61	4.09	9.18	9.67		28.70	9.08	9.24	27.26
50th-Percentile Queue Length [ft/ln]	190.37	102.20	229.60	241.65		717.4	227.1	230.9	681.4
95th-Percentile Queue Length [veh/ln]	12.14	7.36	14.15	14.76		46.65	14.03	14.22	44.19
95th-Percentile Queue Length [ft/ln]	303.51	183.96	353.85	369.12		1166.	350.6	355.5	1104.

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.53	11.59	0.00	0.00	32.85	34.87	0.00	0.00	0.00	194.59	32.39	178.09
Movement LOS	D	B			C	C				F	C	F
d_A, Approach Delay [s/veh]	22.70			32.91			0.00			165.18		
Approach LOS	C			C			A			F		
d_I, Intersection Delay [s/veh]	87.55											
Intersection LOS	F											
Intersection V/C	0.941											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	785	735	789	1055	0	199	474	262	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	785	735	789	1055	0	199	474	262	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	224	209	228	306	0	67	159	88	0	0	0
Total Analysis Volume [veh/h]	0	894	838	914	1222	0	266	635	351	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R	
C, Cycle Length [s]	90	90	90	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	
g_i, Effective Green Time [s]	29	29	29	22	56	25	25	25	
g / C, Green / Cycle	0.32	0.32	0.32	0.25	0.62	0.28	0.28	0.28	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.28	0.28	0.26	0.34	0.25	0.25	0.22	
s, saturation flow rate [veh/h]	3618	1521	1521	3514	3618	1847	1729	1585	
c, Capacity [veh/h]	1152	485	485	875	2238	516	483	443	
d1, Uniform Delay [s]	27.50	29.24	29.24	33.83	9.89	31.29	31.27	30.06	
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.11	0.11	0.04	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.38	2.38	2.38	42.67	0.96	6.17	6.36	1.34	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

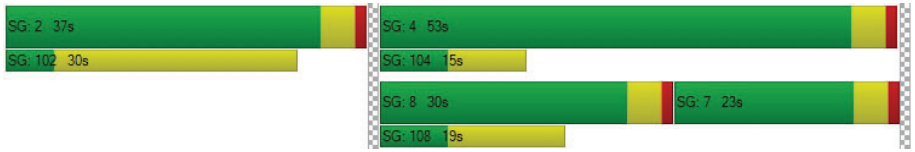
X, volume / capacity	0.75	0.89	0.89	1.04	0.55	0.90	0.90	0.79	
d, Delay for Lane Group [s/veh]	27.87	31.62	31.62	76.49	10.85	37.46	37.63	31.39	
Lane Group LOS	C	C	C	F	B	D	D	C	
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	8.00	8.76	8.76	14.44	6.43	10.18	9.53	6.89	
50th-Percentile Queue Length [ft/ln]	199.89	218.95	218.95	361.04	160.80	254.58	238.25	172.32	
95th-Percentile Queue Length [veh/ln]	12.63	13.61	13.61	21.20	10.59	15.42	14.59	11.20	
95th-Percentile Queue Length [ft/ln]	315.83	340.28	340.28	529.97	264.78	385.41	364.82	279.96	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	27.87	31.62	76.49	10.85	0.00	37.46	37.57	31.39	0.00	0.00	0.00
Movement LOS		C	C	F	B		D	D	C			
d_A, Approach Delay [s/veh]	29.75			38.94			35.82			0.00		
Approach LOS	C			D			D			A		
d_I, Intersection Delay [s/veh]	35.07											
Intersection LOS	D											
Intersection V/C	0.797											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	830	127	53	561	39	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	830	127	53	561	39	78
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	238	36	14	152	12	23
Total Analysis Volume [veh/h]	951	145	57	607	47	93
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	77	77	77	77	9	9
g / C, Green / Cycle	0.77	0.77	0.77	0.77	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.26	0.09	0.10	0.17	0.03	0.08
s, saturation flow rate [veh/h]	3618	1558	598	3618	1357	1126
c, Capacity [veh/h]	2797	1205	473	2797	129	107
d1, Uniform Delay [s]	3.49	2.83	6.02	3.09	42.44	44.66
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.20	0.52	0.18	0.65	8.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.12	0.12	0.22	0.37	0.87
d, Delay for Lane Group [s/veh]	3.82	3.04	6.55	3.27	43.09	52.77
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.33	0.61	0.46	1.31	1.10	2.47
50th-Percentile Queue Length [ft/ln]	58.26	15.35	11.61	32.85	27.40	61.85
95th-Percentile Queue Length [veh/ln]	4.19	1.11	0.84	2.37	1.97	4.45
95th-Percentile Queue Length [ft/ln]	104.87	27.63	20.90	59.13	49.31	111.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.82	3.04	6.55	3.27	43.09	52.77
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	3.71		3.55		49.52	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.03					
Intersection LOS	A					
Intersection V/C	0.345					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	21	43	21	0	19	39	50	0	27	156	28	0	14	153	33
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	43	21	0	19	39	50	0	27	156	28	0	14	153	33
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	13	6	0	7	14	18	0	9	52	9	0	4	41	9
Total Analysis Volume [veh/h]	0	25	51	25	0	27	56	72	0	36	210	38	0	15	165	36
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	587	683	594	692	654	760	648	748
Degree of Utilization, x	0.13	0.04	0.14	0.10	0.38	0.05	0.28	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.44	0.11	0.48	0.35	1.75	0.16	1.13	0.15
95th-Percentile Queue Length [ft]	11.09	2.85	12.11	8.67	43.80	3.94	28.30	3.79
Approach Delay [s/veh]	9.36		9.18		10.99		9.94	
Approach LOS	A		A		B		A	
Intersection Delay [s/veh]	10.10							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	296	123	0	33	474	0	138	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	296	123	0	33	474	0	138	54
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	87	36	0	9	133	0	37	14
Total Analysis Volume [veh/h]	0	348	144	0	37	531	0	147	57
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.18	0.09	0.04	0.28	0.09	0.04
s, saturation flow rate [veh/h]	1900	1615	1049	1900	1710	1351
c, Capacity [veh/h]	1193	954	620	1122	390	308
d1, Uniform Delay [s]	5.21	4.67	7.81	5.91	16.55	15.79
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.62	0.34	0.18	1.43	0.22	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

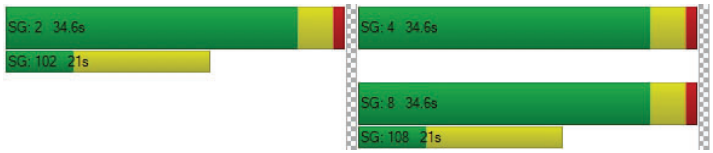
X, volume / capacity	0.29	0.15	0.06	0.47	0.38	0.18
d, Delay for Lane Group [s/veh]	5.83	5.01	7.99	7.34	16.77	15.90
Lane Group LOS	A	A	A	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.43	0.54	0.22	2.56	1.35	0.50
50th-Percentile Queue Length [ft/ln]	35.72	13.57	5.38	64.06	33.70	12.47
95th-Percentile Queue Length [veh/ln]	2.57	0.98	0.39	4.61	2.43	0.90
95th-Percentile Queue Length [ft/ln]	64.29	24.42	9.68	115.30	60.66	22.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.83	5.83	5.01	7.99	7.99	7.34	16.77	16.77	15.90
Movement LOS	A	A	A	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	5.59			7.38			16.53		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	8.16								
Intersection LOS	A								
Intersection V/C	0.365								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.318

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	21	56	14	15	127	6	13	144	19	16	107	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	56	14	15	127	6	13	144	19	16	107	14
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	16	4	4	35	2	4	49	6	5	31	4
Total Analysis Volume [veh/h]	24	64	16	17	141	7	18	196	26	19	125	16
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	707	715	755	737
Degree of Utilization, x	0.15	0.23	0.32	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.51	0.89	1.37	0.82
95th-Percentile Queue Length [ft]	12.84	22.23	34.23	20.57
Approach Delay [s/veh]	8.96	9.54	9.98	9.24
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.53			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	18	105	47	33	205	23	26	141	25	32	95	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	105	47	33	205	23	26	141	25	32	95	28
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	40	18	10	60	7	9	48	8	9	26	8
Total Analysis Volume [veh/h]	28	161	72	38	239	27	35	191	34	36	105	31
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	642	638	620	602
Degree of Utilization, x	0.41	0.48	0.42	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.98	2.58	2.07	1.17
95th-Percentile Queue Length [ft]	49.44	64.38	51.82	29.36
Approach Delay [s/veh]	12.42	13.68	12.94	11.35
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.76			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	27.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.786

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	107	205	25	30	291	26	10	71	104	54	145	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	205	25	30	291	26	10	71	104	54	145	33
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	59	7	8	82	7	3	21	31	20	53	12
Total Analysis Volume [veh/h]	123	236	29	34	329	29	12	86	126	78	210	48
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	457	516	464	515	475	486
Degree of Utilization, x	0.79	0.06	0.78	0.06	0.47	0.69

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	7.01	0.18	6.96	0.18	2.49	5.25
95th-Percentile Queue Length [ft]	175.23	4.46	173.93	4.46	62.14	131.36
Approach Delay [s/veh]	32.15		31.43		17.19	25.41
Approach LOS	D		D		C	D
Intersection Delay [s/veh]	27.75					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	94.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	22	188	403	68	82	9	18	350	60	107	54	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	188	403	68	82	9	18	350	60	107	54	23
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	103	19	23	3	6	110	19	28	14	6
Total Analysis Volume [veh/h]	23	193	413	77	93	10	23	438	75	112	56	24
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	38	46	40	16	16	16	16
g / C, Green / Cycle	0.58	0.47	0.58	0.50	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.37	0.08	0.06	0.02	0.28	0.12	0.05
s, saturation flow rate [veh/h]	1363	1621	969	1848	1193	1810	901	1692
c, Capacity [veh/h]	883	764	433	915	262	372	90	348
d1, Uniform Delay [s]	7.21	17.91	11.90	10.82	29.96	31.87	40.12	26.57
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.15	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	8.30	0.90	0.25	0.05	175.14	116.78	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

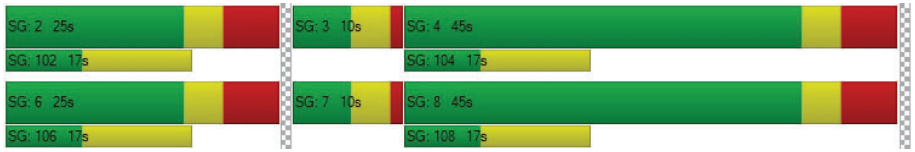
X, volume / capacity	0.03	0.79	0.18	0.11	0.09	1.38	1.24	0.23
d, Delay for Lane Group [s/veh]	7.22	26.21	12.80	11.07	30.01	207.01	156.91	26.70
Lane Group LOS	A	C	B	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.15	10.14	0.63	0.97	0.38	25.06	4.65	1.24
50th-Percentile Queue Length [ft/ln]	3.66	253.47	15.69	24.29	9.58	626.38	116.25	30.90
95th-Percentile Queue Length [veh/ln]	0.26	15.36	1.13	1.75	0.69	38.59	8.37	2.22
95th-Percentile Queue Length [ft/ln]	6.59	384.02	28.25	43.71	17.24	964.67	209.26	55.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.22	26.21	26.21	12.80	11.07	11.07	30.01	207.01	207.01	156.91	26.70	26.70
Movement LOS	A	C	C	B	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	25.52			11.81			199.42			102.65		
Approach LOS	C			B			F			F		
d_I, Intersection Delay [s/veh]	94.19											
Intersection LOS	F											
Intersection V/C	0.679											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	57	107	15	3	71	10	9	140	28	17	118	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	107	15	3	71	10	9	140	28	17	118	6
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	30	4	1	19	3	3	48	10	5	33	2
Total Analysis Volume [veh/h]	64	120	17	3	78	11	12	193	39	19	134	7
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	711	699	749	720
Degree of Utilization, x	0.28	0.13	0.33	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.16	0.45	1.42	0.85
95th-Percentile Queue Length [ft]	29.01	11.30	35.46	21.17
Approach Delay [s/veh]	10.04	8.93	10.11	9.42
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	9.78			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	21	118	9	20	210	21	20	90	39	33	87	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	118	9	20	210	21	20	90	39	33	87	24
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	33	2	6	59	6	6	26	11	10	27	8
Total Analysis Volume [veh/h]	23	131	10	23	238	24	23	104	45	41	109	30
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	680	708	683	676
Degree of Utilization, x	0.24	0.40	0.25	0.27

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.94	1.95	0.99	1.07
95th-Percentile Queue Length [ft]	23.50	48.78	24.82	26.75
Approach Delay [s/veh]	9.97	11.48	10.03	10.24
Approach LOS	A	B	B	B
Intersection Delay [s/veh]	10.58			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2615	103	0	3695	210	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2615	103	0	3695	210	9
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	752	30	0	947	69	3
Total Analysis Volume [veh/h]	3009	119	0	3790	276	12
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	85	85	85	85
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	65	65	65	10
g / C, Green / Cycle	0.76	0.76	0.76	0.12
(v / s)_i Volume / Saturation Flow Rate	0.65	0.63	0.62	0.18
s, saturation flow rate [veh/h]	3192	1643	6089	1589
c, Capacity [veh/h]	2425	1248	4626	186
d1, Uniform Delay [s]	7.10	6.74	6.52	37.65
k, delay calibration	0.04	0.13	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	1.92	0.14	270.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

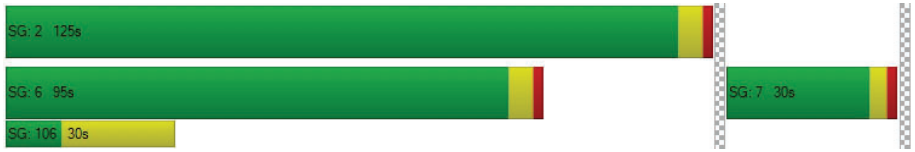
X, volume / capacity	0.86	0.84	0.82	1.55
d, Delay for Lane Group [s/veh]	7.47	8.66	6.67	308.43
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.57	8.68	7.10	17.81
50th-Percentile Queue Length [ft/ln]	214.35	217.02	177.45	445.16
95th-Percentile Queue Length [veh/ln]	13.38	13.51	11.47	28.67
95th-Percentile Queue Length [ft/ln]	334.40	337.82	286.68	716.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.83	8.66	0.00	6.67	308.43	308.43
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.86		6.67		308.43	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	19.25					
Intersection LOS	B					
Intersection V/C	0.835					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	98.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.015

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2150	478	29	162	554	7	568	265	0	0	377	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2150	478	29	162	554	7	568	265	0	0	377	228
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	632	141	9	47	161	2	142	68	0	0	117	71
Total Analysis Volume [veh/h]	2529	562	34	188	644	8	568	272	0	0	467	283
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	145	145	145	145	145	145	145
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	85	85	85	25	25	25	25
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.53	0.55	0.42	0.26	0.26	0.17	0.20
s, saturation flow rate [veh/h]	3192	1523	1425	1597	1593	1597	3783
c, Capacity [veh/h]	1866	890	833	275	274	275	650
d1, Uniform Delay [s]	26.59	28.10	21.56	60.20	60.20	60.09	60.20
k, delay calibration	0.04	0.41	0.21	0.50	0.50	0.41	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	17.22	2.21	256.47	257.29	46.69	70.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.95	0.72	1.53	1.53	0.99	1.15
d, Delay for Lane Group [s/veh]	27.30	45.32	23.78	316.67	317.49	106.77	130.67
Lane Group LOS	C	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	25.01	30.49	14.75	29.68	29.68	13.57	12.24
50th-Percentile Queue Length [ft/ln]	625.23	762.37	368.65	742.11	741.97	339.37	306.09
95th-Percentile Queue Length [veh/ln]	33.21	39.55	21.04	45.96	45.96	19.62	19.20
95th-Percentile Queue Length [ft/ln]	830.27	988.78	526.10	1148.95	1149.10	490.44	480.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.48	23.78	23.78	316.67	317.49	317.49	0.00	106.77	0.00	0.00	130.67	130.67
Movement LOS	C	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	31.49			317.08			106.77			130.67		
Approach LOS	C			F			F			F		
d_I, Intersection Delay [s/veh]	98.62											
Intersection LOS	F											
Intersection V/C	1.015											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	61	42	0	14	33	30	0	6	157	16	0	29	169	39
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	61	42	0	14	33	30	0	6	157	16	0	29	169	39
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	18	12	0	4	10	9	0	2	45	5	0	8	49	11
Total Analysis Volume [veh/h]	0	23	71	49	0	17	39	35	0	7	182	18	0	34	198	46
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	714	705	747	765
Degree of Utilization, x	0.20	0.13	0.28	0.36

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.44	1.13	1.67
95th-Percentile Queue Length [ft]	18.57	11.04	28.30	41.70
Approach Delay [s/veh]	9.29	8.86	9.66	10.37
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.76			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.189

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	18	54	30	4	14	7	8	58	19	40	69	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	54	30	4	14	7	8	58	19	40	69	14
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	17	9	1	4	2	3	20	7	12	21	4
Total Analysis Volume [veh/h]	23	68	38	4	15	8	11	82	27	48	83	17
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	678	803	668	784	707	831	694	836
Degree of Utilization, x	0.13	0.05	0.03	0.01	0.13	0.03	0.19	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.46	0.15	0.09	0.03	0.45	0.10	0.69	0.06
95th-Percentile Queue Length [ft]	11.56	3.72	2.20	0.77	11.29	2.52	17.28	1.55
Approach Delay [s/veh]	8.41		7.98		8.25		8.86	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.50							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	10.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	32	0	1085	209	184	875	0	32	1085	209	46	0	43
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	1085	209	184	875	0	32	1085	209	46	0	43
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	297	57	47	225	0	8	271	52	14	0	13
Total Analysis Volume [veh/h]	32	0	1188	229	189	899	0	32	1085	209	56	0	52
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	56	56	66	58		15	15
g / C, Green / Cycle	0.03	0.62	0.62	0.73	0.65		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.33	0.14	0.30	0.25		0.03	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	633	3618		1729	1500
c, Capacity [veh/h]	56	2253	1006	490	2341		291	253
d1, Uniform Delay [s]	43.00	9.54	7.47	6.40	7.46		32.15	32.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.32	0.89	0.53	2.28	0.48		0.12	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.53	0.23	0.39	0.38		0.19	0.21
d, Delay for Lane Group [s/veh]	46.32	10.43	7.99	8.68	7.94		32.27	32.38
Lane Group LOS	D	B	A	A	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	6.06	1.89	1.13	3.70		1.05	0.98
50th-Percentile Queue Length [ft/ln]	18.68	151.45	47.28	28.23	92.48		26.15	24.38
95th-Percentile Queue Length [veh/ln]	1.34	10.09	3.40	2.03	6.66		1.88	1.76
95th-Percentile Queue Length [ft/ln]	33.62	252.36	85.10	50.81	166.47		47.08	43.88

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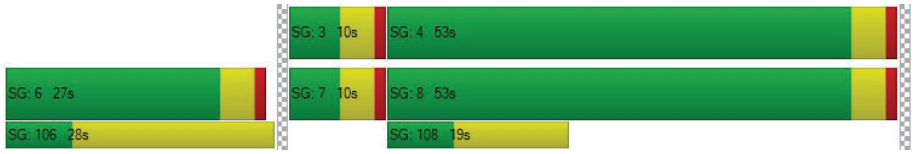
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.32	0.00	10.43	7.99	8.68	7.94	0.00	0.00	0.00	0.00	32.27	0.00	32.38
Movement LOS	D		B	A	A	A					C		C
d_A, Approach Delay [s/veh]	10.84				8.07			0.00			32.32		
Approach LOS	B				A			A			C		
d_I, Intersection Delay [s/veh]	10.57												
Intersection LOS	B												
Intersection V/C	0.400												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	36.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.890

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	29	2509	2	280	2274	24	8	4	13	77	21	281
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	2509	2	280	2274	24	8	4	13	77	21	281
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	728	1	72	581	6	3	2	5	23	6	85
Total Analysis Volume [veh/h]	34	2912	2	286	2326	25	13	6	21	93	25	338
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	197	197	197	197	197	197	197	197
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	112	35	141	141	35	35	75
g / C, Green / Cycle	0.03	0.57	0.18	0.72	0.72	0.18	0.18	0.38
(v / s)_i Volume / Saturation Flow Rate	0.02	0.56	0.16	0.43	0.43	0.14	0.16	0.21
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1890	279	725	1615
c, Capacity [veh/h]	53	2940	324	2593	1355	74	162	612
d1, Uniform Delay [s]	94.82	42.17	79.16	13.81	13.85	70.51	79.17	48.23
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.13	0.21	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.68	3.00	3.20	0.08	0.16	7.25	11.29	2.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

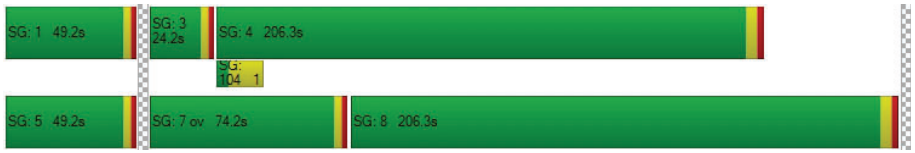
X, volume / capacity	0.64	0.99	0.88	0.59	0.60	0.54	0.73	0.55
d, Delay for Lane Group [s/veh]	99.50	45.17	82.36	13.89	14.00	77.76	90.46	51.00
Lane Group LOS	F	D	F	B	B	E	F	D
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.79	45.46	14.37	16.11	16.96	1.88	6.47	13.89
50th-Percentile Queue Length [ft/ln]	44.71	1136.49	359.16	402.72	424.05	46.88	161.82	347.22
95th-Percentile Queue Length [veh/ln]	3.22	56.52	20.58	22.69	23.72	3.38	10.65	20.00
95th-Percentile Queue Length [ft/ln]	80.48	1412.93	514.56	567.28	592.91	84.38	266.14	500.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	99.50	45.17	0.00	82.36	13.93	14.00	77.76	77.76	77.76	90.46	90.46	51.00
Movement LOS	F	D		F	B	B	E	E	E	F	F	D
d_A, Approach Delay [s/veh]	45.80			21.35			77.76			61.21		
Approach LOS	D			C			E			E		
d_I, Intersection Delay [s/veh]	36.56											
Intersection LOS	D											
Intersection V/C	0.890											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	110.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.031

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	225	526	104	26	434	74	59	113	188	0	54	113	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	225	526	104	26	434	74	59	113	188	0	54	113	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	60	140	28	7	124	21	16	31	51	0	17	35	22
Total Analysis Volume [veh/h]	240	561	111	30	496	85	65	124	206	0	68	142	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	61	61	3	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.61	0.61	0.03	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.13	0.30	0.09	0.02	0.26	0.06	0.54	0.14	0.64	0.10
s, saturation flow rate [veh/h]	1810	1900	1267	1810	1900	1352	348	1518	330	860
c, Capacity [veh/h]	189	1156	771	51	1012	720	113	570	109	159
d1, Uniform Delay [s]	44.75	10.87	8.40	47.97	14.78	11.66	40.56	22.55	40.71	36.93
k, delay calibration	0.14	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	133.40	1.46	0.39	3.85	1.70	0.33	339.57	0.14	451.43	1.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

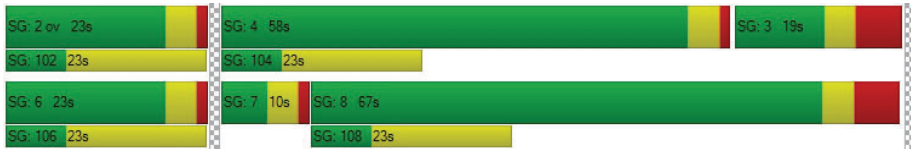
X, volume / capacity	1.27	0.49	0.14	0.58	0.49	0.12	1.68	0.36	1.93	0.55
d, Delay for Lane Group [s/veh]	178.15	12.33	8.79	51.81	16.48	11.99	380.14	22.69	492.14	38.02
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	11.64	6.81	1.05	0.79	7.24	0.98	13.47	3.53	16.31	1.94
50th-Percentile Queue Length [ft/ln]	291.03	170.34	26.34	19.75	181.05	24.52	336.75	88.19	407.70	48.48
95th-Percentile Queue Length [veh/ln]	18.79	11.09	1.90	1.42	11.66	1.77	23.35	6.35	28.26	3.49
95th-Percentile Queue Length [ft/ln]	469.85	277.37	47.42	35.56	291.38	44.14	583.78	158.73	706.54	87.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	178.15	12.33	8.79	51.81	16.48	11.99	380.14	380.14	22.69	492.1	492.1	492.1	38.02
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	55.54			17.59			193.72			359.12			
Approach LOS	E			B			F			F			
d_I, Intersection Delay [s/veh]	110.42												
Intersection LOS	F												
Intersection V/C	1.031												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	624	154	0	104	544	0	234	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	624	154	0	104	544	0	234	269
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	169	42	0	27	143	0	67	77
Total Analysis Volume [veh/h]	0	675	167	0	110	574	0	269	310
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.12	0.12	0.16	0.16	0.11	0.17
s, saturation flow rate [veh/h]	1900	1729	1371	914	3618	1299	1676	1064
c, Capacity [veh/h]	1139	1004	796	665	2509	226	292	186
d1, Uniform Delay [s]	10.80	10.80	10.01	5.57	5.58	40.46	38.44	41.18
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.04	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	0.84	0.60	0.53	0.21	12.48	0.92	34.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

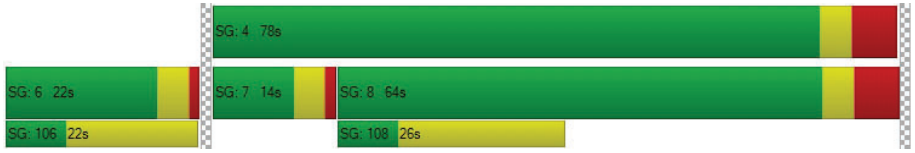
X, volume / capacity	0.31	0.32	0.21	0.17	0.23	0.91	0.65	0.99
d, Delay for Lane Group [s/veh]	11.51	11.64	10.61	6.10	5.79	52.94	39.36	75.56
Lane Group LOS	B	B	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.02	3.69	1.80	0.76	1.99	5.67	4.38	6.22
50th-Percentile Queue Length [ft/ln]	100.62	92.34	44.93	18.93	49.78	141.66	109.50	155.57
95th-Percentile Queue Length [veh/ln]	7.24	6.65	3.23	1.36	3.58	9.57	7.81	10.31
95th-Percentile Queue Length [ft/ln]	181.12	166.21	80.87	34.07	89.60	239.25	195.31	257.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.51	11.57	10.61	6.10	6.10	5.79	52.94	49.30	61.59
Movement LOS	B	B	B	A	A	A	D	D	E
d_A, Approach Delay [s/veh]	11.38			5.84			55.65		
Approach LOS	B			A			E		
d_I, Intersection Delay [s/veh]	21.76								
Intersection LOS	C								
Intersection V/C	0.383								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.360

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	626	97	67	718	106	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	626	97	67	718	106	109
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	172	27	18	191	31	32
Total Analysis Volume [veh/h]	688	107	71	763	125	129
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.19	0.08	0.09	0.21	0.15
s, saturation flow rate [veh/h]	3618	1339	755	3618	1705
c, Capacity [veh/h]	2235	827	453	2235	426
d1, Uniform Delay [s]	9.00	7.92	13.54	9.24	33.02
k, delay calibration	0.50	0.50	0.50	0.50	0.05
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	0.32	0.74	0.42	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

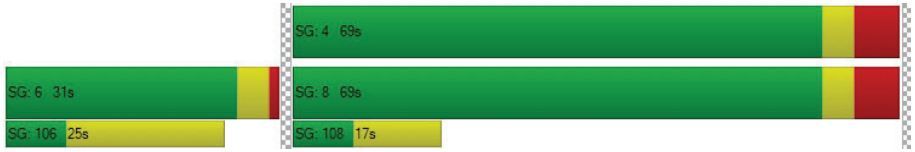
X, volume / capacity	0.31	0.13	0.16	0.34	0.60
d, Delay for Lane Group [s/veh]	9.36	8.25	14.27	9.65	33.66
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.39	0.97	0.94	3.86	5.36
50th-Percentile Queue Length [ft/ln]	84.71	24.29	23.61	96.49	134.10
95th-Percentile Queue Length [veh/ln]	6.10	1.75	1.70	6.95	9.16
95th-Percentile Queue Length [ft/ln]	152.49	43.72	42.49	173.69	229.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.36	8.25	14.27	9.65	33.66	33.66
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.21		10.05		33.66	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.88					
Intersection LOS	B					
Intersection V/C	0.360					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	652	201	96	690	158	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	652	201	96	690	158	119
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	184	57	27	197	44	33
Total Analysis Volume [veh/h]	735	227	110	789	174	131
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.20	0.18	0.13	0.22	0.21	0.11
s, saturation flow rate [veh/h]	3618	1296	880	3618	832	1238
c, Capacity [veh/h]	2190	785	672	2618	120	325
d1, Uniform Delay [s]	9.77	9.44	4.64	4.88	42.78	30.40
k, delay calibration	0.50	0.50	0.50	0.50	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	0.93	0.52	0.30	226.08	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

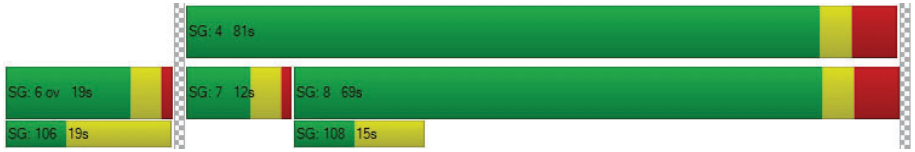
X, volume / capacity	0.34	0.29	0.16	0.30	1.45	0.40
d, Delay for Lane Group [s/veh]	10.19	10.37	5.17	5.18	268.86	30.69
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.86	2.43	0.66	2.52	10.47	2.60
50th-Percentile Queue Length [ft/ln]	96.46	60.75	16.45	63.05	261.77	65.06
95th-Percentile Queue Length [veh/ln]	6.95	4.37	1.18	4.54	17.99	4.68
95th-Percentile Queue Length [ft/ln]	173.64	109.36	29.62	113.50	449.76	117.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.19	10.37	5.17	5.18	268.86	30.69
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.23		5.17		166.57	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	30.15					
Intersection LOS	C					
Intersection V/C	0.435					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	33	791	142	67	828	75	41	13	103	137	35	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	791	142	67	828	75	41	13	103	137	35	138
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	222	41	18	217	20	12	6	30	38	10	39
Total Analysis Volume [veh/h]	37	887	165	71	870	79	48	24	121	154	39	155
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	81	81	73	73	13	20	20
g / C, Green / Cycle	0.54	0.54	0.49	0.49	0.09	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.25	0.26	0.10	0.11	0.12
s, saturation flow rate [veh/h]	698	3618	1900	1835	1666	1827	1280
c, Capacity [veh/h]	341	1965	923	892	149	247	173
d1, Uniform Delay [s]	18.66	20.73	26.40	26.71	68.27	62.70	63.80
k, delay calibration	0.04	0.50	0.50	0.50	0.38	0.04	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.75	2.04	2.27	104.80	2.05	8.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.45	0.51	0.53	1.13	0.78	0.90
d, Delay for Lane Group [s/veh]	18.71	21.48	28.44	28.98	173.07	64.74	72.60
Lane Group LOS	B	C	C	C	F	E	E
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.61	9.69	12.23	12.41	10.03	7.34	6.31
50th-Percentile Queue Length [ft/ln]	15.37	242.25	305.86	310.33	250.80	183.53	157.69
95th-Percentile Queue Length [veh/ln]	1.11	14.80	17.97	18.19	15.95	11.78	10.43
95th-Percentile Queue Length [ft/ln]	27.66	369.88	449.27	454.78	398.69	294.61	260.66

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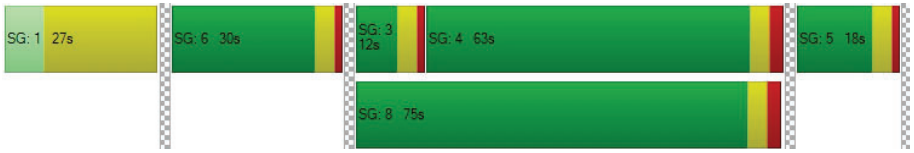
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.71	21.48	0.00	0.00	28.69	28.98	173.07	0.00	173.07	64.74	64.74	72.60
Movement LOS	B	C			C	C	F		F	E	E	E
d_A, Approach Delay [s/veh]	21.37			28.71			173.07			68.24		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	41.84											
Intersection LOS	D											
Intersection V/C	0.491											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	300	700	995	63	104	651
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	700	995	63	104	651
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	184	255	16	27	170
Total Analysis Volume [veh/h]	315	735	1021	65	108	679
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	80	80	80	12	31
g / C, Green / Cycle	0.12	0.67	0.67	0.67	0.10	0.26
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.28	0.05	0.09	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1348	1212	2859
c, Capacity [veh/h]	406	2414	2414	900	124	731
d1, Uniform Delay [s]	51.52	8.32	9.24	6.97	53.09	43.54
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.21	0.33	0.55	0.16	7.20	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

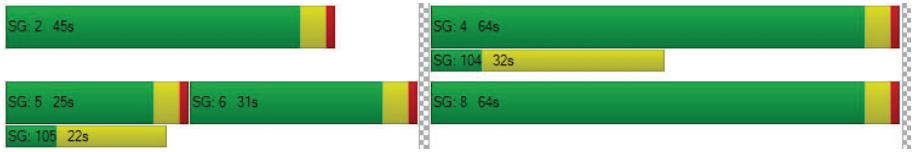
X, volume / capacity	0.78	0.30	0.42	0.07	0.87	0.93
d, Delay for Lane Group [s/veh]	52.73	8.65	9.79	7.12	60.29	45.92
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.67	3.89	6.02	0.60	3.61	10.59
50th-Percentile Queue Length [ft/ln]	116.69	97.31	150.42	14.98	90.30	264.85
95th-Percentile Queue Length [veh/ln]	8.21	7.01	10.04	1.08	6.50	15.93
95th-Percentile Queue Length [ft/ln]	205.27	175.16	250.99	26.96	162.54	398.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.73	8.65	9.79	7.12	60.29	45.92
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	21.87		9.63		47.89	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.33					
Intersection LOS	C					
Intersection V/C	0.520					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	20	33	26	0	90	0	48	59
Total Analysis Volume [veh/h]	0	0	0	0	79	132	106	0	358	0	193	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.42	0.42	0.42	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate		0.07	0.07	0.08	0.28	0.10	0.16
s, saturation flow rate [veh/h]		1159	1900	1356	1264	1900	1460
c, Capacity [veh/h]		463	799	570	685	989	760
d1, Uniform Delay [s]		27.36	21.56	22.00	19.04	15.36	16.46
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.80	0.41	0.79	2.84	0.44	1.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.17	0.16	0.20	0.52	0.20	0.31
d, Delay for Lane Group [s/veh]		28.16	21.97	22.79	21.88	15.80	17.52
Lane Group LOS		C	C	C	C	B	B
Critical Lane Group		No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]		1.68	2.24	2.14	6.29	2.89	3.85
50th-Percentile Queue Length [ft/ln]		42.03	56.10	53.50	157.17	72.18	96.23
95th-Percentile Queue Length [veh/ln]		3.03	4.04	3.85	10.40	5.20	6.93
95th-Percentile Queue Length [ft/ln]		75.65	100.98	96.30	259.98	129.92	173.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	28.16	22.02	22.79	0.00	21.88	0.00	15.80	17.52
Movement LOS					C	C	C		C		B	B
d_A, Approach Delay [s/veh]	0.00				23.81				19.08			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.88											
Intersection LOS	D											
Intersection V/C	0.572											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	750	120	140	1270	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	750	120	140	1270	0	40
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	199	32	39	352	0	10
Total Analysis Volume [veh/h]	0	53	796	127	155	1409	0	42
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	48	48	48
g / C, Green / Cycle	0.29	0.29	0.29	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.10	0.16	0.38	0.39
s, saturation flow rate [veh/h]	373	3618	1278	956	1900	1863
c, Capacity [veh/h]	60	1053	372	335	766	750
d1, Uniform Delay [s]	59.98	38.64	33.47	26.55	34.66	34.96
k, delay calibration	0.04	0.04	0.04	0.04	0.29	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.42	0.20	0.37	15.47	21.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

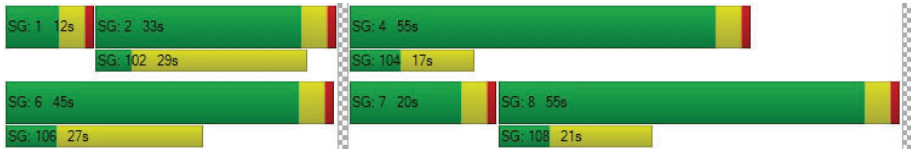
X, volume / capacity	0.88	0.76	0.34	0.46	0.95	0.96
d, Delay for Lane Group [s/veh]	74.28	39.06	33.67	26.92	50.13	56.42
Lane Group LOS	E	D	C	C	D	E
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	10.64	2.94	2.92	23.35	24.59
50th-Percentile Queue Length [ft/ln]	46.30	265.97	73.60	72.97	583.82	614.83
95th-Percentile Queue Length [veh/ln]	3.33	15.99	5.30	5.25	31.28	32.73
95th-Percentile Queue Length [ft/ln]	83.33	399.71	132.47	131.34	781.96	818.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	39.06	33.67	26.92	53.17	0.00	56.42
Movement LOS		E	D	C	C	D		E
d_A, Approach Delay [s/veh]	40.27				50.72			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.88							
Intersection LOS	D							
Intersection V/C	0.572							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	63.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	63	118	171	0	20	68	78	0	15	255	62	0	115	351	61
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	63	118	171	0	20	68	78	0	15	255	62	0	115	351	61
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	17	31	46	0	5	18	21	0	4	73	18	0	30	91	16
Total Analysis Volume [veh/h]	0	67	126	182	0	22	74	84	0	17	294	71	0	119	363	63
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.05	0.18	0.26	0.02	0.08	0.05	0.11	0.11	0.12
s, saturation flow rate [veh/h]	1248	1689	686	977	3618	1577	1102	1900	1784
c, Capacity [veh/h]	73	262	140	441	1709	745	514	898	843
d1, Uniform Delay [s]	50.02	42.26	41.79	19.72	15.15	14.57	20.11	15.72	15.76
k, delay calibration	0.04	0.08	0.28	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.26	85.98	155.26	0.16	0.22	0.25	1.05	0.64	0.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	1.18	1.29	0.04	0.17	0.10	0.23	0.24	0.25
d, Delay for Lane Group [s/veh]	65.28	128.24	197.05	19.89	15.37	14.83	21.17	16.36	16.46
Lane Group LOS	E	F	F	B	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	12.57	9.49	0.27	1.93	0.93	1.98	3.05	2.94
50th-Percentile Queue Length [ft/ln]	49.08	314.28	237.26	6.72	48.30	23.16	49.56	76.13	73.46
95th-Percentile Queue Length [veh/ln]	3.53	19.75	16.02	0.48	3.48	1.67	3.57	5.48	5.29
95th-Percentile Queue Length [ft/ln]	88.35	493.68	400.45	12.10	86.94	41.68	89.21	137.04	132.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.28	65.28	128.2	128.2	197.0	197.0	197.0	197.0	19.89	19.89	15.37	14.83	21.17	21.17	16.40	16.46
Movement LOS	E	E	F	F	F	F	F	F	B	B	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	116.99				197.05				15.47				17.45			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	63.94															
Intersection LOS	E															
Intersection V/C	0.379															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	84	213	128	30	152	38	52	78	58	67	98	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	213	128	30	152	38	52	78	58	67	98	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	56	34	9	45	11	16	24	18	19	28	26
Total Analysis Volume [veh/h]	89	225	135	35	180	45	64	96	71	76	111	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	46	46
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.09	0.03	0.12	0.16	0.26
s, saturation flow rate [veh/h]	1174	1900	1545	1174	1814	1441	1100
c, Capacity [veh/h]	188	448	364	194	428	712	554
d1, Uniform Delay [s]	43.95	33.13	32.01	41.34	33.35	16.80	19.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	0.33	0.23	0.16	0.37	1.21	3.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.50	0.37	0.18	0.53	0.32	0.52
d, Delay for Lane Group [s/veh]	44.64	33.46	32.24	41.51	33.72	18.01	23.10
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.15	4.67	2.70	0.79	4.70	3.43	5.26
50th-Percentile Queue Length [ft/ln]	53.70	116.67	67.62	19.86	117.51	85.66	131.48
95th-Percentile Queue Length [veh/ln]	3.87	8.21	4.87	1.43	8.26	6.17	9.02
95th-Percentile Queue Length [ft/ln]	96.66	205.24	121.72	35.74	206.39	154.19	225.50

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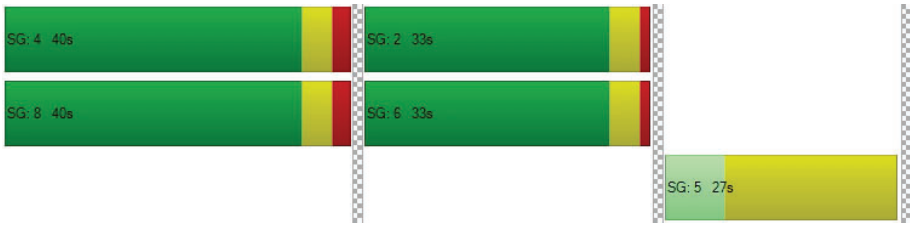
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.64	33.46	32.24	41.51	33.72	33.72	18.01	18.01	18.01	23.10	23.10	23.10
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	35.31			34.77			18.01			23.10		
Approach LOS	D			C			B			C		
d_I, Intersection Delay [s/veh]	29.07											
Intersection LOS	C											
Intersection V/C	0.387											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	80.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	75	206	177	68	145	67	78	133	68	59	165	199
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	206	177	68	145	67	78	133	68	59	165	199
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	58	50	19	40	19	21	36	18	17	47	57
Total Analysis Volume [veh/h]	84	232	199	76	161	74	84	144	74	68	190	229
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.25	0.07	0.13	0.76	0.05	0.68	0.14
s, saturation flow rate [veh/h]	1163	1900	800	1167	1767	301	1570	381	1581
c, Capacity [veh/h]	134	370	156	147	344	200	789	237	795
d1, Uniform Delay [s]	48.02	36.93	40.25	46.79	37.39	33.02	12.97	27.81	14.45
k, delay calibration	0.04	0.04	0.38	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.80	0.66	157.44	1.04	0.90	105.46	0.24	83.69	0.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

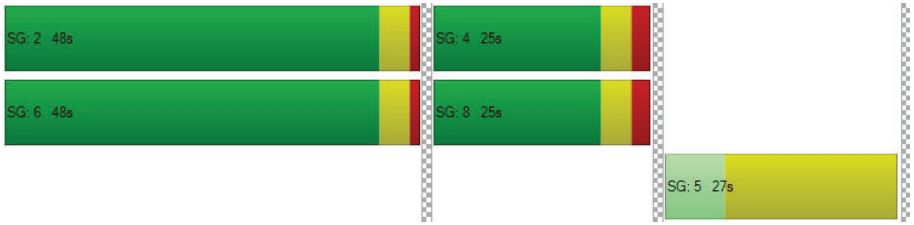
X, volume / capacity	0.63	0.63	1.28	0.52	0.68	1.14	0.09	1.09	0.29
d, Delay for Lane Group [s/veh]	49.82	37.58	197.69	47.84	38.29	138.47	13.20	111.50	15.36
Lane Group LOS	D	D	F	D	D	F	B	F	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.14	5.16	10.53	1.90	5.31	10.86	0.90	11.42	3.12
50th-Percentile Queue Length [ft/ln]	53.46	128.95	263.24	47.57	132.69	271.49	22.47	285.50	78.06
95th-Percentile Queue Length [veh/ln]	3.85	8.88	17.62	3.42	9.09	17.67	1.62	17.95	5.62
95th-Percentile Queue Length [ft/ln]	96.22	222.07	440.52	85.62	227.14	441.76	40.44	448.71	140.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.82	37.58	197.69	47.84	38.29	38.29	138.47	138.47	13.20	111.50	111.50	15.36
Movement LOS	D	D	F	D	D	D	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	101.44			40.62			107.78			66.30		
Approach LOS	F			D			F			E		
d_I, Intersection Delay [s/veh]	80.32											
Intersection LOS	F											
Intersection V/C	1.007											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.270

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	43	205	92	68	165	38	69	135	94	61	147	192
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	205	92	68	165	38	69	135	94	61	147	192
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	61	27	18	44	10	18	35	25	18	42	55
Total Analysis Volume [veh/h]	51	243	109	73	176	41	72	141	98	70	170	222
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	22	22	22	22	46	46	46	46	46
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.46	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.07	0.06	0.12	0.06	0.14	0.06	0.09	0.14
s, saturation flow rate [veh/h]	1183	1900	1460	1155	1824	1234	1746	1159	1900	1561
c, Capacity [veh/h]	181	416	320	167	400	550	801	483	872	716
d1, Uniform Delay [s]	43.11	34.96	32.94	44.92	34.60	19.95	16.97	22.17	16.09	17.08
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.48	0.23	0.66	0.43	0.49	0.95	0.63	0.50	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

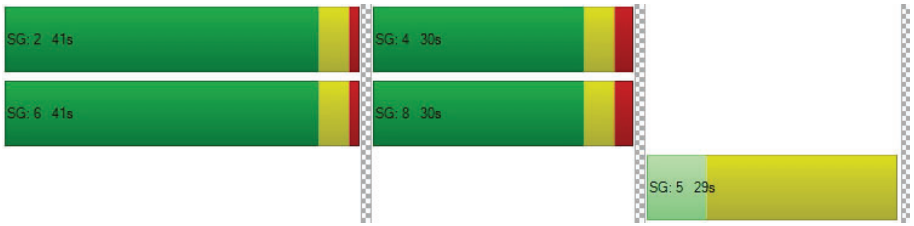
X, volume / capacity	0.28	0.58	0.34	0.44	0.54	0.13	0.30	0.14	0.20	0.31
d, Delay for Lane Group [s/veh]	43.42	35.44	33.18	45.58	35.03	20.44	17.92	22.80	16.59	18.20
Lane Group LOS	D	D	C	D	D	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.19	5.23	2.21	1.77	4.62	1.14	3.51	1.19	2.35	3.31
50th-Percentile Queue Length [ft/ln]	29.86	130.80	55.22	44.35	115.57	28.49	87.85	29.72	58.69	82.76
95th-Percentile Queue Length [veh/ln]	2.15	8.98	3.98	3.19	8.15	2.05	6.33	2.14	4.23	5.96
95th-Percentile Queue Length [ft/ln]	53.75	224.58	99.40	79.83	203.73	51.28	158.13	53.49	105.64	148.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.42	35.44	33.18	45.58	35.03	35.03	20.44	17.92	17.92	22.80	16.59	18.20
Movement LOS	D	D	C	D	D	D	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.84			37.69			18.51			18.30		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.00											
Intersection LOS	C											
Intersection V/C	0.270											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	17	236	0	29	311	51	66	90	0	88	196	114
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	236	0	29	311	51	66	90	0	88	196	114
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	63	0	8	84	14	20	27	0	23	52	30
Total Analysis Volume [veh/h]	18	253	0	31	334	55	79	108	0	93	208	121
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	27	27	27	27		64	64
g / C, Green / Cycle	0.23	0.23	0.23	0.23		0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.02	0.14	0.18	0.04		0.12	0.13
s, saturation flow rate [veh/h]	1042	1863	1863	1360		1862	1525
c, Capacity [veh/h]	97	423	423	308		986	807
d1, Uniform Delay [s]	56.79	41.49	43.69	37.36		15.12	15.22
k, delay calibration	0.04	0.04	0.27	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.34	0.51	8.05	0.10		0.55	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.60	0.79	0.18		0.23	0.24
d, Delay for Lane Group [s/veh]	57.13	42.00	51.74	37.47		15.66	15.93
Lane Group LOS	E	D	D	D		B	B
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.55	6.76	10.17	1.31		3.51	3.07
50th-Percentile Queue Length [ft/ln]	13.63	169.03	254.21	32.69		87.83	76.68
95th-Percentile Queue Length [veh/ln]	0.98	11.03	15.40	2.35		6.32	5.52
95th-Percentile Queue Length [ft/ln]	24.54	275.63	384.95	58.85		158.09	138.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.13	42.00	0.00	0.00	51.74	37.47	0.00	0.00	0.00	15.66	15.76	15.93
Movement LOS	E	D			D	D				B	B	B
d_A, Approach Delay [s/veh]	43.00			49.72			0.00			15.79		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	34.80											
Intersection LOS	C											
Intersection V/C	0.307											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	19.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.234

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	68	52	0	486	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	68	52	0	486	93
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	17	0	134	26
Total Analysis Volume [veh/h]	0	0	0	0	91	69	0	538	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.05	0.04	0.18	0.18
s, saturation flow rate [veh/h]	801	3618	1810	1580	1900	1615
c, Capacity [veh/h]	424	2050	128	112	1113	915
d1, Uniform Delay [s]	0.00	0.00	45.46	45.14	11.46	11.50
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.75	2.08	0.72	0.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.71	0.62	0.31	0.32
d, Delay for Lane Group [s/veh]	0.00	0.00	48.21	47.22	12.18	12.44
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.27	1.70	4.06	3.56
50th-Percentile Queue Length [ft/ln]	0.00	0.00	56.84	42.58	101.43	89.02
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.09	3.07	7.30	6.41
95th-Percentile Queue Length [ft/ln]	0.00	0.00	102.32	76.64	182.57	160.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	48.21	48.21	47.22	12.18	12.27	12.44
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			47.78			12.30		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	19.39								
Intersection LOS	B								
Intersection V/C	0.234								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.304

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	25	152	58	71	133	39	22	225	13	44	221	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	152	58	71	133	39	22	225	13	44	221	73
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	40	15	20	38	11	7	70	4	12	60	20
Total Analysis Volume [veh/h]	26	159	61	80	150	44	27	278	16	48	239	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	33	33	33	33	33	33	33	33
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	10	10	14	14
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.04	0.07	0.08	0.03	0.18	0.22
s, saturation flow rate [veh/h]	1225	1900	1413	1179	1900	1485	1813	1659
c, Capacity [veh/h]	450	583	434	437	583	456	875	816
d1, Uniform Delay [s]	11.17	8.77	8.40	11.85	8.73	8.29	6.84	7.17
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.09	0.05	0.07	0.09	0.03	0.10	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

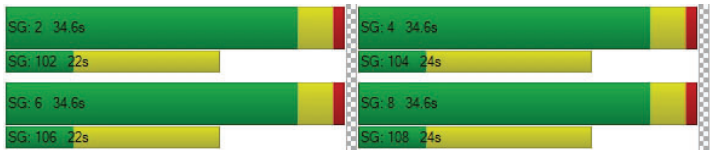
X, volume / capacity	0.06	0.27	0.14	0.18	0.26	0.10	0.37	0.45
d, Delay for Lane Group [s/veh]	11.19	8.87	8.46	11.92	8.81	8.32	6.93	7.31
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.12	0.59	0.22	0.41	0.59	0.16	1.08	1.20
50th-Percentile Queue Length [ft/ln]	2.97	14.74	5.44	10.19	14.75	4.12	27.08	29.88
95th-Percentile Queue Length [veh/ln]	0.21	1.06	0.39	0.73	1.06	0.30	1.95	2.15
95th-Percentile Queue Length [ft/ln]	5.35	26.53	9.79	18.34	26.55	7.41	48.75	53.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.19	8.87	8.46	11.92	8.81	8.32	6.93	6.93	6.93	7.31	7.31	7.31
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.01			9.64			6.93			7.31		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.09											
Intersection LOS	A											
Intersection V/C	0.304											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	61	198	53	12	179	17	22	165	48	25	123	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	198	53	12	179	17	22	165	48	25	123	55
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	59	16	3	48	5	6	48	14	7	34	15
Total Analysis Volume [veh/h]	72	235	63	13	193	18	26	194	56	28	136	61
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	31	31	31	31	31	31
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	10	10
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.06	0.17	0.01	0.11	0.16	0.13
s, saturation flow rate [veh/h]	1152	1773	1053	1855	1755	1677
c, Capacity [veh/h]	493	653	420	683	715	692
d1, Uniform Delay [s]	9.89	7.44	10.59	6.98	8.09	7.87
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.19	0.01	0.09	0.13	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

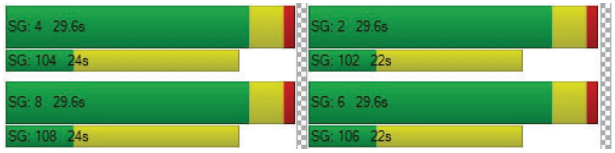
X, volume / capacity	0.15	0.46	0.03	0.31	0.39	0.32
d, Delay for Lane Group [s/veh]	9.94	7.62	10.60	7.08	8.22	7.97
Lane Group LOS	A	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.28	0.86	0.05	0.57	1.39	0.70
50th-Percentile Queue Length [ft/ln]	6.94	21.50	1.33	14.18	34.81	17.46
95th-Percentile Queue Length [veh/ln]	0.50	1.55	0.10	1.02	2.51	1.26
95th-Percentile Queue Length [ft/ln]	12.50	38.69	2.39	25.52	62.65	31.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.94	7.62	7.62	10.60	7.08	7.08	8.22	8.22	8.22	7.97	7.97	7.97
Movement LOS	A	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.07			7.28			8.22			7.97		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.93											
Intersection LOS	A											
Intersection V/C	0.325											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	41	128	93	103	174	54	17	367	79	121	512	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	128	93	103	174	54	17	367	79	121	512	105
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	41	30	28	47	15	5	98	21	33	141	29
Total Analysis Volume [veh/h]	53	166	120	111	187	58	18	390	84	133	565	116
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.08	0.09	0.10	0.04	0.02	0.11	0.05	0.11	0.18	0.19
s, saturation flow rate [veh/h]	1215	1900	1577	1239	1900	1581	771	3618	1579	1182	1900	1771
c, Capacity [veh/h]	176	368	306	192	368	307	210	1189	519	548	844	787
d1, Uniform Delay [s]	43.79	35.69	35.25	44.91	36.13	33.81	34.64	25.33	23.87	17.11	18.97	19.02
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.32	0.30	1.03	0.40	0.11	0.81	0.74	0.67	0.08	1.50	1.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

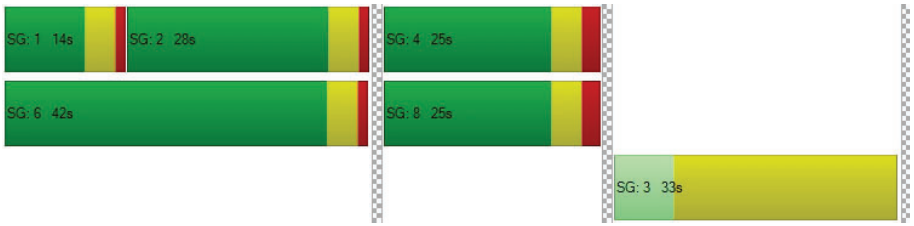
X, volume / capacity	0.30	0.45	0.39	0.58	0.51	0.19	0.09	0.33	0.16	0.24	0.42	0.42
d, Delay for Lane Group [s/veh]	44.14	36.01	35.56	45.93	36.53	33.92	35.44	26.07	24.54	17.19	20.47	20.67
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.25	3.54	2.53	2.74	4.05	1.17	0.41	3.57	1.50	1.82	5.76	5.47
50th-Percentile Queue Length [ft/ln]	31.35	88.62	63.34	68.46	101.15	29.30	10.37	89.24	37.40	45.45	143.90	136.74
95th-Percentile Queue Length [veh/ln]	2.26	6.38	4.56	4.93	7.28	2.11	0.75	6.43	2.69	3.27	9.69	9.31
95th-Percentile Queue Length [ft/ln]	56.42	159.51	114.01	123.22	182.07	52.73	18.66	160.63	67.32	81.80	242.27	232.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.14	36.01	35.56	45.93	36.53	33.92	35.44	26.07	24.54	17.19	20.55	20.67
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	37.12			39.04			26.15			20.02		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	27.81											
Intersection LOS	C											
Intersection V/C	0.285											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.343

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	35	159	53	46	288	51	21	149	92	51	184	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	159	53	46	288	51	21	149	92	51	184	46
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	45	15	15	92	16	6	42	26	14	51	13
Total Analysis Volume [veh/h]	39	179	60	59	370	65	24	169	104	57	204	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	43	43	43	43	43	43	24	24
g / C, Green / Cycle	0.43	0.43	0.43	0.43	0.43	0.43	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.09	0.04	0.05	0.12	0.12	0.18	0.22
s, saturation flow rate [veh/h]	969	1900	1556	1224	1900	1783	1631	1394
c, Capacity [veh/h]	399	824	675	507	824	773	437	382
d1, Uniform Delay [s]	22.84	17.71	16.68	21.81	18.16	18.22	34.44	36.48
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.09	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	0.61	0.26	0.47	0.80	0.88	1.62	9.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.22	0.09	0.12	0.27	0.28	0.68	0.82
d, Delay for Lane Group [s/veh]	23.33	18.32	16.94	22.27	18.97	19.10	36.07	45.65
Lane Group LOS	C	B	B	C	B	B	D	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.67	2.63	0.84	0.98	3.35	3.25	6.70	8.26
50th-Percentile Queue Length [ft/ln]	16.87	65.82	20.91	24.55	83.84	81.13	167.55	206.44
95th-Percentile Queue Length [veh/ln]	1.21	4.74	1.51	1.77	6.04	5.84	10.95	12.97
95th-Percentile Queue Length [ft/ln]	30.37	118.47	37.64	44.19	150.92	146.04	273.69	324.26

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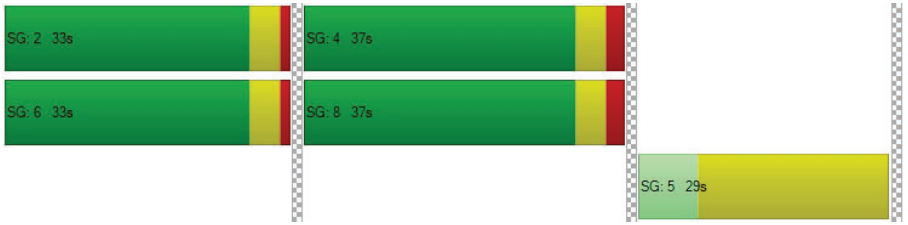
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.33	18.32	16.94	22.27	19.02	19.10	36.07	36.07	36.07	45.65	45.65	45.65
Movement LOS	C	B	B	C	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	18.72			19.42			36.07			45.65		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.78											
Intersection LOS	C											
Intersection V/C	0.343											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.266

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	58	174	77	67	306	30	0	273	123	0	349	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	174	77	67	306	30	0	273	123	0	349	68
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	53	23	18	83	8	0	74	33	0	99	19
Total Analysis Volume [veh/h]	70	211	93	72	330	32	0	295	133	0	397	77
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	52	52	52	52	52	52	18	18	18	18
g / C, Green / Cycle	0.52	0.52	0.52	0.52	0.52	0.52	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.06	0.06	0.10	0.10	0.16	0.09	0.12	0.13
s, saturation flow rate [veh/h]	1036	1900	1583	1189	1900	1834	1900	1559	1900	1781
c, Capacity [veh/h]	533	992	827	592	992	958	333	273	333	312
d1, Uniform Delay [s]	16.50	12.84	12.12	16.86	12.63	12.65	40.26	37.18	38.86	39.23
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.49	0.28	0.42	0.41	0.43	3.19	0.50	1.06	1.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.21	0.11	0.12	0.18	0.19	0.89	0.49	0.71	0.76
d, Delay for Lane Group [s/veh]	17.01	13.33	12.40	17.28	13.04	13.08	43.45	37.68	39.92	40.68
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.00	2.54	1.07	1.03	2.17	2.13	7.29	2.95	5.52	5.60
50th-Percentile Queue Length [ft/ln]	24.95	63.59	26.65	25.70	54.19	53.21	182.22	73.76	138.04	140.01
95th-Percentile Queue Length [veh/ln]	1.80	4.58	1.92	1.85	3.90	3.83	11.72	5.31	9.38	9.48
95th-Percentile Queue Length [ft/ln]	44.90	114.47	47.97	46.27	97.54	95.78	292.91	132.76	234.38	237.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.01	13.33	12.40	17.28	13.06	13.08	0.00	43.45	37.68	0.00	40.22	40.68
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	13.79			13.76			41.65			40.30		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.10											
Intersection LOS	C											
Intersection V/C	0.266											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.472

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	145	277	89	74	414	78	0	197	115	169	312	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	277	89	74	414	78	0	197	115	169	312	78
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	80	26	24	133	25	0	55	32	48	89	22
Total Analysis Volume [veh/h]	168	320	103	95	532	100	0	219	128	193	357	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	13	49	49	60	42	42	16	34	28	28	28
g / C, Green / Cycle	0.11	0.40	0.40	0.50	0.35	0.35	0.13	0.28	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.07	0.08	0.17	0.17	0.12	0.08	0.14	0.19	0.06
s, saturation flow rate [veh/h]	1810	1900	1568	1191	1900	1780	1900	1557	1406	1900	1563
c, Capacity [veh/h]	196	768	634	550	669	627	252	435	286	442	364
d1, Uniform Delay [s]	52.62	25.61	22.80	16.94	30.38	30.46	51.06	33.99	41.55	43.52	37.47
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.44	0.10	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.15	1.66	0.55	0.68	2.50	2.73	3.60	0.14	10.75	3.25	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

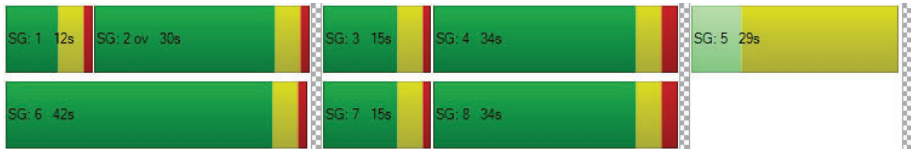
X, volume / capacity	0.86	0.42	0.16	0.17	0.48	0.49	0.87	0.29	0.67	0.81	0.24
d, Delay for Lane Group [s/veh]	56.77	27.27	23.34	17.62	32.88	33.19	54.66	34.12	52.30	46.77	37.60
Lane Group LOS	E	C	C	B	C	C	D	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.15	6.79	1.94	1.47	7.70	7.36	6.70	2.96	5.71	10.28	2.13
50th-Percentile Queue Length [ft/ln]	128.82	169.85	48.54	36.67	192.40	183.93	167.47	74.12	142.77	257.07	53.37
95th-Percentile Queue Length [veh/ln]	8.88	11.07	3.49	2.64	12.25	11.81	10.94	5.34	9.63	15.54	3.84
95th-Percentile Queue Length [ft/ln]	221.89	276.71	87.37	66.00	306.15	295.14	273.59	133.42	240.75	388.54	96.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.77	27.27	23.34	17.62	33.00	33.19	0.00	54.66	34.12	52.30	46.77	37.60
Movement LOS	E	C	C	B	C	C		D	C	D	D	D
d_A, Approach Delay [s/veh]	34.97			31.02			47.08			47.16		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	38.93											
Intersection LOS	D											
Intersection V/C	0.472											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	184	505	0	0	718	99	181	0	84	149	125	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	505	0	0	718	99	181	0	84	149	125	27
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	151	0	0	198	27	52	0	24	41	34	7
Total Analysis Volume [veh/h]	220	604	0	0	792	109	208	0	96	164	137	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	77	77	65	65		14	14
g / C, Green / Cycle	0.64	0.64	0.54	0.54		0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.28	0.17	0.24	0.25		0.10	0.10
s, saturation flow rate [veh/h]	793	3618	1900	1801		1814	1664
c, Capacity [veh/h]	500	2328	1020	967		205	188
d1, Uniform Delay [s]	11.03	9.15	16.87	17.16		52.19	52.19
k, delay calibration	0.29	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.64	0.27	1.39	1.61		3.60	3.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

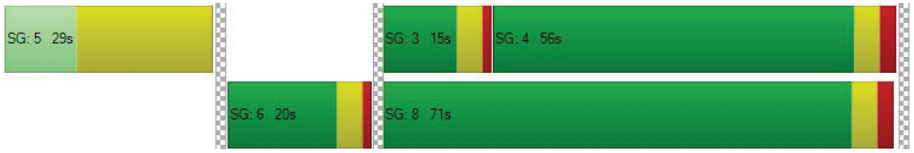
X, volume / capacity	0.44	0.26	0.44	0.47		0.84	0.84
d, Delay for Lane Group [s/veh]	12.67	9.42	18.26	18.78		55.79	56.09
Lane Group LOS	B	A	B	B		E	E
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.48	3.35	7.66	7.83		5.34	4.91
50th-Percentile Queue Length [ft/ln]	61.99	83.66	191.56	195.71		133.54	122.85
95th-Percentile Queue Length [veh/ln]	4.46	6.02	12.20	12.42		9.13	8.55
95th-Percentile Queue Length [ft/ln]	111.58	150.59	305.05	310.42		228.30	213.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.67	9.42	0.00	0.00	18.48	18.78	0.00	0.00	0.00	55.79	56.07	56.09
Movement LOS	B	A			B	B				E	E	E
d_A, Approach Delay [s/veh]	10.29			18.52			0.00			55.93		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	21.24											
Intersection LOS	C											
Intersection V/C	0.400											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	300	0	0	882	852	406
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	0	0	882	852	406
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	0	0	249	234	111
Total Analysis Volume [veh/h]	343	0	0	998	936	446
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	36	36
g / C, Green / Cycle	0.62	0.62	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.09	0.28	0.27	0.28
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2244	2244	1064	480
d1, Uniform Delay [s]	9.54	11.93	39.69	40.50
k, delay calibration	0.50	0.50	0.04	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.64	0.97	14.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

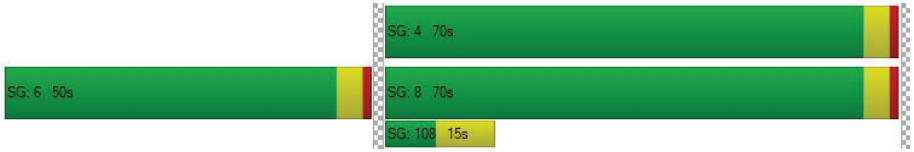
X, volume / capacity	0.15	0.44	0.88	0.93
d, Delay for Lane Group [s/veh]	9.68	12.57	40.66	55.48
Lane Group LOS	A	B	D	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.90	6.94	12.38	13.90
50th-Percentile Queue Length [ft/ln]	47.43	173.41	309.52	347.53
95th-Percentile Queue Length [veh/ln]	3.42	11.26	18.15	20.02
95th-Percentile Queue Length [ft/ln]	85.38	281.39	453.79	500.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.68	0.00	0.00	12.57	40.66	55.48
Movement LOS	A			B	D	E
d_A, Approach Delay [s/veh]	9.68		12.57		45.44	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	28.89					
Intersection LOS	C					
Intersection V/C	0.557					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.542

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	14	271	190	307	1218	154	29	357	60	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	271	190	307	1218	154	29	357	60	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	69	49	86	340	43	9	107	18	0	0	0
Total Analysis Volume [veh/h]	14	277	194	343	1361	172	35	427	72	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	23	23	68	89	89	15	15	15
g / C, Green / Cycle	0.02	0.19	0.19	0.57	0.75	0.75	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.11	0.10	0.40	0.43	0.10	0.10	0.11
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1782	1883	1729	1584
c, Capacity [veh/h]	29	369	350	1992	1416	1328	233	214	196
d1, Uniform Delay [s]	58.51	45.55	43.61	12.45	6.52	6.80	51.24	51.22	51.48
k, delay calibration	0.04	0.16	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.70	4.58	0.51	0.02	1.50	1.82	2.77	2.96	4.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

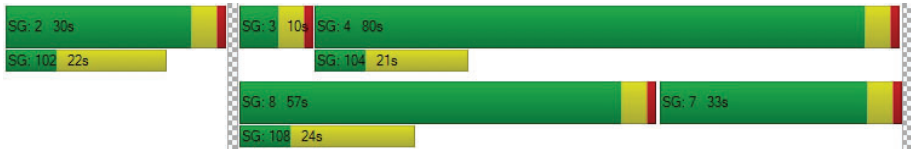
X, volume / capacity	0.49	0.75	0.55	0.17	0.54	0.58	0.82	0.82	0.86
d, Delay for Lane Group [s/veh]	63.20	50.13	44.12	12.47	8.02	8.62	54.02	54.18	55.58
Lane Group LOS	E	D	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.46	8.24	5.26	2.20	7.81	8.16	5.74	5.26	5.11
50th-Percentile Queue Length [ft/ln]	11.49	205.98	131.49	54.95	195.24	204.00	143.40	131.44	127.73
95th-Percentile Queue Length [veh/ln]	0.83	12.95	9.02	3.96	12.39	12.84	9.66	9.02	8.82
95th-Percentile Queue Length [ft/ln]	20.68	323.67	225.51	98.91	309.81	321.12	241.60	225.45	220.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.20	50.13	44.12	12.47	8.28	8.62	54.02	54.44	55.58	0.00	0.00	0.00
Movement LOS	E	D	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	48.11			9.08			54.56			0.00		
Approach LOS	D			A			D			A		
d_I, Intersection Delay [s/veh]	24.01											
Intersection LOS	C											
Intersection V/C	0.542											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.384

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	82	259	119	35	60	27	26	498	44	56	636	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	259	119	35	60	27	26	498	44	56	636	110
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	72	33	9	16	7	7	130	11	15	170	29
Total Analysis Volume [veh/h]	91	287	132	37	63	28	27	520	46	60	681	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	26	26	26	26	26	61	61	61	61	61	61
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.08	0.15	0.09	0.03	0.05	0.04	0.14	0.03	0.07	0.22	0.23
s, saturation flow rate [veh/h]	1169	1900	1454	1067	1684	685	3618	1422	872	1900	1673
c, Capacity [veh/h]	301	490	375	186	434	392	2206	867	525	1159	1020
d1, Uniform Delay [s]	35.03	32.35	30.21	41.22	29.04	14.77	8.87	7.85	12.38	9.68	9.90
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.42	0.21	0.19	0.09	0.34	0.25	0.12	0.44	0.85	1.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

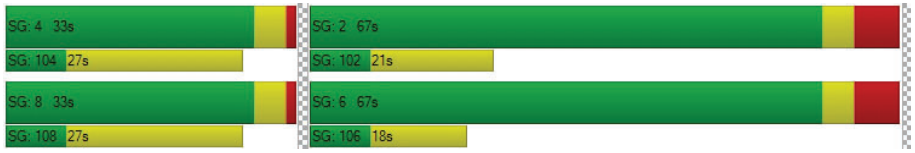
X, volume / capacity	0.30	0.59	0.35	0.20	0.21	0.07	0.24	0.05	0.11	0.35	0.38
d, Delay for Lane Group [s/veh]	35.23	32.77	30.42	41.41	29.12	15.10	9.12	7.97	12.82	10.53	10.98
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.91	5.96	2.56	0.84	1.69	0.37	2.49	0.41	0.74	4.43	4.34
50th-Percentile Queue Length [ft/ln]	47.81	149.04	63.94	21.00	42.27	9.29	62.26	10.15	18.46	110.63	108.47
95th-Percentile Queue Length [veh/ln]	3.44	9.97	4.60	1.51	3.04	0.67	4.48	0.73	1.33	7.88	7.75
95th-Percentile Queue Length [ft/ln]	86.06	249.15	115.09	37.80	76.09	16.73	112.07	18.26	33.22	196.88	193.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.23	32.77	30.42	41.41	29.12	29.12	15.10	9.12	7.97	12.82	10.71	10.98
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	32.60			32.68			9.30			10.90		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	17.07											
Intersection LOS	B											
Intersection V/C	0.384											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.291

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	77	360	34	8	72	33	20	220	21	19	172	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	360	34	8	72	33	20	220	21	19	172	28
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	98	9	2	21	10	6	64	6	6	52	8
Total Analysis Volume [veh/h]	84	392	37	9	85	39	23	255	24	23	207	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	68	68	68	68	68	23	23
g / C, Green / Cycle	0.68	0.68	0.68	0.68	0.68	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.12	0.01	0.07	0.17	0.16
s, saturation flow rate [veh/h]	1223	1900	1807	957	1721	1741	1674
c, Capacity [veh/h]	842	1292	1229	657	1170	436	421
d1, Uniform Delay [s]	7.36	5.78	5.80	7.60	5.51	35.82	34.98
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.28	0.31	0.04	0.18	1.99	1.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.17	0.17	0.01	0.11	0.69	0.63
d, Delay for Lane Group [s/veh]	7.60	6.06	6.10	7.64	5.70	37.80	36.52
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.70	1.51	1.49	0.08	0.83	6.91	5.88
50th-Percentile Queue Length [ft/ln]	17.54	37.87	37.24	1.91	20.76	172.84	146.91
95th-Percentile Queue Length [veh/ln]	1.26	2.73	2.68	0.14	1.49	11.23	9.85
95th-Percentile Queue Length [ft/ln]	31.58	68.16	67.03	3.45	37.36	280.64	246.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.60	6.08	6.10	7.64	5.70	5.70	37.80	37.80	37.80	36.52	36.52	36.52
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.33			5.83			37.80			36.52		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	20.69											
Intersection LOS	C											
Intersection V/C	0.291											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.356

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	122	386	91	58	93	25	29	357	30	45	297	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	386	91	58	93	25	29	357	30	45	297	39
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	110	26	16	26	7	8	104	9	14	93	12
Total Analysis Volume [veh/h]	139	440	104	65	105	28	34	417	35	56	371	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	26	26	26	26	26	61	61	61	61	61	61
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.12	0.15	0.16	0.07	0.08	0.03	0.12	0.12	0.06	0.20	0.03
s, saturation flow rate [veh/h]	1178	1900	1644	867	1741	1000	1900	1797	916	1900	1411
c, Capacity [veh/h]	279	500	433	154	458	567	1149	1087	561	1149	853
d1, Uniform Delay [s]	38.47	31.83	32.31	44.24	29.38	13.19	8.87	8.92	11.57	9.70	8.09
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.37	0.52	0.68	0.13	0.20	0.39	0.43	0.36	0.75	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

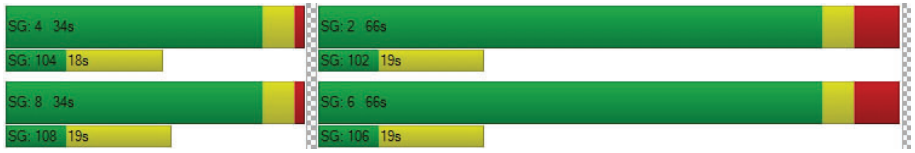
X, volume / capacity	0.50	0.56	0.61	0.42	0.29	0.06	0.20	0.21	0.10	0.32	0.06
d, Delay for Lane Group [s/veh]	38.98	32.20	32.83	44.92	29.50	13.39	9.26	9.35	11.93	10.45	8.22
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.16	5.76	5.52	1.58	2.52	0.42	2.22	2.19	0.65	3.96	0.44
50th-Percentile Queue Length [ft/ln]	78.96	144.10	137.91	39.44	62.94	10.58	55.47	54.80	16.36	98.99	11.01
95th-Percentile Queue Length [veh/ln]	5.68	9.70	9.37	2.84	4.53	0.76	3.99	3.95	1.18	7.13	0.79
95th-Percentile Queue Length [ft/ln]	142.12	242.53	234.20	70.99	113.30	19.04	99.84	98.63	29.45	178.18	19.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.98	32.43	32.83	44.92	29.50	29.50	13.39	9.30	9.35	11.93	10.45	8.22
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	A
d_A, Approach Delay [s/veh]	33.82			34.56			9.59			10.39		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	21.46											
Intersection LOS	C											
Intersection V/C	0.356											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	125	451	80	32	51	80	100	239	34	18	343	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	451	80	32	51	80	100	239	34	18	343	43
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	118	21	9	14	22	27	64	9	5	95	12
Total Analysis Volume [veh/h]	131	473	84	36	57	89	106	254	36	20	379	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23	23	68	68	68	68	68
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.68	0.68	0.68	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.11	0.15	0.16	0.04	0.09	0.11	0.16	0.02	0.20	0.03
s, saturation flow rate [veh/h]	1213	1900	1707	856	1573	998	1827	1070	1900	1447
c, Capacity [veh/h]	232	436	391	128	361	647	1240	710	1289	982
d1, Uniform Delay [s]	42.22	34.94	35.32	45.60	32.73	10.03	6.14	8.31	6.45	5.34
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.80	0.63	0.83	0.44	0.27	0.54	0.44	0.07	0.58	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.65	0.69	0.28	0.40	0.16	0.23	0.03	0.29	0.05
d, Delay for Lane Group [s/veh]	43.02	35.57	36.15	46.04	33.00	10.58	6.58	8.38	7.03	5.43
Lane Group LOS	D	D	D	D	C	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.14	6.22	6.01	0.87	2.97	1.12	2.15	0.18	2.96	0.31
50th-Percentile Queue Length [ft/ln]	78.42	155.53	150.17	21.87	74.34	28.06	53.83	4.49	73.89	7.85
95th-Percentile Queue Length [veh/ln]	5.65	10.31	10.03	1.57	5.35	2.02	3.88	0.32	5.32	0.56
95th-Percentile Queue Length [ft/ln]	141.16	257.79	250.66	39.37	133.81	50.51	96.89	8.08	133.01	14.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.02	35.80	36.15	46.04	33.00	33.00	10.58	6.58	6.58	8.38	7.03	5.43
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	37.21			35.58			7.65			6.92		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	22.30											
Intersection LOS	C											
Intersection V/C	0.359											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	617	34	13	19	79	0	0	0	6	207	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	617	34	13	19	79	0	0	0	6	207	56
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	170	9	4	6	23	0	0	0	2	68	19
Total Analysis Volume [veh/h]	15	679	37	15	22	93	0	0	0	6	274	74
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	42	42	2	49		40
g / C, Green / Cycle	0.42	0.42	0.02	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.03	0.01	0.07		0.19
s, saturation flow rate [veh/h]	3618	1359	1810	1602		1822
c, Capacity [veh/h]	1531	575	43	790		738
d1, Uniform Delay [s]	20.48	17.10	48.02	13.84		21.88
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	0.93	0.22	1.76	0.39		2.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

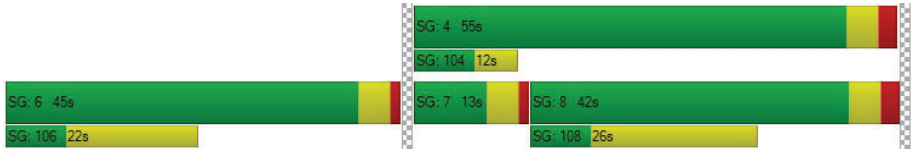
X, volume / capacity	0.44	0.06	0.35	0.15		0.47
d, Delay for Lane Group [s/veh]	21.41	17.32	49.78	14.23		24.04
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.68	0.53	0.38	1.44		6.32
50th-Percentile Queue Length [ft/ln]	142.10	13.34	9.60	36.06		157.92
95th-Percentile Queue Length [veh/ln]	9.59	0.96	0.69	2.60		10.44
95th-Percentile Queue Length [ft/ln]	239.85	24.01	17.29	64.92		260.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.41	17.32	49.78	14.23	14.23	0.00	0.00	0.00	0.00	24.04	24.04
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	21.20			18.33			0.00			24.04		
Approach LOS	C			B			A			C		
d_I, Intersection Delay [s/veh]	21.72											
Intersection LOS	C											
Intersection V/C	0.387											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	161	50	89	142	48	61	374	21	26	341	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	161	50	89	142	48	61	374	21	26	341	151
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	46	14	25	40	14	18	113	6	7	93	41
Total Analysis Volume [veh/h]	23	186	58	100	160	54	74	452	25	28	373	165
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.35	0.10	0.43	0.09	0.08	0.26	0.03	0.20	0.12
s, saturation flow rate [veh/h]	600	600	600	600	977	1859	914	1900	1325
c, Capacity [veh/h]	276	219	290	219	443	936	375	957	667
d1, Uniform Delay [s]	21.65	15.62	24.23	15.50	16.07	11.60	17.78	10.73	9.85
k, delay calibration	0.27	0.04	0.44	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.97	0.24	28.78	0.22	0.81	1.98	0.39	1.20	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

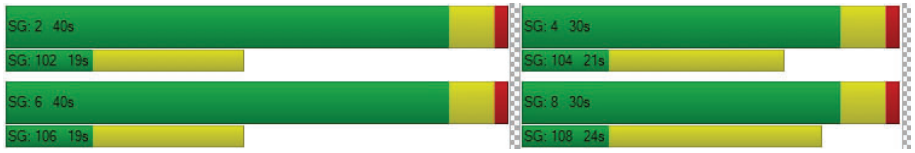
X, volume / capacity	0.76	0.26	0.90	0.25	0.17	0.51	0.07	0.39	0.25
d, Delay for Lane Group [s/veh]	31.61	15.85	53.01	15.72	16.88	13.58	18.17	11.93	10.74
Lane Group LOS	C	B	D	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.81	0.62	6.63	0.58	0.88	4.84	0.35	3.45	1.44
50th-Percentile Queue Length [ft/ln]	95.13	15.58	165.63	14.39	22.03	121.09	8.76	86.24	35.89
95th-Percentile Queue Length [veh/ln]	6.85	1.12	10.85	1.04	1.59	8.45	0.63	6.21	2.58
95th-Percentile Queue Length [ft/ln]	171.24	28.04	271.16	25.91	39.66	211.32	15.77	155.23	64.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.61	31.61	15.85	53.01	53.01	15.72	16.88	13.58	13.58	18.17	11.93	10.74
Movement LOS	C	C	B	D	D	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	28.19			46.60			14.02			11.89		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	21.56											
Intersection LOS	C											
Intersection V/C	0.690											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.493

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	94	158	83	24	47	6	24	439	48	48	408	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	158	83	24	47	6	24	439	48	48	408	22
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	44	23	9	17	2	8	138	15	13	111	6
Total Analysis Volume [veh/h]	105	176	93	35	69	9	30	551	60	52	446	24
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	35	35	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	17	17	17	17
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.08	0.16	0.03	0.04	0.04	0.33	0.07	0.26
s, saturation flow rate [veh/h]	1281	1701	1088	1839	843	1826	789	1841
c, Capacity [veh/h]	438	455	285	492	408	864	327	871
d1, Uniform Delay [s]	12.88	11.30	15.67	9.94	10.54	7.40	13.50	6.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.46	0.07	0.06	0.03	0.40	0.08	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

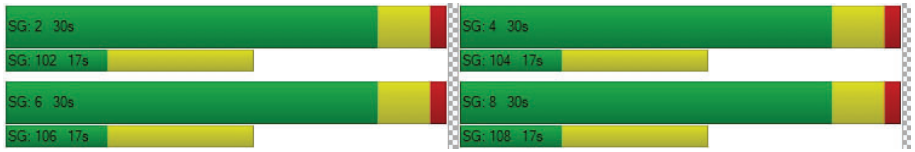
X, volume / capacity	0.24	0.59	0.12	0.16	0.07	0.71	0.16	0.54
d, Delay for Lane Group [s/veh]	12.99	11.76	15.74	9.99	10.57	7.80	13.58	6.80
Lane Group LOS	B	B	B	A	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.58	1.36	0.22	0.34	0.15	2.23	0.31	1.51
50th-Percentile Queue Length [ft/ln]	14.38	34.11	5.55	8.52	3.65	55.63	7.75	37.74
95th-Percentile Queue Length [veh/ln]	1.04	2.46	0.40	0.61	0.26	4.01	0.56	2.72
95th-Percentile Queue Length [ft/ln]	25.88	61.40	9.99	15.33	6.56	100.13	13.96	67.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.99	11.76	11.76	15.74	9.99	9.99	10.57	7.80	7.80	13.58	6.80	6.80
Movement LOS	B	B	B	B	A	A	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.11			11.77			7.93			7.48		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.00											
Intersection LOS	A											
Intersection V/C	0.493											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	205	407	258	36	266	32	20	589	155	119	632	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	407	258	36	266	32	20	589	155	119	632	41
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	108	68	11	83	10	5	154	41	32	168	11
Total Analysis Volume [veh/h]	217	431	273	45	331	40	21	617	162	127	673	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.18	0.05	0.10	0.10	0.03	0.17	0.11	0.13	0.19	0.03
s, saturation flow rate [veh/h]	1249	1900	1525	959	1900	1807	759	3618	1488	987	3618	1443
c, Capacity [veh/h]	458	670	538	92	442	420	316	1595	656	563	2008	801
d1, Uniform Delay [s]	24.29	27.09	25.51	49.56	32.67	32.76	23.72	18.84	17.53	11.41	12.16	10.21
k, delay calibration	0.49	0.13	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.25	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.41	1.24	0.28	1.51	0.24	0.26	0.41	0.71	0.90	0.47	0.45	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.64	0.51	0.49	0.42	0.44	0.07	0.39	0.25	0.23	0.34	0.05
d, Delay for Lane Group [s/veh]	27.70	28.33	25.78	51.08	32.91	33.02	24.13	19.55	18.43	11.88	12.61	10.34
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.15	8.64	5.06	1.15	3.82	3.74	0.38	4.86	2.46	1.34	3.95	0.45
50th-Percentile Queue Length [ft/ln]	103.78	215.93	126.38	28.72	95.54	93.43	9.53	121.61	61.61	33.47	98.86	11.23
95th-Percentile Queue Length [veh/ln]	7.47	13.46	8.74	2.07	6.88	6.73	0.69	8.48	4.44	2.41	7.12	0.81
95th-Percentile Queue Length [ft/ln]	186.81	336.42	218.57	51.69	171.97	168.18	17.15	212.03	110.89	60.24	177.96	20.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.70	28.33	25.78	51.08	32.96	33.02	24.13	19.55	18.43	11.88	12.61	10.34
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	27.42			34.92			19.44			12.38		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.07											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.700

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	84	809	75	33	513	23	15	188	162	42	134	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	809	75	33	513	23	15	188	162	42	134	38
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	213	20	10	152	7	4	50	43	11	37	10
Total Analysis Volume [veh/h]	89	853	79	39	607	27	16	200	172	46	146	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	54	54	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.54	0.54	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.09	0.25	0.25	0.05	0.17	0.17	0.22	0.12	0.44	0.03
s, saturation flow rate [veh/h]	948	1900	1820	747	1900	1861	997	1461	438	1508
c, Capacity [veh/h]	637	1033	989	493	999	978	310	398	164	410
d1, Uniform Delay [s]	7.45	13.88	13.94	7.95	13.52	13.54	30.72	30.02	32.66	27.24
k, delay calibration	0.07	0.50	0.50	0.50	0.50	0.50	0.19	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	1.46	1.57	0.31	0.84	0.87	4.92	0.28	124.29	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

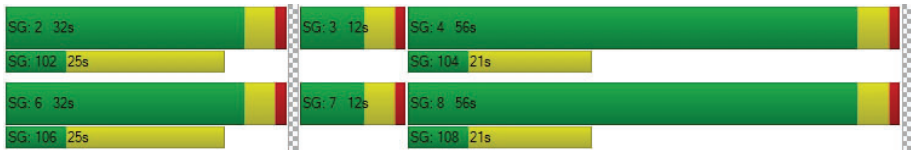
X, volume / capacity	0.14	0.46	0.46	0.08	0.32	0.32	0.70	0.43	1.17	0.10
d, Delay for Lane Group [s/veh]	7.51	15.34	15.50	8.26	14.36	14.41	35.65	30.29	156.94	27.28
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	6.60	6.46	0.33	4.19	4.15	4.59	3.36	8.71	0.74
50th-Percentile Queue Length [ft/ln]	17.27	165.12	161.51	8.31	104.78	103.65	114.67	84.01	217.86	18.56
95th-Percentile Queue Length [veh/ln]	1.24	10.82	10.63	0.60	7.54	7.46	8.10	6.05	14.67	1.34
95th-Percentile Queue Length [ft/ln]	31.09	270.49	265.72	14.95	188.60	186.56	202.48	151.22	366.87	33.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.51	15.41	15.50	8.26	14.39	14.41	35.65	35.65	30.29	156.94	156.94	27.28
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	14.73			14.03			33.27			133.67		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	29.65											
Intersection LOS	C											
Intersection V/C	0.700											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	93	829	141	117	621	27	33	405	166	118	357	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	829	141	117	621	27	33	405	166	118	357	107
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	213	36	31	164	7	9	113	46	32	98	29
Total Analysis Volume [veh/h]	96	852	145	124	657	29	37	450	185	130	393	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	44	44	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.44	0.44	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.10	0.27	0.27	0.16	0.18	0.18	0.04	0.17	0.19	0.12	0.21	0.08
s, saturation flow rate [veh/h]	941	1900	1772	787	1900	1860	982	1900	1593	1068	1900	1452
c, Capacity [veh/h]	528	822	766	416	828	810	127	469	393	348	687	525
d1, Uniform Delay [s]	11.72	22.03	22.19	13.91	19.48	19.51	46.30	34.39	35.03	23.94	25.72	22.20
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.04	0.07	0.12	0.22	0.07	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.17	3.53	3.97	1.82	1.55	1.60	0.47	1.36	3.47	1.33	0.48	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

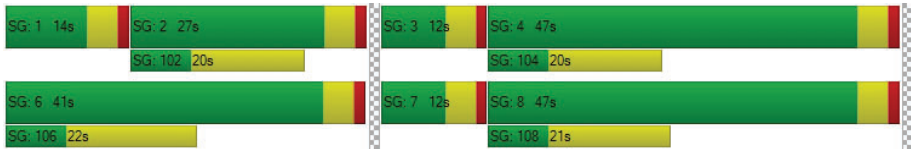
X, volume / capacity	0.18	0.62	0.63	0.30	0.42	0.42	0.29	0.71	0.77	0.37	0.57	0.22
d, Delay for Lane Group [s/veh]	11.90	25.56	26.16	15.74	21.03	21.11	46.77	35.75	38.50	25.27	26.19	22.28
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.01	9.82	9.47	1.51	5.76	5.70	0.91	7.44	7.12	2.21	7.45	1.92
50th-Percentile Queue Length [ft/ln]	25.27	245.39	236.84	37.63	144.12	142.48	22.83	185.89	177.90	55.20	186.20	47.97
95th-Percentile Queue Length [veh/ln]	1.82	14.95	14.52	2.71	9.70	9.61	1.64	11.91	11.49	3.97	11.92	3.45
95th-Percentile Queue Length [ft/ln]	45.48	373.85	363.03	67.73	242.57	240.37	41.09	297.69	287.27	99.37	298.09	86.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.90	25.80	26.16	15.74	21.07	21.11	46.77	36.47	38.50	25.27	26.19	22.28
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	24.63			20.25			37.59			25.29		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	26.37											
Intersection LOS	C											
Intersection V/C	0.555											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	103	939	177	29	804	37	49	240	126	96	267	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	939	177	29	804	37	49	240	126	96	267	77
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	255	48	8	219	10	13	62	33	26	72	21
Total Analysis Volume [veh/h]	112	1018	192	32	875	40	51	249	130	104	288	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	8	51	51	39	39	39	26	26	26	35	35
g / C, Green / Cycle	0.08	0.51	0.51	0.39	0.39	0.39	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.33	0.35	0.07	0.24	0.25	0.05	0.13	0.10	0.27	0.06
s, saturation flow rate [veh/h]	1810	1900	1700	469	1900	1842	1108	1900	1352	1431	1366
c, Capacity [veh/h]	141	978	876	125	743	720	72	488	347	507	482
d1, Uniform Delay [s]	45.32	17.46	18.01	42.12	24.47	24.60	50.00	31.78	30.55	28.07	22.28
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.82	3.12	4.13	4.84	3.87	4.15	4.58	0.31	0.25	10.95	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

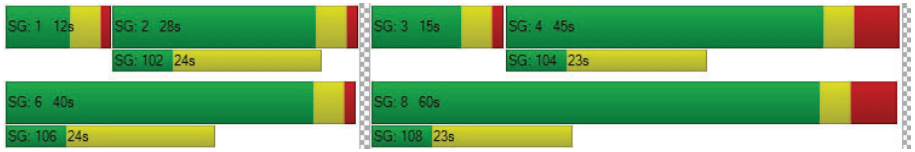
X, volume / capacity	0.80	0.63	0.67	0.25	0.62	0.63	0.70	0.51	0.37	0.77	0.17
d, Delay for Lane Group [s/veh]	49.15	20.58	22.15	46.96	28.34	28.75	54.58	32.08	30.80	39.02	22.34
Lane Group LOS	D	C	C	D	C	C	D	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.86	10.60	10.59	0.92	9.34	9.29	1.35	5.06	2.54	8.90	1.32
50th-Percentile Queue Length [ft/ln]	71.60	264.93	264.70	22.88	233.55	232.15	33.75	126.54	63.59	222.52	33.01
95th-Percentile Queue Length [veh/ln]	5.16	15.94	15.92	1.65	14.35	14.28	2.43	8.75	4.58	13.79	2.38
95th-Percentile Queue Length [ft/ln]	128.88	398.40	398.12	41.18	358.86	357.09	60.76	218.78	114.46	344.83	59.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.15	21.19	22.15	46.96	28.54	28.75	54.58	32.08	30.80	39.02	39.02	22.34
Movement LOS	D	C	C	D	C	C	D	C	C	D	D	C
d_A, Approach Delay [s/veh]	23.70			29.17			34.36			36.10		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	28.63											
Intersection LOS	C											
Intersection V/C	0.574											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	48.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	119	1196	41	33	991	19	6	62	102	66	140	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	1196	41	33	991	19	6	62	102	66	140	45
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	315	11	9	258	5	2	18	30	18	39	13
Total Analysis Volume [veh/h]	126	1262	43	34	1033	20	7	73	121	70	157	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	88	88	88	88	88	88	88	88
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	8	30	30	4	27	27	40	40
g / C, Green / Cycle	0.09	0.34	0.34	0.05	0.30	0.30	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.07	0.34	0.35	0.02	0.28	0.28	0.12	0.11
s, saturation flow rate [veh/h]	1810	1900	1866	1810	1900	1878	1667	1809
c, Capacity [veh/h]	160	655	644	83	575	568	755	819
d1, Uniform Delay [s]	39.44	28.94	28.94	40.96	29.77	29.82	14.97	14.95
k, delay calibration	0.04	0.44	0.45	0.04	0.27	0.28	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.21	33.00	35.87	1.19	14.04	14.80	0.82	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	1.00	1.01	0.41	0.92	0.92	0.26	0.25
d, Delay for Lane Group [s/veh]	42.65	61.94	64.80	42.15	43.80	44.62	15.79	15.69
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	19.19	19.36	0.74	12.64	12.69	2.48	2.64
50th-Percentile Queue Length [ft/ln]	69.46	479.79	483.97	18.45	316.10	317.23	61.98	65.98
95th-Percentile Queue Length [veh/ln]	5.00	26.38	26.74	1.33	18.48	18.53	4.46	4.75
95th-Percentile Queue Length [ft/ln]	125.02	659.44	668.56	33.21	461.89	463.29	111.57	118.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.65	63.32	64.80	42.15	44.20	44.62	0.00	15.79	15.79	0.00	15.69	15.69
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	61.54			44.15			15.79			15.69		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	48.76											
Intersection LOS	D											
Intersection V/C	0.483											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	39.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	231	594	0	0	1158	67	0	0	0	644	258	759
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	594	0	0	1158	67	0	0	0	644	258	759
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	171	0	0	305	18	0	0	0	177	71	209
Total Analysis Volume [veh/h]	265	682	0	0	1220	71	0	0	0	709	284	835
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	73	49	49		38	38	38	38
g / C, Green / Cycle	0.16	0.61	0.41	0.41		0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.15	0.19	0.24	0.23		0.26	0.26	0.29	0.30
s, saturation flow rate [veh/h]	1810	3618	3618	1841		1810	1854	1433	1543
c, Capacity [veh/h]	291	2195	1475	751		572	587	453	488
d1, Uniform Delay [s]	49.46	11.41	27.58	27.44		37.92	37.68	39.63	39.90
k, delay calibration	0.23	0.50	0.50	0.50		0.25	0.24	0.33	0.34
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	19.34	0.37	1.69	3.17		6.86	5.85	20.54	22.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.31	0.58	0.57		0.83	0.81	0.93	0.94
d, Delay for Lane Group [s/veh]	68.80	11.78	29.28	30.61		44.78	43.53	60.17	62.10
Lane Group LOS	E	B	C	C		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.35	4.41	9.87	10.13		13.38	13.23	14.00	15.58
50th-Percentile Queue Length [ft/ln]	233.63	110.20	246.74	253.32		334.4	330.8	349.9	389.5
95th-Percentile Queue Length [veh/ln]	14.36	7.85	15.02	15.35		19.38	19.20	20.13	22.06
95th-Percentile Queue Length [ft/ln]	358.96	196.27	375.55	383.83		484.4	479.9	503.3	551.4

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	68.80	11.78	0.00	0.00	29.67	30.61	0.00	0.00	0.00	44.33	46.15	61.27
Movement LOS	E	B			C	C				D	D	E
d_A, Approach Delay [s/veh]	27.74			29.72			0.00			52.35		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	39.43											
Intersection LOS	D											
Intersection V/C	0.682											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	772	252	532	1213	0	102	170	248	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	772	252	532	1213	0	102	170	248	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	214	70	143	326	0	29	49	71	0	0	0
Total Analysis Volume [veh/h]	0	856	280	571	1302	0	117	195	284	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	57	87	23	23	23
g / C, Green / Cycle	0.22	0.22	0.22	0.47	0.73	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.16	0.18	0.19	0.16	0.36	0.09	0.09	0.18
s, saturation flow rate [veh/h]	3618	1545	1450	3514	3618	1833	1729	1577
c, Capacity [veh/h]	778	332	312	1669	2634	358	337	308
d1, Uniform Delay [s]	43.88	45.32	45.80	19.75	6.92	42.59	42.57	47.38
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.19
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	2.54	3.78	0.56	0.67	0.33	0.35	17.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.86	0.90	0.34	0.49	0.45	0.45	0.92
d, Delay for Lane Group [s/veh]	44.38	47.87	49.58	20.31	7.59	42.92	42.92	65.01
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.86	8.30	8.32	5.11	6.53	4.22	3.96	9.72
50th-Percentile Queue Length [ft/ln]	196.55	207.49	208.11	127.87	163.14	105.42	98.89	242.95
95th-Percentile Queue Length [veh/ln]	12.46	13.02	13.06	8.82	10.71	7.58	7.12	14.83
95th-Percentile Queue Length [ft/ln]	311.51	325.61	326.41	220.59	267.87	189.61	178.00	370.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	44.79	49.58	20.31	7.59	0.00	42.92	42.92	65.01	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	46.54			11.46			53.44			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.46											
Intersection LOS	C											
Intersection V/C	0.540											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	696	249	83	770	110	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	696	249	83	770	110	174
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	194	69	26	241	32	50
Total Analysis Volume [veh/h]	777	278	104	965	126	200
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.15	0.27	0.15	0.27
s, saturation flow rate [veh/h]	3618	1353	693	3618	832	734
c, Capacity [veh/h]	2509	938	479	2509	145	128
d1, Uniform Delay [s]	5.98	5.91	10.03	6.41	40.14	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.35
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.81	1.04	0.45	5.92	277.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.30	0.22	0.38	0.87	1.56
d, Delay for Lane Group [s/veh]	6.30	6.72	11.07	6.85	46.06	318.34
Lane Group LOS	A	A	B	A	D	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.89	2.18	1.19	3.86	3.18	12.94
50th-Percentile Queue Length [ft/ln]	72.35	54.44	29.69	96.40	79.56	323.54
95th-Percentile Queue Length [veh/ln]	5.21	3.92	2.14	6.94	5.73	22.15
95th-Percentile Queue Length [ft/ln]	130.23	97.99	53.45	173.52	143.21	553.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.30	6.72	11.07	6.85	46.06	318.34
Movement LOS	A	A	B	A	D	F
d_A, Approach Delay [s/veh]	6.41		7.26		213.11	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	34.29					
Intersection LOS	C					
Intersection V/C	0.539					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.328

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	17	47	36	0	17	40	17	0	22	171	36	0	12	159	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	47	36	0	17	40	17	0	22	171	36	0	12	159	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	16	12	0	5	12	5	0	6	48	10	0	3	44	8
Total Analysis Volume [veh/h]	0	23	63	48	0	21	50	21	0	25	193	41	0	13	177	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	604	703	598	696	665	773	664	767
Degree of Utilization, x	0.14	0.07	0.12	0.03	0.33	0.05	0.29	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.49	0.22	0.40	0.09	1.43	0.17	1.18	0.13
95th-Percentile Queue Length [ft]	12.35	5.48	10.05	2.33	35.67	4.19	29.52	3.37
Approach Delay [s/veh]	9.13		9.19		10.24		9.90	
Approach LOS	A		A		B		A	
Intersection Delay [s/veh]	9.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.350

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	470	125	0	55	350	0	109	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	470	125	0	55	350	0	109	77
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	33	0	14	92	0	35	25
Total Analysis Volume [veh/h]	0	493	131	0	58	366	0	140	99
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08	0.06	0.19	0.09	0.08
s, saturation flow rate [veh/h]	1900	1581	918	1900	1538	1208
c, Capacity [veh/h]	1107	866	451	1042	436	343
d1, Uniform Delay [s]	7.54	6.09	12.40	6.92	15.45	15.29
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.30	0.37	0.59	0.93	0.16	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

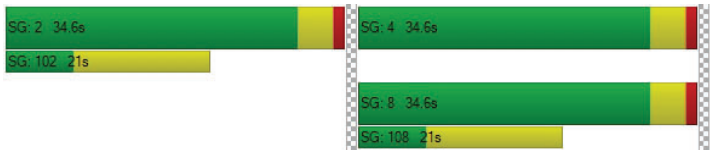
X, volume / capacity	0.45	0.15	0.13	0.35	0.32	0.29
d, Delay for Lane Group [s/veh]	8.84	6.46	12.99	7.85	15.60	15.46
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	0.66	0.51	2.07	1.29	0.90
50th-Percentile Queue Length [ft/ln]	76.00	16.39	12.68	51.71	32.16	22.60
95th-Percentile Queue Length [veh/ln]	5.47	1.18	0.91	3.72	2.32	1.63
95th-Percentile Queue Length [ft/ln]	136.80	29.50	22.83	93.07	57.90	40.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.84	8.84	6.46	12.99	12.99	7.85	15.60	15.60	15.46
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.34			8.55			15.55		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.75								
Intersection LOS	A								
Intersection V/C	0.350								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	27	143	38	4	76	4	20	184	23	13	136	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	143	38	4	76	4	20	184	23	13	136	16
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	11	1	20	1	6	56	7	4	41	5
Total Analysis Volume [veh/h]	32	170	45	4	81	4	24	225	28	16	164	19
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	648	707	692
Degree of Utilization, x	0.36	0.14	0.39	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.63	0.47	1.87	1.19
95th-Percentile Queue Length [ft]	40.66	11.87	46.70	29.74
Approach Delay [s/veh]	11.11	9.44	11.33	10.30
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.80			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	32	217	57	21	134	18	13	182	42	20	136	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	217	57	21	134	18	13	182	42	20	136	32
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	65	17	6	37	5	4	51	12	5	36	9
Total Analysis Volume [veh/h]	38	258	68	23	147	20	15	205	47	21	146	34
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	645	605	618	603
Degree of Utilization, x	0.56	0.31	0.43	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.53	1.34	2.17	1.46
95th-Percentile Queue Length [ft]	88.25	33.52	54.35	36.47
Approach Delay [s/veh]	15.56	11.66	13.18	11.93
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	13.50			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.827

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	69	322	27	21	211	28	14	123	96	29	127	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	322	27	21	211	28	14	123	96	29	127	25
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	90	8	6	59	8	4	34	27	8	37	7
Total Analysis Volume [veh/h]	77	358	30	23	235	31	15	136	106	34	148	29
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	526	596	502	563	540	516
Degree of Utilization, x	0.83	0.05	0.51	0.06	0.48	0.41

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	8.30	0.16	2.89	0.17	2.54	1.97
95th-Percentile Queue Length [ft]	207.55	3.97	72.29	4.36	63.54	49.37
Approach Delay [s/veh]	32.77		16.35		15.57	14.73
Approach LOS	D		C		C	B
Intersection Delay [s/veh]	22.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	35	190	123	110	252	10	44	147	56	88	120	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	190	123	110	252	10	44	147	56	88	120	18
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	53	35	31	71	3	12	38	15	26	35	5
Total Analysis Volume [veh/h]	39	213	138	124	283	11	46	154	59	103	141	21
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	49	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.21	0.11	0.16	0.04	0.12	0.09	0.09
s, saturation flow rate [veh/h]	1175	1690	1145	1876	1025	1729	1156	1728
c, Capacity [veh/h]	757	884	706	1012	161	316	136	316
d1, Uniform Delay [s]	6.82	12.93	7.56	11.34	40.02	34.32	43.88	33.20
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.33	0.54	0.73	0.36	0.93	3.19	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

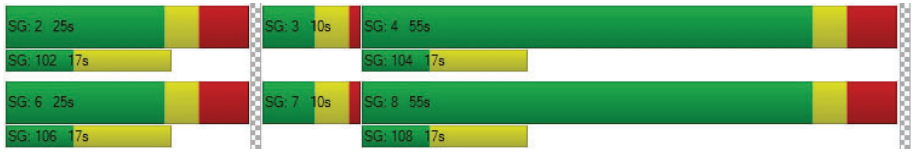
X, volume / capacity	0.05	0.40	0.18	0.29	0.29	0.67	0.76	0.51
d, Delay for Lane Group [s/veh]	6.83	14.27	8.11	12.07	40.38	35.25	47.06	33.68
Lane Group LOS	A	B	A	B	D	D	D	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.25	4.24	0.97	3.21	0.99	4.35	2.38	3.14
50th-Percentile Queue Length [ft/ln]	6.27	105.97	24.17	80.26	24.69	108.76	59.44	78.55
95th-Percentile Queue Length [veh/ln]	0.45	7.62	1.74	5.78	1.78	7.77	4.28	5.66
95th-Percentile Queue Length [ft/ln]	11.29	190.38	43.51	144.48	44.44	194.27	106.99	141.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.83	14.27	14.27	8.11	12.07	12.07	40.38	35.25	35.25	47.06	33.68	33.68
Movement LOS	A	B	B	A	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	13.52			10.90			36.16			38.88		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.15											
Intersection LOS	C											
Intersection V/C	0.362											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	64	182	21	10	50	7	14	178	48	17	146	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	182	21	10	50	7	14	178	48	17	146	17
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	51	6	3	15	2	4	54	15	5	39	5
Total Analysis Volume [veh/h]	72	206	24	12	60	8	17	216	58	18	157	18
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	674	630	694	666
Degree of Utilization, x	0.45	0.13	0.42	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.32	0.43	2.08	1.20
95th-Percentile Queue Length [ft]	58.05	10.85	52.03	30.00
Approach Delay [s/veh]	12.61	9.55	11.88	10.60
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.64			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	25	210	21	22	168	20	8	76	16	12	127	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	210	21	22	168	20	8	76	16	12	127	42
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	60	6	6	43	5	3	24	5	3	37	12
Total Analysis Volume [veh/h]	28	239	24	22	171	20	10	96	20	14	147	49
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	700	685	651	676
Degree of Utilization, x	0.42	0.31	0.19	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.05	1.32	0.71	1.32
95th-Percentile Queue Length [ft]	51.31	33.09	17.80	33.10
Approach Delay [s/veh]	11.75	10.61	9.85	10.72
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	10.92			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.700

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2631	70	0	2762	97	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2631	70	0	2762	97	26
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	715	19	0	707	27	7
Total Analysis Volume [veh/h]	2860	76	0	2827	106	29
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	60	60	60	60
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	43	43	43	6
g / C, Green / Cycle	0.72	0.72	0.72	0.11
(v / s)_i Volume / Saturation Flow Rate	0.61	0.59	0.46	0.09
s, saturation flow rate [veh/h]	3192	1654	6089	1556
c, Capacity [veh/h]	2287	1185	4363	169
d1, Uniform Delay [s]	6.23	5.90	4.50	26.10
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.57	0.06	3.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.83	0.65	0.80
d, Delay for Lane Group [s/veh]	6.60	6.47	4.56	29.42
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.75	4.58	2.43	1.92
50th-Percentile Queue Length [ft/ln]	118.75	114.43	60.84	48.02
95th-Percentile Queue Length [veh/ln]	8.32	8.09	4.38	3.46
95th-Percentile Queue Length [ft/ln]	208.10	202.15	109.50	86.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.56	6.47	0.00	4.56	29.42	29.42
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.56		4.56		29.42	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.12					
Intersection LOS	A					
Intersection V/C	0.700					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	57.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1960	287	38	334	446	10	568	202	0	0	282	179
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1960	287	38	334	446	10	568	202	0	0	282	179
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	538	79	10	98	131	3	142	53	0	0	82	52
Total Analysis Volume [veh/h]	2151	315	42	392	523	12	568	210	0	0	329	209
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	60	60	60	30	30	20	20
g / C, Green / Cycle	0.50	0.50	0.50	0.25	0.25	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.45	0.46	0.25	0.29	0.29	0.13	0.14
s, saturation flow rate [veh/h]	3192	1559	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1595	779	712	398	397	263	623
d1, Uniform Delay [s]	27.35	27.89	20.10	45.20	45.20	48.37	48.97
k, delay calibration	0.04	0.07	0.04	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.79	3.57	0.20	98.50	99.68	2.13	1.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.92	0.50	1.17	1.17	0.80	0.86
d, Delay for Lane Group [s/veh]	28.14	31.46	20.30	143.70	144.88	50.50	50.41
Lane Group LOS	C	C	C	F	F	D	D
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	18.18	19.14	6.63	22.64	22.70	6.21	5.31
50th-Percentile Queue Length [ft/ln]	454.57	478.41	165.73	566.04	567.53	155.17	132.87
95th-Percentile Queue Length [veh/ln]	25.18	26.31	10.85	33.17	33.29	10.29	9.10
95th-Percentile Queue Length [ft/ln]	629.40	657.77	271.29	829.25	832.19	257.32	227.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.88	20.30	20.30	143.70	144.88	144.88	0.00	50.50	0.00	0.00	50.41	50.41
Movement LOS	C	C	C	F	F	F		D			D	F
d_A, Approach Delay [s/veh]	27.97			144.29			50.50			50.41		
Approach LOS	C			F			D			D		
d_I, Intersection Delay [s/veh]	57.77											
Intersection LOS	E											
Intersection V/C	0.893											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	67	114	67	0	11	81	20	0	16	123	78	0	39	135	24
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	67	114	67	0	11	81	20	0	16	123	78	0	39	135	24
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	20	33	20	0	3	24	6	0	5	36	23	0	11	39	7
Total Analysis Volume [veh/h]	0	78	133	78	0	13	96	24	0	18	142	90	0	46	158	28
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	673	637	682	658
Degree of Utilization, x	0.43	0.21	0.37	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.16	0.78	1.69	1.59
95th-Percentile Queue Length [ft]	54.04	19.54	42.13	39.65
Approach Delay [s/veh]	12.32	10.13	11.31	11.42
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.49			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	28	85	30	14	49	12	8	50	24	29	74	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	85	30	14	49	12	8	50	24	29	74	15
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	27	9	4	13	3	3	18	8	9	22	5
Total Analysis Volume [veh/h]	35	106	38	15	53	13	11	71	34	35	89	18
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	671	792	659	775	669	780	664	786
Degree of Utilization, x	0.21	0.05	0.10	0.02	0.12	0.04	0.19	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.79	0.15	0.34	0.05	0.42	0.14	0.68	0.07
95th-Percentile Queue Length [ft]	19.74	3.77	8.58	1.28	10.43	3.41	17.06	1.76
Approach Delay [s/veh]	9.07		8.57		8.45		9.12	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.86							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	874	75	175	1392	0	32	1085	209	73	0	90
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	874	75	175	1392	0	32	1085	209	73	0	90
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	234	20	48	384	0	8	271	52	23	0	28
Total Analysis Volume [veh/h]	36	0	938	80	193	1535	0	32	1085	209	91	0	112
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	107	107	117	109		23	23
g / C, Green / Cycle	0.03	0.71	0.71	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.05	0.28	0.42		0.07	0.10
s, saturation flow rate [veh/h]	1810	3618	1585	696	3618		1231	1132
c, Capacity [veh/h]	47	2573	1127	552	2625		192	177
d1, Uniform Delay [s]	72.54	8.44	6.58	5.20	9.79		57.61	59.21
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.40	0.12	1.74	0.96		0.67	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.36	0.07	0.35	0.58		0.47	0.63
d, Delay for Lane Group [s/veh]	81.74	8.84	6.71	6.94	10.75		58.29	60.61
Lane Group LOS	F	A	A	A	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	5.93	0.81	1.60	11.72		3.21	4.08
50th-Percentile Queue Length [ft/ln]	37.61	148.17	20.19	40.01	293.11		80.16	101.98
95th-Percentile Queue Length [veh/ln]	2.71	9.92	1.45	2.88	17.34		5.77	7.34
95th-Percentile Queue Length [ft/ln]	67.70	247.99	36.35	72.03	433.49		144.28	183.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	8.84	6.71	6.94	10.75	0.00	0.00	0.00	0.00	58.29	0.00	60.61
Movement LOS	F		A	A	A	B					E		E
d_A, Approach Delay [s/veh]	11.17				10.33			0.00			59.57		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	13.97												
Intersection LOS	B												
Intersection V/C	0.543												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	78.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.121

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	31	2001	2	347	2528	19	13	28	24	147	18	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	2001	2	347	2528	19	13	28	24	147	18	320
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	581	1	89	646	5	5	11	10	44	5	96
Total Analysis Volume [veh/h]	36	2322	2	355	2586	19	21	45	38	177	22	385
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	324	324	324	324	324	324	324	324
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	8	199	66	256	256	45	45	115
g / C, Green / Cycle	0.03	0.61	0.20	0.79	0.79	0.14	0.14	0.35
(v / s)_i Volume / Saturation Flow Rate	0.02	0.45	0.20	0.47	0.47	0.34	0.48	0.24
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1893	306	418	1615
c, Capacity [veh/h]	45	3174	367	2859	1496	56	79	572
d1, Uniform Delay [s]	157.14	43.98	128.23	13.50	13.54	130.95	145.69	88.72
k, delay calibration	0.04	0.04	0.39	0.04	0.27	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.10	0.12	34.34	0.07	0.97	447.77	720.45	6.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

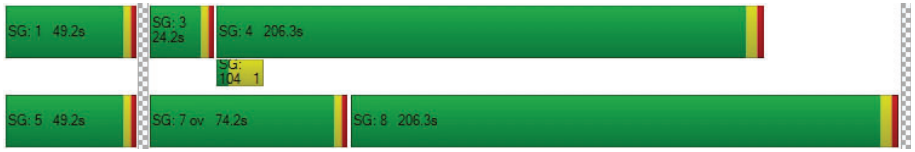
X, volume / capacity	0.80	0.73	0.97	0.60	0.60	1.86	2.52	0.67
d, Delay for Lane Group [s/veh]	168.24	44.10	162.57	13.57	14.52	578.71	866.14	94.93
Lane Group LOS	F	D	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.23	43.92	33.64	24.80	26.51	11.82	22.69	29.03
50th-Percentile Queue Length [ft/ln]	80.84	1098.05	840.95	619.88	662.66	295.53	567.36	725.87
95th-Percentile Queue Length [veh/ln]	5.82	54.79	43.15	32.96	34.95	20.88	38.12	37.87
95th-Percentile Queue Length [ft/ln]	145.51	1369.77	1078.74	824.04	873.74	521.97	952.93	946.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	168.24	44.10	0.00	162.57	13.89	14.52	578.71	578.71	578.71	866.14	866.14	94.93
Movement LOS	F	D		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	46.00			31.73			578.71			357.72		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	78.50											
Intersection LOS	E											
Intersection V/C	1.121											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	127.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.109

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	292	403	112	38	453	93	66	120	201	0	30	134	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	292	403	112	38	453	93	66	120	201	0	30	134	62
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	78	107	30	11	130	27	18	33	55	0	9	42	19
Total Analysis Volume [veh/h]	311	429	119	43	518	106	72	131	220	0	38	168	78
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	60	60	3	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.60	0.60	0.03	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.09	0.02	0.27	0.08	0.66	0.14	0.35	0.09
s, saturation flow rate [veh/h]	1810	1900	1264	1810	1900	1352	305	1518	583	860
c, Capacity [veh/h]	189	1144	761	63	1012	720	105	570	151	159
d1, Uniform Delay [s]	44.75	10.21	8.73	47.71	15.02	11.85	41.07	22.79	38.88	36.50
k, delay calibration	0.31	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	305.10	0.94	0.44	4.88	1.85	0.43	450.38	0.16	201.95	0.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

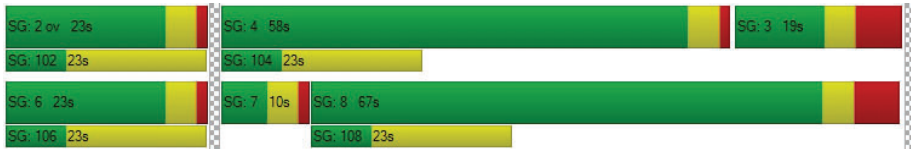
X, volume / capacity	1.65	0.37	0.16	0.69	0.51	0.15	1.93	0.39	1.37	0.49
d, Delay for Lane Group [s/veh]	349.85	11.15	9.16	52.59	16.87	12.28	491.45	22.95	240.83	37.37
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	20.65	4.81	1.16	1.14	7.70	1.25	15.82	3.81	12.16	1.71
50th-Percentile Queue Length [ft/ln]	516.33	120.35	29.07	28.47	192.43	31.13	395.48	95.21	304.05	42.86
95th-Percentile Queue Length [veh/ln]	32.90	8.41	2.09	2.05	12.25	2.24	27.50	6.86	20.33	3.09
95th-Percentile Queue Length [ft/ln]	822.61	210.31	52.33	51.24	306.18	56.04	687.60	171.38	508.29	77.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	349.85	11.15	9.16	52.59	16.87	12.28	491.45	491.45	22.95	240.8	240.8	240.8	37.37
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	133.50			18.44			247.79			184.95			
Approach LOS	F			B			F			F			
d_I, Intersection Delay [s/veh]	127.33												
Intersection LOS	F												
Intersection V/C	1.109												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	505	178	0	204	577	0	250	299
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	505	178	0	204	577	0	250	299
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	137	48	0	54	152	0	72	86
Total Analysis Volume [veh/h]	0	546	193	0	215	609	0	288	344
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.15	0.15	0.14	0.21	0.17	0.17	0.12	0.19
s, saturation flow rate [veh/h]	1900	1729	1370	1004	3618	1299	1671	1064
c, Capacity [veh/h]	1133	999	791	736	2509	226	291	186
d1, Uniform Delay [s]	10.50	10.50	10.38	5.73	5.64	41.15	38.91	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.15	0.04	0.21
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.63	0.73	1.00	0.23	29.86	1.22	67.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

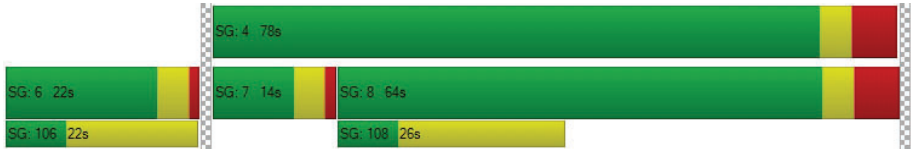
X, volume / capacity	0.25	0.26	0.24	0.29	0.24	0.99	0.71	1.08
d, Delay for Lane Group [s/veh]	11.03	11.13	11.12	6.73	5.87	71.01	40.13	108.56
Lane Group LOS	B	B	B	A	A	E	D	F
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.14	2.88	2.15	1.58	2.14	7.29	4.85	7.98
50th-Percentile Queue Length [ft/ln]	78.57	72.07	53.67	39.42	53.44	182.14	121.27	199.38
95th-Percentile Queue Length [veh/ln]	5.66	5.19	3.86	2.84	3.85	11.71	8.46	13.07
95th-Percentile Queue Length [ft/ln]	141.43	129.72	96.61	70.95	96.20	292.80	211.57	326.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.03	11.08	11.12	6.73	6.73	5.87	71.01	63.15	81.53
Movement LOS	B	B	B	A	A	A	E	E	F
d_A, Approach Delay [s/veh]	11.09			6.10			72.82		
Approach LOS	B			A			E		
d_I, Intersection Delay [s/veh]	26.99								
Intersection LOS	C								
Intersection V/C	0.387								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	557	144	125	677	97	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	557	144	125	677	97	113
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	153	40	33	180	29	33
Total Analysis Volume [veh/h]	613	158	133	719	115	133
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.17	0.12	0.17	0.20	0.15
s, saturation flow rate [veh/h]	3618	1339	805	3618	1700
c, Capacity [veh/h]	2236	827	487	2236	425
d1, Uniform Delay [s]	8.78	8.26	14.00	9.10	32.90
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.51	1.38	0.38	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

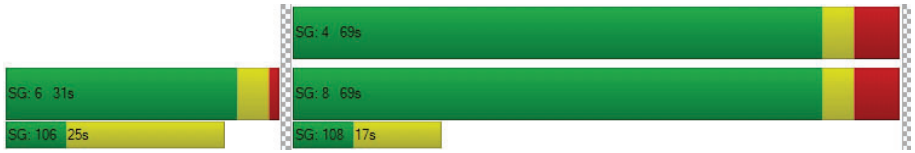
X, volume / capacity	0.27	0.19	0.27	0.32	0.58
d, Delay for Lane Group [s/veh]	9.08	8.78	15.38	9.48	33.40
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	2.94	1.50	1.87	3.58	5.20
50th-Percentile Queue Length [ft/ln]	73.54	37.50	46.65	89.50	130.09
95th-Percentile Queue Length [veh/ln]	5.29	2.70	3.36	6.44	8.94
95th-Percentile Queue Length [ft/ln]	132.37	67.50	83.97	161.10	223.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.08	8.78	15.38	9.48	33.40	33.40
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.02		10.40		33.40	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.88					
Intersection LOS	B					
Intersection V/C	0.345					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	40.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	536	233	143	634	176	136
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	536	233	143	634	176	136
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	151	66	41	181	49	37
Total Analysis Volume [veh/h]	604	263	163	725	194	150
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.17	0.20	0.17	0.20	0.23	0.12
s, saturation flow rate [veh/h]	3618	1296	962	3618	832	1238
c, Capacity [veh/h]	2190	785	740	2618	120	325
d1, Uniform Delay [s]	9.35	9.77	4.57	4.77	42.78	30.93
k, delay calibration	0.50	0.50	0.50	0.50	0.36	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	1.15	0.69	0.26	302.80	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

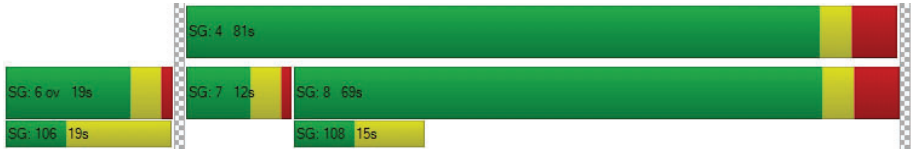
X, volume / capacity	0.28	0.34	0.22	0.28	1.62	0.46
d, Delay for Lane Group [s/veh]	9.66	10.92	5.26	5.03	345.58	31.31
Lane Group LOS	A	B	A	A	F	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.03	2.92	1.00	2.27	13.03	3.03
50th-Percentile Queue Length [ft/ln]	75.73	73.04	24.96	56.63	325.73	75.87
95th-Percentile Queue Length [veh/ln]	5.45	5.26	1.80	4.08	22.24	5.46
95th-Percentile Queue Length [ft/ln]	136.31	131.47	44.92	101.93	555.97	136.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.66	10.92	5.26	5.03	345.58	31.31
Movement LOS	A	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.04		5.08		208.54	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	40.47					
Intersection LOS	D					
Intersection V/C	0.470					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.439

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	1	787	142	67	833	20	13	13	62	181	9	166
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	787	142	67	833	20	13	13	62	181	9	166
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	221	41	18	219	5	4	6	18	51	3	47
Total Analysis Volume [veh/h]	1	883	165	71	875	21	15	24	73	203	10	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	82	82	77	77	10	23	23
g / C, Green / Cycle	0.55	0.55	0.52	0.52	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.24	0.05	0.12	0.14
s, saturation flow rate [veh/h]	672	3618	1900	1881	1645	1814	1321
c, Capacity [veh/h]	342	1981	979	969	106	282	205
d1, Uniform Delay [s]	17.18	20.29	23.05	23.12	69.30	60.60	62.30
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.73	1.54	1.59	6.04	1.70	17.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

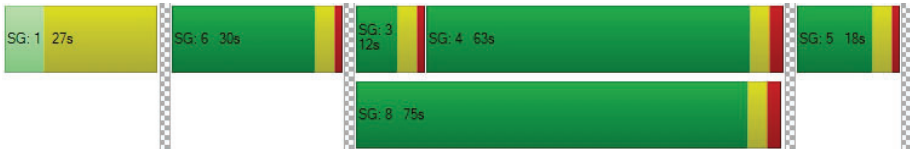
X, volume / capacity	0.00	0.45	0.46	0.46	0.83	0.76	0.91
d, Delay for Lane Group [s/veh]	17.18	21.02	24.60	24.71	75.34	62.30	79.69
Lane Group LOS	B	C	C	C	E	E	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.02	9.52	10.56	10.60	3.51	7.98	8.08
50th-Percentile Queue Length [ft/ln]	0.40	238.00	264.01	264.98	87.80	199.57	201.92
95th-Percentile Queue Length [veh/ln]	0.03	14.58	15.89	15.94	6.32	12.62	12.74
95th-Percentile Queue Length [ft/ln]	0.72	364.51	397.25	398.47	158.04	315.41	318.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.18	21.02	0.00	0.00	24.65	24.71	75.34	0.00	75.34	62.30	62.30	79.69
Movement LOS	B	C			C	C	E		E	E	E	E
d_A, Approach Delay [s/veh]	21.02			24.65			75.34			70.43		
Approach LOS	C			C			E			E		
d_I, Intersection Delay [s/veh]	33.28											
Intersection LOS	C											
Intersection V/C	0.439											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	393	659	785	169	127	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	393	659	785	169	127	570
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	173	201	43	33	149
Total Analysis Volume [veh/h]	412	692	806	173	132	594
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	75	75	75	14	35
g / C, Green / Cycle	0.14	0.63	0.63	0.63	0.12	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.22	0.13	0.11	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1333	1237	2859
c, Capacity [veh/h]	477	2274	2274	838	149	842
d1, Uniform Delay [s]	50.73	10.22	10.64	9.50	51.92	37.66
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.86	0.35	0.43	0.56	6.64	0.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

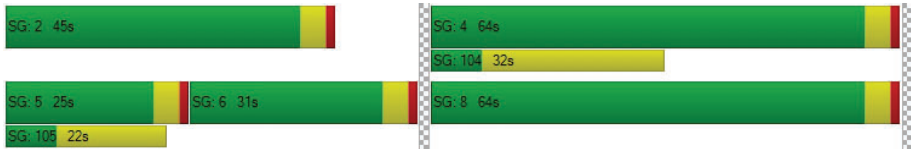
X, volume / capacity	0.86	0.30	0.35	0.21	0.89	0.71
d, Delay for Lane Group [s/veh]	52.58	10.57	11.07	10.06	58.56	38.07
Lane Group LOS	D	B	B	B	E	D
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.17	4.17	5.06	2.02	4.38	8.28
50th-Percentile Queue Length [ft/ln]	154.25	104.26	126.48	50.42	109.43	207.01
95th-Percentile Queue Length [veh/ln]	10.24	7.51	8.75	3.63	7.81	13.00
95th-Percentile Queue Length [ft/ln]	256.09	187.67	218.70	90.76	195.21	324.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.58	10.57	11.07	10.06	58.56	38.07
Movement LOS	D	B	B	B	E	D
d_A, Approach Delay [s/veh]	26.25		10.89		41.79	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.91					
Intersection LOS	C					
Intersection V/C	0.447					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	29.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.480

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	69	152	61	0	270	0	290	279
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	69	152	61	0	270	0	290	279
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	50	20	0	71	0	78	75
Total Analysis Volume [veh/h]	0	0	0	0	91	201	81	0	285	0	311	299
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		53	53	53	65	65	65
g / C, Green / Cycle		0.44	0.44	0.44	0.54	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate		0.09	0.08	0.09	0.23	0.16	0.20
s, saturation flow rate [veh/h]		1058	1900	1522	1222	1900	1464
c, Capacity [veh/h]		410	835	668	685	1025	790
d1, Uniform Delay [s]		29.43	20.42	20.72	15.51	15.22	16.00
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.25	0.45	0.69	1.86	0.76	1.38
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.22	0.17	0.20	0.42	0.30	0.38
d, Delay for Lane Group [s/veh]		30.68	20.88	21.41	17.37	15.99	17.38
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.05	2.56	2.47	4.49	4.77	4.90
50th-Percentile Queue Length [ft/ln]		51.36	63.96	61.63	112.37	119.25	122.57
95th-Percentile Queue Length [veh/ln]		3.70	4.60	4.44	7.97	8.35	8.53
95th-Percentile Queue Length [ft/ln]		92.46	115.12	110.93	199.29	208.80	213.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	30.68	21.02	21.41	0.00	17.37	0.00	15.99	17.38
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.46				16.89			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	29.52											
Intersection LOS	C											
Intersection V/C	0.480											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	46	595	222	155	758	0	129
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	595	222	155	758	0	129
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	158	59	43	210	0	34
Total Analysis Volume [veh/h]	0	49	632	236	172	841	0	134
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	46	46	46
g / C, Green / Cycle	0.26	0.26	0.26	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.08	0.17	0.19	0.16	0.26	0.28
s, saturation flow rate [veh/h]	586	3618	1246	1078	1900	1728
c, Capacity [veh/h]	67	953	328	377	730	664
d1, Uniform Delay [s]	59.88	39.43	40.15	27.04	30.87	31.41
k, delay calibration	0.04	0.04	0.04	0.04	0.08	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.58	0.30	1.12	0.32	0.80	2.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

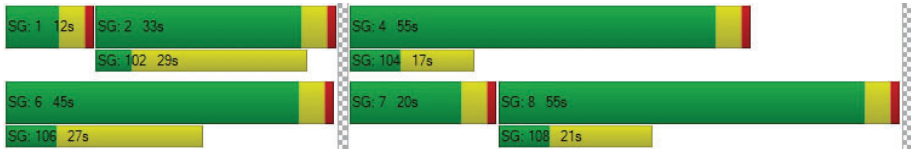
X, volume / capacity	0.73	0.66	0.72	0.46	0.68	0.72
d, Delay for Lane Group [s/veh]	65.46	39.73	41.26	27.36	31.67	33.49
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.60	8.33	6.41	3.39	12.10	11.98
50th-Percentile Queue Length [ft/ln]	39.89	208.29	160.19	84.69	302.58	299.45
95th-Percentile Queue Length [veh/ln]	2.87	13.07	10.56	6.10	17.81	17.65
95th-Percentile Queue Length [ft/ln]	71.81	326.63	263.97	152.44	445.22	441.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	65.46	39.73	41.26	27.36	32.41	0.00	33.49
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	41.50				31.78			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	29.52							
Intersection LOS	C							
Intersection V/C	0.480							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	105.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	71	109	218	0	43	65	62	0	33	245	52	0	167	429	70
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	71	109	218	0	43	65	62	0	33	245	52	0	167	429	70
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	29	58	0	12	18	17	0	9	71	15	0	43	111	18
Total Analysis Volume [veh/h]	0	76	116	232	0	47	70	67	0	38	282	60	0	173	443	72
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.21	0.46	0.04	0.08	0.04	0.16	0.14	0.14
s, saturation flow rate [veh/h]	1272	1665	398	900	3618	1577	1115	1900	1790
c, Capacity [veh/h]	73	258	103	397	1709	745	521	898	846
d1, Uniform Delay [s]	50.02	42.26	42.85	21.34	15.09	14.47	21.09	16.16	16.20
k, delay calibration	0.04	0.15	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.28	164.35	390.21	0.48	0.21	0.21	1.71	0.83	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.04	1.35	1.79	0.10	0.16	0.08	0.33	0.29	0.30
d, Delay for Lane Group [s/veh]	90.30	206.61	433.06	21.82	15.30	14.68	22.80	16.99	17.09
Lane Group LOS	F	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.62	18.02	13.70	0.64	1.85	0.78	3.05	3.80	3.65
50th-Percentile Queue Length [ft/ln]	65.60	450.38	342.51	16.06	46.16	19.42	76.19	94.97	91.32
95th-Percentile Queue Length [veh/ln]	4.72	28.27	23.65	1.16	3.32	1.40	5.49	6.84	6.57
95th-Percentile Queue Length [ft/ln]	118.08	706.76	591.18	28.90	83.08	34.95	137.15	170.94	164.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.30	90.30	206.6	206.6	433.0	433.0	433.0	433.0	21.82	21.82	15.30	14.68	22.80	22.80	17.03	17.09
Movement LOS	F	F	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	185.76				433.06				15.86				18.49			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	105.72															
Intersection LOS	F															
Intersection V/C	0.617															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	81	221	130	31	101	27	44	86	55	63	68	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	221	130	31	101	27	44	86	55	63	68	84
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	58	34	9	30	8	14	26	17	18	19	24
Total Analysis Volume [veh/h]	86	233	137	37	119	32	54	106	68	71	77	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	51	51
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.09	0.03	0.08	0.14	0.22
s, saturation flow rate [veh/h]	1256	1900	1536	1166	1806	1579	1100
c, Capacity [veh/h]	186	363	293	131	345	845	604
d1, Uniform Delay [s]	44.40	37.31	35.94	46.53	35.72	13.93	15.60
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.67	0.71	0.43	0.43	0.33	0.78	1.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

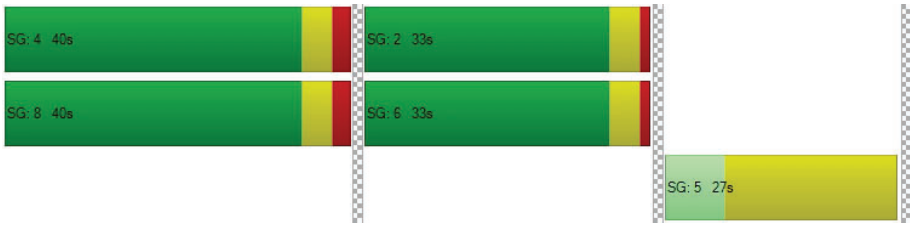
X, volume / capacity	0.46	0.64	0.47	0.28	0.44	0.27	0.40
d, Delay for Lane Group [s/veh]	45.06	38.02	36.37	46.96	36.05	14.72	17.59
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.08	5.21	2.95	0.90	3.22	2.95	3.71
50th-Percentile Queue Length [ft/ln]	51.96	130.28	73.65	22.60	80.50	73.82	92.72
95th-Percentile Queue Length [veh/ln]	3.74	8.95	5.30	1.63	5.80	5.31	6.68
95th-Percentile Queue Length [ft/ln]	93.53	223.87	132.57	40.68	144.90	132.87	166.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.06	38.02	36.37	46.96	36.05	36.05	14.72	14.72	14.72	17.59	17.59	17.59
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	38.86			38.20			14.72			17.59		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.17											
Intersection LOS	C											
Intersection V/C	0.344											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	60.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.789

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	65	251	185	55	149	48	39	218	94	75	156	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	251	185	55	149	48	39	218	94	75	156	183
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	71	52	15	41	13	11	59	25	22	45	53
Total Analysis Volume [veh/h]	73	283	208	61	166	53	42	236	102	86	179	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.06	0.15	0.26	0.05	0.12	0.40	0.06	0.53	0.13
s, saturation flow rate [veh/h]	1181	1900	800	1114	1796	696	1570	501	1581
c, Capacity [veh/h]	148	370	156	112	349	391	789	300	795
d1, Uniform Delay [s]	46.60	38.09	40.25	48.81	36.92	20.28	13.22	32.01	14.25
k, delay calibration	0.04	0.06	0.42	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	1.84	182.98	1.55	0.69	10.47	0.34	29.36	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

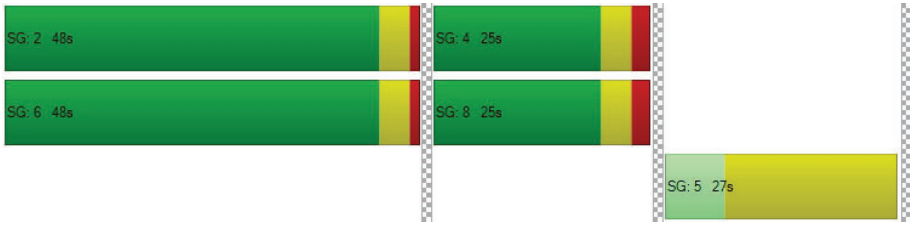
X, volume / capacity	0.49	0.77	1.34	0.55	0.63	0.71	0.13	0.88	0.26
d, Delay for Lane Group [s/veh]	47.53	39.93	223.23	50.36	37.61	30.74	13.55	61.37	15.06
Lane Group LOS	D	D	F	D	D	C	B	E	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.82	6.59	11.63	1.55	4.87	4.69	1.26	8.95	2.82
50th-Percentile Queue Length [ft/ln]	45.45	164.87	290.84	38.80	121.79	117.23	31.60	223.77	70.51
95th-Percentile Queue Length [veh/ln]	3.27	10.81	19.47	2.79	8.49	8.24	2.28	13.86	5.08
95th-Percentile Queue Length [ft/ln]	81.82	270.16	486.72	69.84	212.29	206.01	56.88	346.43	126.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.53	39.93	223.23	50.36	37.61	37.61	30.74	30.74	13.55	61.37	61.37	15.06
Movement LOS	D	D	F	D	D	D	C	C	B	E	E	B
d_A, Approach Delay [s/veh]	108.52			40.39			26.13			40.90		
Approach LOS	F			D			C			D		
d_I, Intersection Delay [s/veh]	59.96											
Intersection LOS	E											
Intersection V/C	0.789											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.328

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	73	200	186	84	199	35	70	195	106	112	191	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	200	186	84	199	35	70	195	106	112	191	196
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	59	55	22	53	9	18	51	28	32	55	57
Total Analysis Volume [veh/h]	87	237	220	90	213	37	73	204	111	129	220	226
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	44	44	44	44	44
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.44	0.44	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.15	0.08	0.14	0.06	0.18	0.12	0.12	0.14
s, saturation flow rate [veh/h]	1148	1900	1469	1161	1840	1179	1766	1081	1900	1560
c, Capacity [veh/h]	180	448	346	194	434	485	781	398	840	689
d1, Uniform Delay [s]	44.41	33.36	34.34	43.39	33.79	22.53	18.94	27.67	17.60	18.20
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.36	0.72	0.64	0.45	0.66	1.55	2.15	0.76	1.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

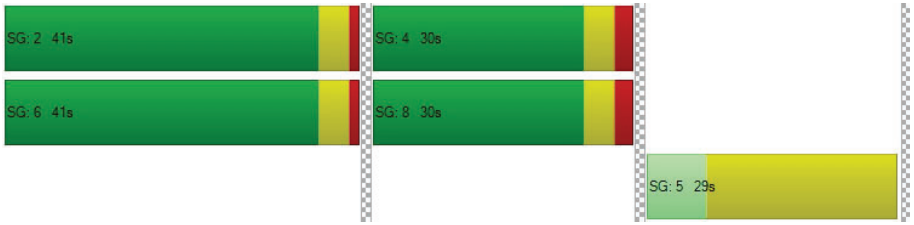
X, volume / capacity	0.48	0.53	0.64	0.46	0.58	0.15	0.40	0.32	0.26	0.33
d, Delay for Lane Group [s/veh]	45.16	33.72	35.07	44.03	34.24	23.19	20.50	29.81	18.36	19.47
Lane Group LOS	D	C	D	D	C	C	C	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.11	4.95	4.75	2.15	5.29	1.25	5.09	2.62	3.26	3.52
50th-Percentile Queue Length [ft/ln]	52.80	123.64	118.82	53.85	132.26	31.33	127.29	65.61	81.58	88.02
95th-Percentile Queue Length [veh/ln]	3.80	8.59	8.33	3.88	9.06	2.26	8.79	4.72	5.87	6.34
95th-Percentile Queue Length [ft/ln]	95.04	214.82	208.21	96.94	226.56	56.39	219.81	118.11	146.84	158.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.16	33.72	35.07	44.03	34.24	34.24	23.19	20.50	20.50	29.81	18.36	19.47
Movement LOS	D	C	D	D	C	C	C	C	C	C	B	B
d_A, Approach Delay [s/veh]	36.09			36.83			21.00			21.37		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.47											
Intersection LOS	C											
Intersection V/C	0.328											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	41	339	0	29	325	129	66	90	0	117	219	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	339	0	29	325	129	66	90	0	117	219	176
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	91	0	8	87	35	20	27	0	31	58	47
Total Analysis Volume [veh/h]	44	364	0	31	349	139	79	108	0	124	233	187
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30		61	61
g / C, Green / Cycle	0.25	0.25	0.25	0.25		0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.19	0.10		0.16	0.17
s, saturation flow rate [veh/h]	1028	1863	1863	1381		1861	1485
c, Capacity [veh/h]	123	465	465	345		944	753
d1, Uniform Delay [s]	55.23	41.98	41.57	37.56		17.35	17.50
k, delay calibration	0.04	0.15	0.30	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.65	3.96	6.66	0.28		0.87	1.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.78	0.75	0.40		0.31	0.33
d, Delay for Lane Group [s/veh]	55.88	45.94	48.23	37.84		18.22	18.67
Lane Group LOS	E	D	D	D		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	10.53	10.27	3.41		5.08	4.33
50th-Percentile Queue Length [ft/ln]	33.21	263.18	256.78	85.34		126.99	108.36
95th-Percentile Queue Length [veh/ln]	2.39	15.85	15.53	6.14		8.78	7.75
95th-Percentile Queue Length [ft/ln]	59.78	396.21	388.18	153.61		219.40	193.72

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.88	45.94	0.00	0.00	48.23	37.84	0.00	0.00	0.00	18.22	18.33	18.67
Movement LOS	E	D			D	D				B	B	B
d_A, Approach Delay [s/veh]	47.02			45.27			0.00			18.42		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	35.62											
Intersection LOS	D											
Intersection V/C	0.362											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.284

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	14	552	0	58	35	0	662	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	552	0	58	35	0	662	107
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	146	0	19	12	0	183	30
Total Analysis Volume [veh/h]	0	15	584	0	77	47	0	732	118
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.04	0.03	0.24	0.24
s, saturation flow rate [veh/h]	659	3618	1810	1580	1900	1630
c, Capacity [veh/h]	340	2060	124	108	1118	928
d1, Uniform Delay [s]	18.05	11.06	45.32	44.72	12.20	12.23
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.35	1.91	1.03	1.10	1.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.28	0.62	0.44	0.41	0.42
d, Delay for Lane Group [s/veh]	18.29	11.40	47.23	45.75	13.30	13.65
Lane Group LOS	B	B	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	3.26	1.90	1.13	5.78	5.08
50th-Percentile Queue Length [ft/ln]	5.80	81.38	47.43	28.35	144.44	127.04
95th-Percentile Queue Length [veh/ln]	0.42	5.86	3.41	2.04	9.72	8.78
95th-Percentile Queue Length [ft/ln]	10.43	146.48	85.37	51.03	242.99	219.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.29	18.29	11.40	47.23	47.23	45.75	13.30	13.43	13.65
Movement LOS	B	B	B	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	11.57			46.67			13.46		
Approach LOS	B			D			B		
d_I, Intersection Delay [s/veh]	15.36								
Intersection LOS	B								
Intersection V/C	0.284								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	14	89	46	46	117	28	27	233	18	54	203	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	89	46	46	117	28	27	233	18	54	203	68
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	23	12	13	33	8	8	72	6	15	55	18
Total Analysis Volume [veh/h]	15	93	48	52	132	32	33	288	22	58	220	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	13	13
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.29	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.01	0.05	0.03	0.04	0.07	0.02	0.19	0.21
s, saturation flow rate [veh/h]	1243	1900	1404	1238	1900	1480	1796	1645
c, Capacity [veh/h]	448	553	409	468	553	431	879	823
d1, Uniform Delay [s]	10.88	8.43	8.30	10.76	8.61	8.19	6.56	6.70
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.05	0.05	0.04	0.08	0.03	0.11	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

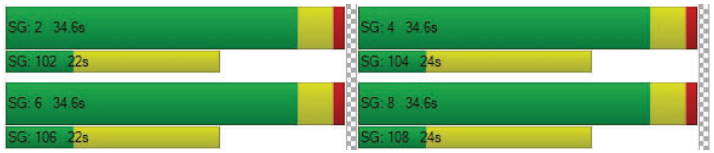
X, volume / capacity	0.03	0.17	0.12	0.11	0.24	0.07	0.39	0.43
d, Delay for Lane Group [s/veh]	10.89	8.48	8.35	10.80	8.69	8.22	6.67	6.84
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.06	0.32	0.16	0.23	0.49	0.11	1.06	1.01
50th-Percentile Queue Length [ft/ln]	1.61	7.90	4.05	5.85	12.28	2.84	26.50	25.36
95th-Percentile Queue Length [veh/ln]	0.12	0.57	0.29	0.42	0.88	0.20	1.91	1.83
95th-Percentile Queue Length [ft/ln]	2.89	14.22	7.28	10.53	22.11	5.11	47.69	45.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.89	8.48	8.35	10.80	8.69	8.22	6.67	6.67	6.67	6.84	6.84	6.84
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.67			9.13			6.67			6.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.52											
Intersection LOS	A											
Intersection V/C	0.283											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	37	121	31	12	208	14	15	174	73	10	190	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	121	31	12	208	14	15	174	73	10	190	28
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	36	9	3	56	4	4	51	21	3	52	8
Total Analysis Volume [veh/h]	44	143	37	13	224	15	18	205	86	11	210	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	30	30	30	30	30	30
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	10	10
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.01	0.13	0.18	0.14
s, saturation flow rate [veh/h]	1124	1773	1156	1866	1744	1802
c, Capacity [veh/h]	457	620	489	652	729	748
d1, Uniform Delay [s]	10.20	7.11	9.36	7.33	7.83	7.50
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.10	0.01	0.13	0.15	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

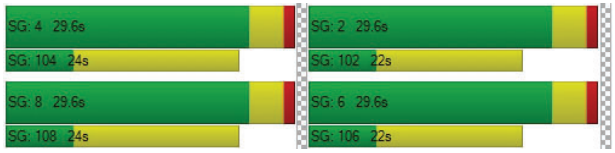
X, volume / capacity	0.10	0.29	0.03	0.37	0.42	0.34
d, Delay for Lane Group [s/veh]	10.23	7.21	9.37	7.46	7.97	7.59
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.17	0.48	0.05	0.66	1.50	0.71
50th-Percentile Queue Length [ft/ln]	4.25	12.03	1.15	16.48	37.62	17.85
95th-Percentile Queue Length [veh/ln]	0.31	0.87	0.08	1.19	2.71	1.29
95th-Percentile Queue Length [ft/ln]	7.65	21.65	2.08	29.66	67.71	32.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.23	7.21	7.21	9.37	7.46	7.46	7.97	7.97	7.97	7.59	7.59	7.59
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.80			7.56			7.97			7.59		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.74											
Intersection LOS	A											
Intersection V/C	0.305											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.317

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	81	121	101	107	139	40	24	467	107	144	630	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	121	101	107	139	40	24	467	107	144	630	118
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	39	33	29	37	11	6	124	28	40	174	33
Total Analysis Volume [veh/h]	105	157	131	115	150	43	26	497	114	159	695	130
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	32	32	32	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.32	0.32	0.32	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.08	0.09	0.08	0.03	0.04	0.14	0.07	0.14	0.22	0.23
s, saturation flow rate [veh/h]	1257	1900	1577	1249	1900	1581	674	3618	1579	1116	1900	1780
c, Capacity [veh/h]	204	369	306	199	369	307	167	1173	512	503	844	791
d1, Uniform Delay [s]	43.76	35.46	35.47	44.52	35.31	33.44	38.47	26.51	24.65	17.69	19.91	19.96
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.29	0.35	0.99	0.27	0.08	1.99	1.12	1.01	0.13	2.13	2.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

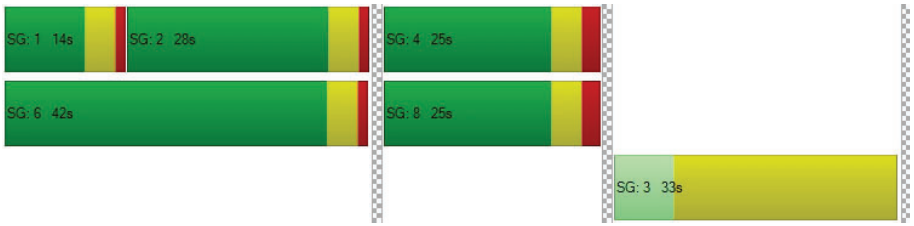
X, volume / capacity	0.51	0.43	0.43	0.58	0.41	0.14	0.16	0.42	0.22	0.32	0.50	0.51
d, Delay for Lane Group [s/veh]	44.51	35.75	35.83	45.51	35.58	33.51	40.45	27.64	25.65	17.82	22.04	22.28
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	No	No	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.54	3.33	2.79	2.82	3.17	0.86	0.66	4.76	2.10	2.21	7.36	7.01
50th-Percentile Queue Length [ft/ln]	63.41	83.29	69.66	70.61	79.24	21.48	16.49	119.02	52.38	55.23	183.96	175.36
95th-Percentile Queue Length [veh/ln]	4.57	6.00	5.02	5.08	5.71	1.55	1.19	8.34	3.77	3.98	11.81	11.36
95th-Percentile Queue Length [ft/ln]	114.13	149.92	125.38	127.10	142.63	38.67	29.69	208.48	94.29	99.41	295.18	283.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.51	35.75	35.83	45.51	35.58	33.51	40.45	27.64	25.65	17.82	22.13	22.28
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	38.11			39.00			27.80			21.46		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.34											
Intersection LOS	C											
Intersection V/C	0.317											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	26	156	52	42	278	51	22	137	84	72	141	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	156	52	42	278	51	22	137	84	72	141	65
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	44	15	13	89	16	6	39	24	20	39	18
Total Analysis Volume [veh/h]	29	176	59	54	357	65	25	156	95	80	156	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	42	42	42	42	42	42	26	26
g / C, Green / Cycle	0.42	0.42	0.42	0.42	0.42	0.42	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.04	0.04	0.11	0.12	0.17	0.24
s, saturation flow rate [veh/h]	980	1900	1556	1228	1900	1779	1653	1308
c, Capacity [veh/h]	391	800	655	493	800	750	463	380
d1, Uniform Delay [s]	23.42	18.45	17.40	22.60	18.88	18.95	32.78	36.40
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.05	0.28
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.63	0.27	0.45	0.83	0.91	0.59	10.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

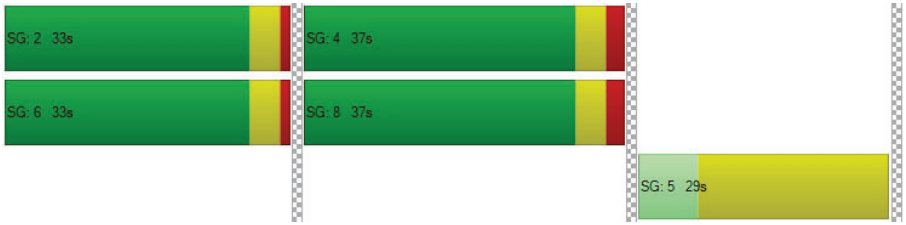
X, volume / capacity	0.07	0.22	0.09	0.11	0.27	0.28	0.60	0.81
d, Delay for Lane Group [s/veh]	23.79	19.09	17.68	23.05	19.71	19.86	33.37	46.44
Lane Group LOS	C	B	B	C	B	B	C	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.51	2.65	0.84	0.92	3.33	3.22	5.90	8.24
50th-Percentile Queue Length [ft/ln]	12.66	66.31	21.09	22.91	83.17	80.49	147.43	206.02
95th-Percentile Queue Length [veh/ln]	0.91	4.77	1.52	1.65	5.99	5.80	9.88	12.95
95th-Percentile Queue Length [ft/ln]	22.78	119.36	37.96	41.23	149.71	144.88	247.00	323.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.79	19.09	17.68	23.05	19.77	19.86	33.37	33.37	33.37	46.44	46.44	46.44
Movement LOS	C	B	B	C	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	19.29			20.15			33.37			46.44		
Approach LOS	B			C			C			D		
d_I, Intersection Delay [s/veh]	28.85											
Intersection LOS	C											
Intersection V/C	0.352											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	28	193	73	69	358	55	0	304	172	0	354	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	193	73	69	358	55	0	304	172	0	354	69
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	58	22	19	97	15	0	82	47	0	101	20
Total Analysis Volume [veh/h]	34	234	88	74	386	59	0	329	186	0	403	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	50	50	50	50	50	50	19	19	19	19
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.04	0.12	0.06	0.06	0.12	0.12	0.17	0.12	0.13	0.14
s, saturation flow rate [veh/h]	960	1900	1583	1165	1900	1801	1900	1562	1900	1780
c, Capacity [veh/h]	462	957	797	544	957	907	367	302	367	344
d1, Uniform Delay [s]	18.26	14.05	13.04	18.90	13.98	14.02	39.35	36.93	37.26	37.63
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.07	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.61	0.28	0.52	0.58	0.63	5.23	0.77	0.75	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.07	0.24	0.11	0.14	0.24	0.24	0.90	0.62	0.66	0.70
d, Delay for Lane Group [s/veh]	18.57	14.65	13.32	19.42	14.57	14.64	44.57	37.69	38.01	38.60
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.51	3.00	1.05	1.14	2.90	2.81	8.30	4.19	5.47	5.54
50th-Percentile Queue Length [ft/ln]	12.76	75.11	26.37	28.42	72.39	70.16	207.57	104.68	136.65	138.40
95th-Percentile Queue Length [veh/ln]	0.92	5.41	1.90	2.05	5.21	5.05	13.03	7.54	9.30	9.39
95th-Percentile Queue Length [ft/ln]	22.97	135.21	47.46	51.16	130.29	126.29	325.71	188.42	232.51	234.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.57	14.65	13.32	19.42	14.60	14.64	0.00	44.57	37.69	0.00	38.25	38.60
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	14.70			15.29			42.09			38.30		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.48											
Intersection LOS	C											
Intersection V/C	0.296											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	160	286	104	72	338	66	0	196	210	91	360	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	286	104	72	338	66	0	196	210	91	360	84
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	83	30	23	109	21	0	55	58	26	103	24
Total Analysis Volume [veh/h]	185	331	120	93	435	85	0	218	234	104	412	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	17	48	48	60	38	38	16	37	28	28	28
g / C, Green / Cycle	0.14	0.40	0.40	0.50	0.32	0.32	0.13	0.31	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.08	0.08	0.14	0.14	0.11	0.15	0.07	0.22	0.06
s, saturation flow rate [veh/h]	1810	1900	1568	1182	1900	1776	1900	1561	1405	1900	1563
c, Capacity [veh/h]	251	767	633	540	609	569	254	485	288	444	365
d1, Uniform Delay [s]	49.59	25.86	23.13	17.07	32.23	32.32	50.88	33.52	38.20	45.01	37.56
k, delay calibration	0.09	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.04	0.18	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.40	1.77	0.66	0.69	2.28	2.51	3.25	0.61	0.32	13.23	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

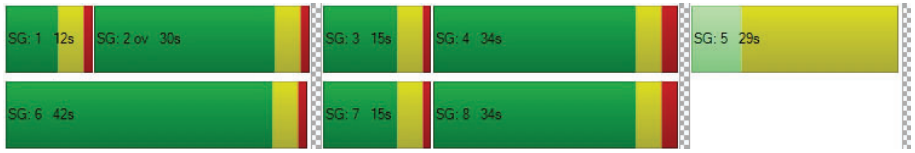
X, volume / capacity	0.74	0.43	0.19	0.17	0.44	0.45	0.86	0.48	0.36	0.93	0.26
d, Delay for Lane Group [s/veh]	52.98	27.63	23.79	17.76	34.51	34.84	54.14	34.13	38.52	58.23	37.70
Lane Group LOS	D	C	C	B	C	C	D	C	D	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.51	7.10	2.30	1.44	6.44	6.18	6.63	5.61	2.50	13.44	2.31
50th-Percentile Queue Length [ft/ln]	137.75	177.41	57.38	35.99	161.08	154.45	165.83	140.23	62.55	336.00	57.75
95th-Percentile Queue Length [veh/ln]	9.36	11.47	4.13	2.59	10.61	10.25	10.86	9.49	4.50	19.45	4.16
95th-Percentile Queue Length [ft/ln]	234.00	286.63	103.28	64.78	265.16	256.36	271.42	237.33	112.59	486.31	103.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.98	27.63	23.79	17.76	34.63	34.84	0.00	54.14	34.13	38.52	58.23	37.70
Movement LOS	D	C	C	B	C	C		D	C	D	E	D
d_A, Approach Delay [s/veh]	34.28			32.10			43.78			51.66		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	40.16											
Intersection LOS	D											
Intersection V/C	0.462											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	185	511	0	0	605	149	181	0	84	117	166	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	185	511	0	0	605	149	181	0	84	117	166	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	153	0	0	167	41	52	0	24	32	46	8
Total Analysis Volume [veh/h]	221	611	0	0	668	164	208	0	96	129	182	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	77	77	64	64		14	14
g / C, Green / Cycle	0.64	0.64	0.53	0.53		0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.27	0.17	0.22	0.24		0.10	0.10
s, saturation flow rate [veh/h]	832	3618	1900	1744		1834	1661
c, Capacity [veh/h]	521	2316	1012	929		214	193
d1, Uniform Delay [s]	10.91	9.35	16.78	17.22		51.95	51.98
k, delay calibration	0.26	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.33	0.28	1.24	1.56		3.46	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

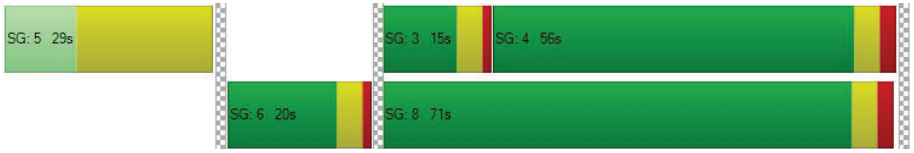
X, volume / capacity	0.42	0.26	0.41	0.45		0.84	0.85
d, Delay for Lane Group [s/veh]	12.24	9.63	18.02	18.78		55.42	55.91
Lane Group LOS	B	A	B	B		E	E
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	2.49	3.44	6.98	7.21		5.56	5.09
50th-Percentile Queue Length [ft/ln]	62.13	85.93	174.49	180.14		138.94	127.13
95th-Percentile Queue Length [veh/ln]	4.47	6.19	11.31	11.61		9.42	8.78
95th-Percentile Queue Length [ft/ln]	111.84	154.67	282.80	290.20		235.60	219.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.24	9.63	0.00	0.00	18.31	18.78	0.00	0.00	0.00	55.42	55.77	55.91
Movement LOS	B	A			B	B				E	E	E
d_A, Approach Delay [s/veh]	10.32			18.40			0.00			55.65		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	21.44											
Intersection LOS	C											
Intersection V/C	0.392											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	335	0	0	679	647	329
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	335	0	0	679	647	329
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	0	0	192	178	90
Total Analysis Volume [veh/h]	383	0	0	768	711	361
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	81	81	30	30
g / C, Green / Cycle	0.67	0.67	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.11	0.21	0.20	0.23
s, saturation flow rate [veh/h]	3618	3618	3514	1584
c, Capacity [veh/h]	2439	2439	875	394
d1, Uniform Delay [s]	7.11	8.07	42.37	43.77
k, delay calibration	0.50	0.50	0.04	0.10
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.34	0.71	8.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

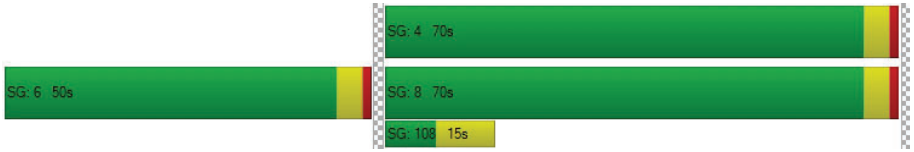
X, volume / capacity	0.16	0.31	0.81	0.92
d, Delay for Lane Group [s/veh]	7.24	8.41	43.08	52.17
Lane Group LOS	A	A	D	D
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.76	4.00	9.44	10.73
50th-Percentile Queue Length [ft/ln]	43.88	100.10	235.93	268.23
95th-Percentile Queue Length [veh/ln]	3.16	7.21	14.48	16.10
95th-Percentile Queue Length [ft/ln]	78.98	180.17	361.88	402.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	8.41	43.08	52.17
Movement LOS	A			A	D	D
d_A, Approach Delay [s/veh]	7.24		8.41		46.14	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	26.40					
Intersection LOS	C					
Intersection V/C	0.440					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	38	294	387	422	597	223	91	581	31	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	294	387	422	597	223	91	581	31	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	75	99	118	167	62	27	174	9	0	0	0
Total Analysis Volume [veh/h]	39	301	396	472	667	249	109	694	37	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	4	25	25	60	81	81	21	21	21
g / C, Green / Cycle	0.03	0.21	0.21	0.50	0.68	0.68	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.22	0.13	0.25	0.27	0.16	0.16	0.16
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1620	1866	1729	1681
c, Capacity [veh/h]	56	396	376	1755	1287	1098	330	305	297
d1, Uniform Delay [s]	57.49	44.56	47.39	17.33	8.32	8.56	48.27	48.24	48.32
k, delay calibration	0.04	0.21	0.46	0.04	0.50	0.50	0.12	0.12	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.84	5.78	59.54	0.03	0.82	1.09	9.62	9.91	11.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

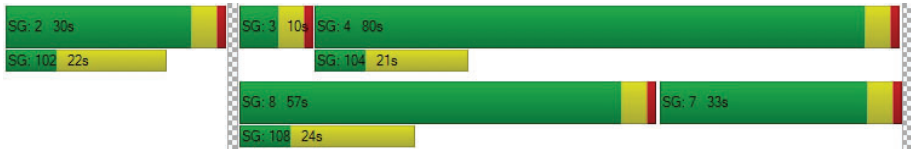
X, volume / capacity	0.70	0.76	1.05	0.27	0.37	0.40	0.90	0.90	0.91
d, Delay for Lane Group [s/veh]	63.33	50.34	106.93	17.36	9.13	9.65	57.90	58.15	59.41
Lane Group LOS	E	D	F	B	A	A	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.26	9.03	17.35	3.77	5.28	5.08	9.46	8.76	8.69
50th-Percentile Queue Length [ft/ln]	31.55	225.80	433.74	94.14	132.10	127.02	236.46	218.96	217.27
95th-Percentile Queue Length [veh/ln]	2.27	13.96	24.90	6.78	9.05	8.78	14.50	13.61	13.53
95th-Percentile Queue Length [ft/ln]	56.79	349.01	622.56	169.46	226.35	219.44	362.56	340.30	338.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.33	50.34	106.93	17.36	9.28	9.65	57.90	58.50	59.41	0.00	0.00	0.00
Movement LOS	E	D	F	B	A	A	E	E	E			
d_A, Approach Delay [s/veh]	81.47			12.09			58.47			0.00		
Approach LOS	F			B			E			A		
d_I, Intersection Delay [s/veh]	42.46											
Intersection LOS	D											
Intersection V/C	0.514											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	91	134	107	38	87	8	20	615	74	71	866	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	134	107	38	87	8	20	615	74	71	866	98
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	37	30	10	23	2	5	160	19	19	232	26
Total Analysis Volume [veh/h]	101	149	119	40	92	8	21	642	77	76	927	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.08	0.03	0.05	0.04	0.18	0.05	0.10	0.28	0.29
s, saturation flow rate [veh/h]	1157	1900	1448	1187	1837	555	3618	1425	785	1900	1741
c, Capacity [veh/h]	285	470	358	266	455	316	2243	884	475	1178	1079
d1, Uniform Delay [s]	36.39	30.64	30.77	36.11	29.87	16.30	8.75	7.61	13.09	9.94	10.15
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	0.14	0.20	0.10	0.09	0.40	0.32	0.19	0.72	1.22	1.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

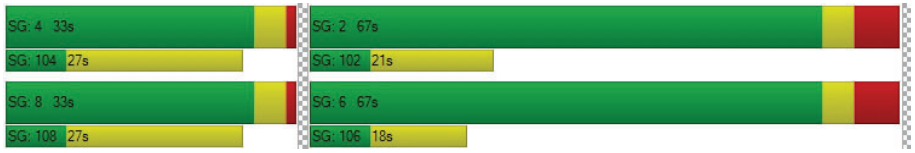
X, volume / capacity	0.35	0.32	0.33	0.15	0.22	0.07	0.29	0.09	0.16	0.45	0.47
d, Delay for Lane Group [s/veh]	36.66	30.79	30.97	36.21	29.96	16.70	9.07	7.80	13.81	11.17	11.62
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.18	2.89	2.32	0.84	1.89	0.31	3.09	0.67	0.99	5.96	5.92
50th-Percentile Queue Length [ft/ln]	54.54	72.23	58.05	20.96	47.23	7.80	77.23	16.78	24.73	148.94	147.94
95th-Percentile Queue Length [veh/ln]	3.93	5.20	4.18	1.51	3.40	0.56	5.56	1.21	1.78	9.96	9.91
95th-Percentile Queue Length [ft/ln]	98.17	130.02	104.49	37.73	85.01	14.04	139.01	30.20	44.51	249.01	247.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.66	30.79	30.97	36.21	29.96	29.96	16.70	9.07	7.80	13.81	11.36	11.62
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	32.45			31.74			9.15			11.56		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	15.27											
Intersection LOS	B											
Intersection V/C	0.379											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	119	214	49	34	193	30	25	314	51	42	218	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	214	49	34	193	30	25	314	51	42	218	62
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	58	13	10	57	9	7	91	15	13	66	19
Total Analysis Volume [veh/h]	130	233	53	40	228	35	29	364	59	51	263	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	58	58	33	33
g / C, Green / Cycle	0.58	0.58	0.58	0.58	0.58	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.08	0.04	0.14	0.28	0.30
s, saturation flow rate [veh/h]	1089	1900	1700	1077	1814	1600	1292
c, Capacity [veh/h]	617	1104	988	645	1054	562	463
d1, Uniform Delay [s]	14.15	9.50	9.56	11.35	10.26	30.68	30.96
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.13	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.78	0.25	0.30	0.18	0.57	3.39	6.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.13	0.14	0.06	0.25	0.80	0.84
d, Delay for Lane Group [s/veh]	14.93	9.75	9.86	11.54	10.83	34.07	37.00
Lane Group LOS	B	A	A	B	B	C	D
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.72	1.43	1.38	0.44	2.79	10.16	9.37
50th-Percentile Queue Length [ft/ln]	43.08	35.70	34.59	11.10	69.80	254.00	234.28
95th-Percentile Queue Length [veh/ln]	3.10	2.57	2.49	0.80	5.03	15.39	14.39
95th-Percentile Queue Length [ft/ln]	77.54	64.25	62.25	19.97	125.64	384.69	359.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.93	9.79	9.86	11.54	10.83	10.83	34.07	34.07	34.07	37.00	37.00	37.00
Movement LOS	B	A	A	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	11.41			10.92			34.07			37.00		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	24.26											
Intersection LOS	C											
Intersection V/C	0.446											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.348

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	166	296	89	65	202	59	52	412	56	45	266	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	296	89	65	202	59	52	412	56	45	266	54
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	84	25	18	57	17	15	120	16	14	83	17
Total Analysis Volume [veh/h]	189	337	101	73	228	67	61	482	65	56	332	67
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.17	0.12	0.13	0.08	0.17	0.06	0.15	0.15	0.07	0.17	0.05
s, saturation flow rate [veh/h]	1088	1900	1614	940	1740	1037	1900	1742	851	1900	1400
c, Capacity [veh/h]	215	559	475	231	512	549	1090	999	474	1090	803
d1, Uniform Delay [s]	44.95	28.24	28.62	37.37	29.95	15.48	10.64	10.74	14.88	11.01	9.54
k, delay calibration	0.07	0.04	0.04	0.04	0.06	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.36	0.18	0.24	0.29	0.55	0.41	0.57	0.66	0.51	0.72	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

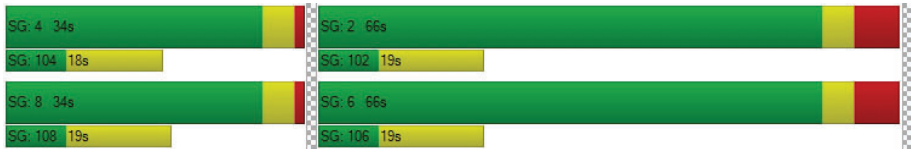
X, volume / capacity	0.88	0.41	0.44	0.32	0.58	0.11	0.26	0.27	0.12	0.30	0.08
d, Delay for Lane Group [s/veh]	52.31	28.42	28.86	37.66	30.50	15.89	11.21	11.40	15.38	11.73	9.74
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.10	4.27	4.04	1.60	5.93	0.85	3.09	3.03	0.77	3.82	0.68
50th-Percentile Queue Length [ft/ln]	127.49	106.82	100.96	39.95	148.37	21.17	77.27	75.63	19.28	95.47	16.88
95th-Percentile Queue Length [veh/ln]	8.80	7.66	7.27	2.88	9.93	1.52	5.56	5.45	1.39	6.87	1.22
95th-Percentile Queue Length [ft/ln]	220.08	191.57	181.72	71.91	248.25	38.10	139.09	136.14	34.71	171.85	30.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.31	28.56	28.86	37.66	30.50	30.50	15.89	11.29	11.40	15.38	11.73	9.74
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	35.77			31.92			11.76			11.89		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	22.71											
Intersection LOS	C											
Intersection V/C	0.348											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	91	418	78	54	123	121	98	327	41	40	359	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	418	78	54	123	121	98	327	41	40	359	75
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	110	20	15	34	34	26	87	11	11	99	21
Total Analysis Volume [veh/h]	95	439	82	60	137	135	104	348	44	44	397	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28	28	63	63	63	63	63
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.15	0.07	0.17	0.11	0.21	0.04	0.21	0.06
s, saturation flow rate [veh/h]	1124	1900	1716	888	1645	981	1832	984	1900	1435
c, Capacity [veh/h]	190	531	479	181	460	583	1151	582	1194	902
d1, Uniform Delay [s]	43.70	30.19	30.47	41.21	31.09	12.82	8.77	12.14	8.71	7.32
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.27	0.34	0.39	0.45	0.67	0.80	0.25	0.75	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.50	0.53	0.33	0.59	0.18	0.34	0.08	0.33	0.09
d, Delay for Lane Group [s/veh]	44.45	30.46	30.80	41.61	31.55	13.49	9.57	12.39	9.46	7.52
Lane Group LOS	D	C	C	D	C	B	A	B	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.29	5.28	5.09	1.39	5.56	1.29	3.85	0.51	3.87	0.69
50th-Percentile Queue Length [ft/ln]	57.35	132.05	127.15	34.65	139.05	32.37	96.37	12.85	96.71	17.15
95th-Percentile Queue Length [veh/ln]	4.13	9.05	8.78	2.49	9.43	2.33	6.94	0.93	6.96	1.24
95th-Percentile Queue Length [ft/ln]	103.23	226.28	219.62	62.36	235.75	58.26	173.47	23.14	174.08	30.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.45	30.60	30.80	41.61	31.55	31.55	13.49	9.57	9.57	12.39	9.46	7.52
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	32.76			33.36			10.39			9.40		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	21.01											
Intersection LOS	C											
Intersection V/C	0.379											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	561	71	56	22	156	0	0	0	6	168	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	561	71	56	22	156	0	0	0	6	168	65
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	154	20	17	6	46	0	0	0	2	56	21
Total Analysis Volume [veh/h]	15	617	78	66	26	184	0	0	0	6	222	86
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.17	0.06	0.04	0.13		0.17
s, saturation flow rate [veh/h]	3618	1339	1810	1581		1798
c, Capacity [veh/h]	1404	520	107	780		728
d1, Uniform Delay [s]	22.56	19.87	45.93	14.81		21.35
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.00	0.61	2.17	0.85		1.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

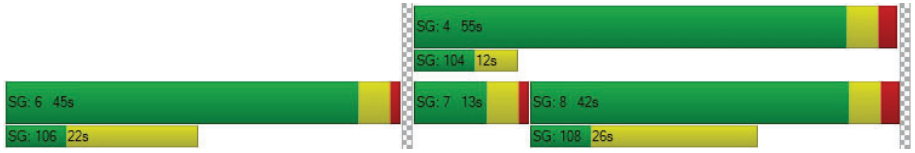
X, volume / capacity	0.44	0.15	0.62	0.27		0.42
d, Delay for Lane Group [s/veh]	23.57	20.48	48.10	15.66		23.15
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.44	1.26	1.64	2.84		5.44
50th-Percentile Queue Length [ft/ln]	135.95	31.39	41.04	70.93		135.94
95th-Percentile Queue Length [veh/ln]	9.26	2.26	2.95	5.11		9.26
95th-Percentile Queue Length [ft/ln]	231.55	56.50	73.87	127.67		231.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.57	20.48	48.10	15.66	15.66	0.00	0.00	0.00	0.00	23.15	23.15
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	23.22			23.42			0.00			23.15		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.25											
Intersection LOS	C											
Intersection V/C	0.378											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	14	137	57	111	162	39	52	342	33	33	279	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	137	57	111	162	39	52	342	33	33	279	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	40	16	31	46	11	16	103	10	9	76	33
Total Analysis Volume [veh/h]	16	158	66	125	183	44	63	413	40	36	305	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.29	0.11	0.51	0.07	0.06	0.25	0.04	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1022	1833	931	1900	1325
c, Capacity [veh/h]	275	219	291	219	486	923	388	957	667
d1, Uniform Delay [s]	19.87	15.85	25.39	15.22	14.56	11.46	17.50	10.27	9.57
k, delay calibration	0.15	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.37	0.28	68.57	0.17	0.55	1.87	0.47	0.88	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

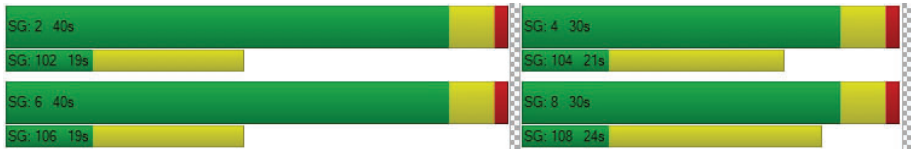
X, volume / capacity	0.63	0.30	1.06	0.20	0.13	0.49	0.09	0.32	0.20
d, Delay for Lane Group [s/veh]	23.24	16.13	93.96	15.39	15.11	13.32	17.97	11.15	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.58	0.72	10.37	0.46	0.69	4.54	0.45	2.68	1.10
50th-Percentile Queue Length [ft/ln]	64.52	18.01	259.34	11.51	17.37	113.46	11.17	67.12	27.57
95th-Percentile Queue Length [veh/ln]	4.65	1.30	16.20	0.83	1.25	8.03	0.80	4.83	1.99
95th-Percentile Queue Length [ft/ln]	116.14	32.42	404.95	20.71	31.26	200.80	20.11	120.81	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.24	23.24	16.13	93.96	93.96	15.39	15.11	13.32	13.32	17.97	11.15	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	21.28			84.14			13.54			11.42		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	29.81											
Intersection LOS	C											
Intersection V/C	0.761											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	93	130	71	20	57	13	28	405	74	50	344	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	130	71	20	57	13	28	405	74	50	344	16
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	36	20	7	21	5	9	127	23	14	94	4
Total Analysis Volume [veh/h]	104	145	79	29	84	19	35	508	93	55	376	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	36	36	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	17	17	17	17
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.03	0.06	0.04	0.34	0.07	0.21
s, saturation flow rate [veh/h]	1257	1700	1128	1805	886	1785	796	1850
c, Capacity [veh/h]	421	465	320	494	454	838	327	868
d1, Uniform Delay [s]	13.29	10.88	14.70	10.02	9.53	7.60	13.64	6.40
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	0.29	0.04	0.08	0.03	0.44	0.09	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

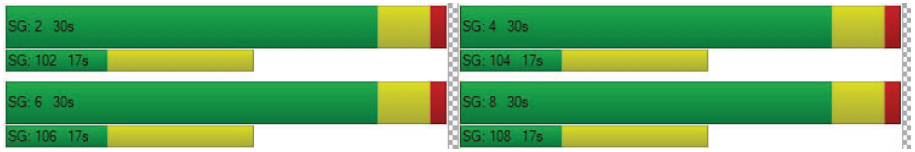
X, volume / capacity	0.25	0.48	0.09	0.21	0.08	0.72	0.17	0.45
d, Delay for Lane Group [s/veh]	13.40	11.17	14.75	10.09	9.55	8.04	13.73	6.54
Lane Group LOS	B	B	B	B	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.59	1.09	0.18	0.46	0.16	2.29	0.33	1.24
50th-Percentile Queue Length [ft/ln]	14.71	27.31	4.39	11.43	3.95	57.26	8.35	30.97
95th-Percentile Queue Length [veh/ln]	1.06	1.97	0.32	0.82	0.28	4.12	0.60	2.23
95th-Percentile Queue Length [ft/ln]	26.47	49.15	7.90	20.58	7.12	103.07	15.02	55.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.40	11.17	11.17	14.75	10.09	10.09	9.55	8.04	8.04	13.73	6.54	6.54
Movement LOS	B	B	B	B	B	B	A	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.88			11.12			8.12			7.42		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.97											
Intersection LOS	A											
Intersection V/C	0.468											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	252	346	158	51	280	26	13	682	198	138	929	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	252	346	158	51	280	26	13	682	198	138	929	63
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	92	42	16	87	8	3	179	52	37	247	17
Total Analysis Volume [veh/h]	267	366	167	63	348	32	14	715	208	147	990	67
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.21	0.19	0.11	0.06	0.10	0.10	0.02	0.20	0.14	0.16	0.27	0.05
s, saturation flow rate [veh/h]	1243	1900	1525	1014	1900	1826	573	3618	1487	929	3618	1443
c, Capacity [veh/h]	455	670	538	129	442	425	218	1592	655	522	2008	801
d1, Uniform Delay [s]	26.00	25.94	23.52	47.48	32.75	32.82	28.50	19.53	18.22	11.93	13.63	10.38
k, delay calibration	0.50	0.05	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.41	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.45	0.30	0.12	1.07	0.25	0.27	0.57	0.92	1.27	1.10	0.87	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.55	0.31	0.49	0.43	0.44	0.06	0.45	0.32	0.28	0.49	0.08
d, Delay for Lane Group [s/veh]	31.45	26.24	23.64	48.55	33.00	33.09	29.06	20.45	19.50	13.03	14.49	10.58
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.41	6.89	2.85	1.59	3.92	3.84	0.29	5.85	3.30	1.64	6.55	0.70
50th-Percentile Queue Length [ft/ln]	135.31	172.29	71.15	39.74	97.88	96.10	7.26	146.31	82.45	41.02	163.84	17.41
95th-Percentile Queue Length [veh/ln]	9.23	11.20	5.12	2.86	7.05	6.92	0.52	9.82	5.94	2.95	10.75	1.25
95th-Percentile Queue Length [ft/ln]	230.70	279.93	128.06	71.54	176.18	172.97	13.06	245.50	148.41	73.84	268.81	31.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.45	26.24	23.64	48.55	33.04	33.09	29.06	20.45	19.50	13.03	14.49	10.58
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	27.43			35.25			20.37			14.10		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	21.76											
Intersection LOS	C											
Intersection V/C	0.487											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	174	725	65	19	512	23	17	183	214	39	146	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	725	65	19	512	23	17	183	214	39	146	31
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	191	17	6	152	7	5	49	57	11	40	8
Total Analysis Volume [veh/h]	183	764	69	22	606	27	18	194	227	43	160	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	56	56	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.56	0.56	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.19	0.22	0.23	0.03	0.17	0.17	0.22	0.16	0.40	0.02
s, saturation flow rate [veh/h]	958	1900	1822	774	1900	1861	952	1461	502	1508
c, Capacity [veh/h]	641	1058	1015	516	987	967	299	399	180	411
d1, Uniform Delay [s]	7.98	12.61	12.66	7.54	13.87	13.89	30.69	31.30	32.14	27.05
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.21	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.12	1.13	1.20	0.16	0.87	0.89	5.86	0.48	104.48	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

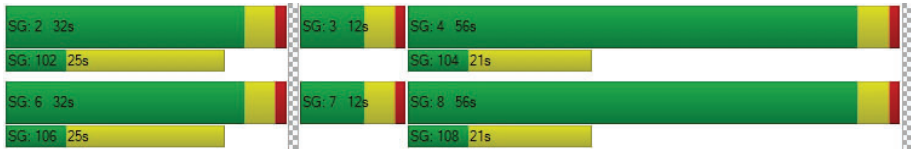
X, volume / capacity	0.29	0.40	0.40	0.04	0.32	0.33	0.71	0.57	1.12	0.08
d, Delay for Lane Group [s/veh]	9.09	13.74	13.86	7.70	14.73	14.78	36.54	31.78	136.62	27.08
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.68	5.46	5.34	0.18	4.25	4.20	4.56	4.64	8.64	0.60
50th-Percentile Queue Length [ft/ln]	41.97	136.44	133.40	4.60	106.21	105.09	114.00	116.02	216.05	14.94
95th-Percentile Queue Length [veh/ln]	3.02	9.29	9.12	0.33	7.63	7.57	8.06	8.17	14.30	1.08
95th-Percentile Queue Length [ft/ln]	75.54	232.22	228.10	8.28	190.72	189.15	201.55	204.35	357.60	26.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.09	13.79	13.86	7.70	14.76	14.78	36.54	36.54	31.78	136.62	136.62	27.08
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	12.95			14.52			34.08			120.91		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	28.24											
Intersection LOS	C											
Intersection V/C	0.635											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	126	805	96	155	579	30	25	469	204	112	319	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	805	96	155	579	30	25	469	204	112	319	150
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	207	25	41	153	8	7	130	57	31	88	41
Total Analysis Volume [veh/h]	130	828	99	164	612	32	28	521	227	123	351	165
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	44	44	55	44	44	24	24	24	36	36	36
g / C, Green / Cycle	0.55	0.44	0.44	0.55	0.44	0.44	0.24	0.24	0.24	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.13	0.25	0.25	0.20	0.17	0.17	0.03	0.21	0.22	0.12	0.18	0.11
s, saturation flow rate [veh/h]	970	1900	1805	821	1900	1853	1007	1900	1578	1012	1900	1450
c, Capacity [veh/h]	553	829	788	445	833	813	145	459	381	306	676	516
d1, Uniform Delay [s]	11.58	21.14	21.24	13.50	19.03	19.06	44.27	36.31	37.15	25.28	25.48	23.44
k, delay calibration	0.28	0.50	0.50	0.50	0.50	0.50	0.04	0.16	0.22	0.22	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	2.83	3.07	2.35	1.37	1.43	0.24	7.00	17.60	1.69	0.23	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

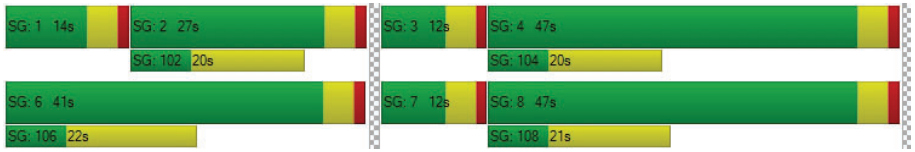
X, volume / capacity	0.24	0.57	0.58	0.37	0.39	0.39	0.19	0.86	0.93	0.40	0.52	0.32
d, Delay for Lane Group [s/veh]	12.15	23.96	24.30	15.85	20.40	20.48	44.51	43.31	54.75	26.97	25.71	23.57
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.42	8.67	8.43	2.01	5.30	5.23	0.67	9.91	10.19	2.13	6.51	2.82
50th-Percentile Queue Length [ft/ln]	35.61	216.78	210.83	50.32	132.51	130.71	16.72	247.75	254.68	53.15	162.75	70.39
95th-Percentile Queue Length [veh/ln]	2.56	13.50	13.20	3.62	9.08	8.98	1.20	15.07	15.42	3.83	10.69	5.07
95th-Percentile Queue Length [ft/ln]	64.10	337.52	329.90	90.57	226.90	224.46	30.09	376.81	385.54	95.67	267.37	126.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.15	24.11	24.30	15.85	20.44	20.48	44.51	46.12	54.75	26.97	25.71	23.57
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	22.66			19.51			48.58			25.40		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	28.55											
Intersection LOS	C											
Intersection V/C	0.576											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	165	967	100	51	848	57	50	222	207	129	229	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	967	100	51	848	57	50	222	207	129	229	72
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	262	27	14	231	16	13	57	54	35	62	19
Total Analysis Volume [veh/h]	179	1049	108	55	923	62	52	230	214	139	247	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.10	0.31	0.32	0.11	0.26	0.27	0.05	0.12	0.16	0.29	0.06
s, saturation flow rate [veh/h]	1810	1900	1778	493	1900	1814	1151	1900	1352	1352	1366
c, Capacity [veh/h]	194	978	916	128	688	657	73	488	347	480	482
d1, Uniform Delay [s]	44.25	17.02	17.31	44.22	27.58	27.82	50.00	31.41	32.81	28.81	22.20
k, delay calibration	0.10	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.09	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.28	2.71	3.18	10.19	6.52	7.40	4.86	0.26	1.54	13.31	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

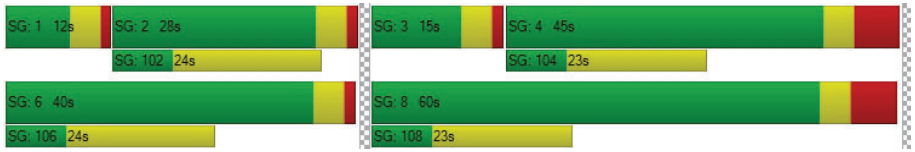
X, volume / capacity	0.92	0.60	0.62	0.43	0.72	0.74	0.72	0.47	0.62	0.80	0.16
d, Delay for Lane Group [s/veh]	59.52	19.73	20.50	54.41	34.10	35.23	54.86	31.68	34.35	42.12	22.25
Lane Group LOS	E	B	C	D	C	D	D	C	C	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	5.18	9.73	9.71	1.71	11.25	11.22	1.38	4.62	4.60	9.00	1.24
50th-Percentile Queue Length [ft/ln]	129.54	243.37	242.71	42.67	281.19	280.49	34.51	115.49	115.07	225.05	30.90
95th-Percentile Queue Length [veh/ln]	8.91	14.85	14.82	3.07	16.75	16.71	2.48	8.14	8.12	13.92	2.23
95th-Percentile Queue Length [ft/ln]	222.87	371.29	370.46	76.81	418.70	417.82	62.12	203.62	203.04	348.07	55.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.52	20.07	20.50	54.41	34.62	35.23	54.86	31.68	34.35	42.12	42.12	22.25
Movement LOS	E	C	C	D	C	D	D	C	C	D	D	C
d_A, Approach Delay [s/veh]	25.39			35.70			35.26			38.78		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	31.94											
Intersection LOS	C											
Intersection V/C	0.622											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	44.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	166	1092	54	19	1124	24	6	75	161	66	165	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	1092	54	19	1124	24	6	75	161	66	165	91
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	288	14	5	293	6	2	22	48	18	46	26
Total Analysis Volume [veh/h]	175	1152	57	20	1171	25	7	89	190	70	186	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	38	38	3	30	30	40	40
g / C, Green / Cycle	0.12	0.40	0.40	0.03	0.32	0.32	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.10	0.32	0.32	0.01	0.32	0.32	0.17	0.16
s, saturation flow rate [veh/h]	1810	1900	1853	1810	1900	1877	1646	1771
c, Capacity [veh/h]	210	760	742	58	601	594	695	747
d1, Uniform Delay [s]	41.00	25.09	25.23	44.88	32.37	32.40	19.07	18.92
k, delay calibration	0.06	0.44	0.45	0.04	0.43	0.43	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.78	7.65	8.39	1.28	33.37	35.09	1.73	1.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.80	0.81	0.34	1.00	1.00	0.40	0.39
d, Delay for Lane Group [s/veh]	45.78	32.74	33.62	46.16	65.75	67.49	20.80	20.42
Lane Group LOS	D	C	C	D	E	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.23	13.15	13.17	0.48	18.82	18.91	4.48	4.55
50th-Percentile Queue Length [ft/ln]	105.74	328.82	329.26	11.95	470.57	472.80	111.88	113.80
95th-Percentile Queue Length [veh/ln]	7.60	19.10	19.12	0.86	25.94	26.10	7.94	8.05
95th-Percentile Queue Length [ft/ln]	190.07	477.52	478.05	21.52	648.45	652.62	198.61	201.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.78	33.15	33.62	46.16	66.60	67.49	0.00	20.80	20.80	0.00	20.42	20.42
Movement LOS	D	C	C	D	E	E		C	C		C	C
d_A, Approach Delay [s/veh]	34.77			66.28			20.80			20.42		
Approach LOS	C			E			C			C		
d_I, Intersection Delay [s/veh]	44.33											
Intersection LOS	D											
Intersection V/C	0.584											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	51.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.821

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	316	666	0	0	1323	48	0	0	0	700	547	698
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	316	666	0	0	1323	48	0	0	0	700	547	698
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	91	191	0	0	348	13	0	0	0	193	150	192
Total Analysis Volume [veh/h]	363	765	0	0	1393	51	0	0	0	770	602	768
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.27	0.26		0.30	0.29	0.32	0.35
s, saturation flow rate [veh/h]	1810	3618	3618	1861		1810	1862	1569	1545
c, Capacity [veh/h]	337	2123	1310	674		609	626	528	520
d1, Uniform Delay [s]	48.76	12.98	33.24	32.91		37.84	37.38	38.66	39.77
k, delay calibration	0.46	0.50	0.50	0.50		0.36	0.33	0.39	0.49
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	69.02	0.48	3.70	6.37		14.26	11.10	23.34	53.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.36	0.74	0.71		0.90	0.87	0.94	1.05
d, Delay for Lane Group [s/veh]	117.79	13.45	36.94	39.28		52.10	48.48	62.00	93.38
Lane Group LOS	F	B	D	D		D	D	E	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	16.51	5.42	12.73	13.12		16.96	16.30	16.95	22.27
50th-Percentile Queue Length [ft/ln]	412.75	135.50	318.13	328.09		423.9	407.5	423.7	556.6
95th-Percentile Queue Length [veh/ln]	24.08	9.24	18.58	19.06		23.71	22.92	23.70	31.06
95th-Percentile Queue Length [ft/ln]	601.94	230.96	464.39	476.62		592.7	573.0	592.5	776.4

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	117.79	13.45	0.00	0.00	37.66	39.28	0.00	0.00	0.00	50.99	54.71	84.48
Movement LOS	F	B			D	D				D	D	F
d_A, Approach Delay [s/veh]	47.03			37.72			0.00			64.04		
Approach LOS	D			D			A			E		
d_I, Intersection Delay [s/veh]	51.90											
Intersection LOS	D											
Intersection V/C	0.821											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	36.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	833	714	757	1236	0	113	104	320	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	833	714	757	1236	0	113	104	320	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	231	198	203	332	0	32	30	92	0	0	0
Total Analysis Volume [veh/h]	0	924	792	813	1327	0	130	119	367	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	37	37	37	43	85	25	25	25
g / C, Green / Cycle	0.31	0.31	0.31	0.36	0.71	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.23	0.37	0.07	0.07	0.23
s, saturation flow rate [veh/h]	3618	1501	1501	3514	3618	1810	1729	1579
c, Capacity [veh/h]	1124	466	466	1273	2574	383	366	334
d1, Uniform Delay [s]	37.35	39.90	39.90	31.73	7.88	40.15	40.02	47.28
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	3.26	3.26	2.46	0.74	0.19	0.19	71.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.92	0.92	0.64	0.52	0.34	0.32	1.10
d, Delay for Lane Group [s/veh]	37.77	43.16	43.16	34.18	8.63	40.34	40.21	118.59
Lane Group LOS	D	D	D	C	A	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.23	12.35	12.35	10.15	7.32	3.26	2.98	16.45
50th-Percentile Queue Length [ft/ln]	280.80	308.79	308.79	253.70	182.89	81.62	74.48	411.20
95th-Percentile Queue Length [veh/ln]	16.73	18.12	18.12	15.37	11.75	5.88	5.36	24.28
95th-Percentile Queue Length [ft/ln]	418.21	452.88	452.88	384.31	293.78	146.91	134.07	607.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.77	43.16	34.18	8.63	0.00	40.34	40.21	118.59	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	F			
d_A, Approach Delay [s/veh]	40.46			18.34			86.93			0.00		
Approach LOS	D			B			F			A		
d_I, Intersection Delay [s/veh]	36.28											
Intersection LOS	D											
Intersection V/C	0.750											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	39.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	579	256	94	811	132	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	579	256	94	811	132	178
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	162	71	29	254	38	51
Total Analysis Volume [veh/h]	646	286	118	1017	152	204
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.21	0.15	0.28	0.18	0.28
s, saturation flow rate [veh/h]	3618	1353	776	3618	832	734
c, Capacity [veh/h]	2509	938	541	2509	145	128
d1, Uniform Delay [s]	5.72	5.96	9.22	6.53	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.10	0.36
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.84	0.92	0.49	45.40	291.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.30	0.22	0.41	1.05	1.59
d, Delay for Lane Group [s/veh]	5.97	6.80	10.15	7.02	86.67	332.70
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.30	2.26	1.27	4.15	5.32	13.45
50th-Percentile Queue Length [ft/ln]	57.44	56.45	31.64	103.68	133.01	336.31
95th-Percentile Queue Length [veh/ln]	4.14	4.06	2.28	7.47	9.28	23.01
95th-Percentile Queue Length [ft/ln]	103.39	101.61	56.95	186.63	232.06	575.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.97	6.80	10.15	7.02	86.67	332.70
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.22		7.35		227.65	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	39.28					
Intersection LOS	D					
Intersection V/C	0.559					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	26	46	62	0	6	37	15	0	16	217	37	0	14	198	15
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	26	46	62	0	6	37	15	0	16	217	37	0	14	198	15
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	15	21	0	2	11	5	0	5	61	10	0	4	55	4
Total Analysis Volume [veh/h]	0	35	62	83	0	7	46	19	0	18	244	42	0	16	220	17
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	578	674	574	654	650	750	644	742
Degree of Utilization, x	0.17	0.12	0.09	0.03	0.40	0.06	0.37	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.60	0.42	0.30	0.09	1.95	0.18	1.68	0.07
95th-Percentile Queue Length [ft]	14.98	10.48	7.60	2.24	48.69	4.44	41.97	1.76
Approach Delay [s/veh]	9.54		9.29		11.35		11.22	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.73							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	376	112	0	81	523	0	81	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	376	112	0	81	523	0	81	75
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	99	29	0	21	137	0	26	24
Total Analysis Volume [veh/h]	0	394	118	0	85	547	0	104	96
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_MD_LOS.pdf

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.21	0.07	0.08	0.29	0.07	0.08
s, saturation flow rate [veh/h]	1900	1581	1006	1900	1538	1207
c, Capacity [veh/h]	1109	867	524	1043	435	341
d1, Uniform Delay [s]	7.02	6.01	11.09	7.81	15.08	15.27
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.89	0.33	0.66	1.89	0.10	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

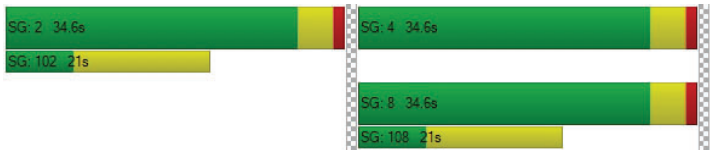
X, volume / capacity	0.36	0.14	0.16	0.52	0.24	0.28
d, Delay for Lane Group [s/veh]	7.91	6.34	11.75	9.70	15.18	15.44
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.24	0.58	0.69	3.58	0.93	0.87
50th-Percentile Queue Length [ft/ln]	55.94	14.56	17.16	89.50	23.27	21.85
95th-Percentile Queue Length [veh/ln]	4.03	1.05	1.24	6.44	1.68	1.57
95th-Percentile Queue Length [ft/ln]	100.69	26.20	30.89	161.10	41.88	39.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.91	7.91	6.34	11.75	11.75	9.70	15.18	15.18	15.44
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	7.55			9.97			15.30		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.84								
Intersection LOS	A								
Intersection V/C	0.367								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.390

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	94	31	12	65	9	13	189	34	12	136	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	94	31	12	65	9	13	189	34	12	136	18
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	3	17	2	4	58	10	4	41	5
Total Analysis Volume [veh/h]	36	112	37	13	70	10	16	231	41	14	164	22
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	692	666	738	718
Degree of Utilization, x	0.27	0.14	0.39	0.28

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.08	0.48	1.86	1.14
95th-Percentile Queue Length [ft]	26.95	12.10	46.43	28.46
Approach Delay [s/veh]	10.10	9.29	10.96	9.94
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	10.28			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	29	154	49	37	202	12	15	168	51	19	135	66
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	154	49	37	202	12	15	168	51	19	135	66
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	46	15	10	56	3	4	47	14	5	36	18
Total Analysis Volume [veh/h]	35	183	58	41	222	13	17	190	58	20	145	71
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	610	600	604	602
Degree of Utilization, x	0.45	0.46	0.44	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.35	2.41	2.23	1.86
95th-Percentile Queue Length [ft]	58.80	60.35	55.72	46.50
Approach Delay [s/veh]	13.71	14.02	13.54	12.79
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	13.54			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.863

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	96	306	33	18	247	44	21	131	101	25	98	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	306	33	18	247	44	21	131	101	25	98	21
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	85	9	5	69	12	6	36	28	7	29	6
Total Analysis Volume [veh/h]	107	340	37	20	275	49	23	145	112	29	114	25
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	518	589	503	563	533	494
Degree of Utilization, x	0.86	0.06	0.59	0.09	0.52	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.24	0.20	3.72	0.29	3.03	1.49
95th-Percentile Queue Length [ft]	231.06	5.01	93.01	7.13	75.66	37.30
Approach Delay [s/veh]	36.89		18.10		16.97	14.00
Approach LOS	E		C		C	B
Intersection Delay [s/veh]	24.44					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	71.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	23	237	153	240	179	22	74	253	51	49	225	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	237	153	240	179	22	74	253	51	49	225	112
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	67	43	67	50	6	19	66	13	14	66	33
Total Analysis Volume [veh/h]	26	266	172	270	201	25	78	265	53	57	263	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	49	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.55	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.25	0.12	0.08	0.18	0.05	0.26
s, saturation flow rate [veh/h]	1230	1689	1083	1832	1006	1793	1074	1514
c, Capacity [veh/h]	814	874	638	1005	80	327	80	276
d1, Uniform Delay [s]	6.57	14.16	9.12	10.47	45.02	36.58	45.02	36.81
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	2.05	2.06	0.52	22.84	9.00	4.29	199.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

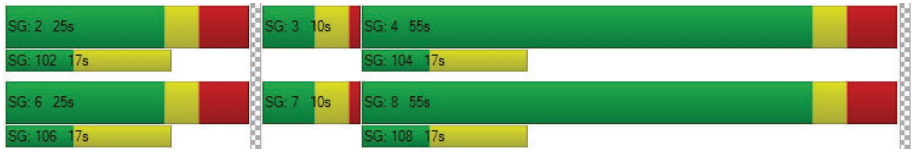
X, volume / capacity	0.03	0.50	0.42	0.22	0.97	0.97	0.71	1.43
d, Delay for Lane Group [s/veh]	6.57	16.21	11.17	10.99	67.86	45.58	49.31	235.83
Lane Group LOS	A	B	B	B	E	D	D	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.17	5.81	2.41	2.31	2.23	7.61	1.34	21.13
50th-Percentile Queue Length [ft/ln]	4.14	145.15	60.30	57.76	55.84	190.17	33.59	528.16
95th-Percentile Queue Length [veh/ln]	0.30	9.76	4.34	4.16	4.02	12.13	2.42	33.34
95th-Percentile Queue Length [ft/ln]	7.45	243.94	108.54	103.97	100.51	303.25	60.46	833.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.57	16.21	16.21	11.17	10.99	10.99	67.86	45.58	45.58	49.31	235.83	235.83
Movement LOS	A	B	B	B	B	B	E	D	D	D	F	F
d_A, Approach Delay [s/veh]	15.67			11.09			49.97			212.26		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	70.99											
Intersection LOS	E											
Intersection V/C	0.588											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.382

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	69	107	33	12	53	15	13	177	34	11	162	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	107	33	12	53	15	13	177	34	11	162	17
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	30	9	4	16	5	4	54	10	3	43	5
Total Analysis Volume [veh/h]	78	121	37	14	64	18	16	215	41	12	174	18
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	682	658	712	694
Degree of Utilization, x	0.35	0.15	0.38	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.55	0.51	1.80	1.23
95th-Percentile Queue Length [ft]	38.63	12.72	44.89	30.63
Approach Delay [s/veh]	11.05	9.40	11.15	10.34
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.71			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 2000	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.286

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	9	131	22	25	163	16	12	64	32	42	94	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	131	22	25	163	16	12	64	32	42	94	26
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	37	6	6	42	4	4	20	10	12	27	8
Total Analysis Volume [veh/h]	10	149	25	25	166	16	15	81	40	49	109	30
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	726	724	717	713
Degree of Utilization, x	0.25	0.29	0.19	0.26

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.00	1.18	0.70	1.06
95th-Percentile Queue Length [ft]	25.12	29.53	17.39	26.44
Approach Delay [s/veh]	9.64	9.96	9.19	9.85
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.70			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2133	135	0	2461	107	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2133	135	0	2461	107	28
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	580	37	0	630	29	8
Total Analysis Volume [veh/h]	2318	147	0	2519	117	31
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 7.00-06

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 5: 5 5 Existing Report File: \...\EX_MD_LOS.pdf

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	39	39	39	39
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	23	23	23	5
g / C, Green / Cycle	0.60	0.60	0.60	0.12
(v / s)_i Volume / Saturation Flow Rate	0.51	0.51	0.41	0.10
s, saturation flow rate [veh/h]	3192	1625	6089	1557
c, Capacity [veh/h]	1930	983	3682	194
d1, Uniform Delay [s]	6.24	6.13	5.17	16.42
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.74	0.08	2.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.84	0.68	0.76
d, Delay for Lane Group [s/veh]	6.67	6.87	5.25	18.77
Lane Group LOS	A	A	A	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.43	2.47	1.49	1.19
50th-Percentile Queue Length [ft/ln]	60.73	61.86	37.25	29.82
95th-Percentile Queue Length [veh/ln]	4.37	4.45	2.68	2.15
95th-Percentile Queue Length [ft/ln]	109.32	111.35	67.05	53.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.73	6.87	0.00	5.25	18.77	18.77
Movement LOS	A	A		A	B	B
d_A, Approach Delay [s/veh]	6.74		5.25		18.77	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.35					
Intersection LOS	A					
Intersection V/C	0.610					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	77.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.942

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1896	199	60	210	460	82	568	337	0	0	469	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1896	199	60	210	460	82	568	337	0	0	469	161
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	520	55	16	62	135	24	142	88	0	0	137	47
Total Analysis Volume [veh/h]	2081	218	66	246	540	96	568	351	0	0	547	188
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	139	139	139	139	139	139	139
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	66	66	66	30	30	33	33
g / C, Green / Cycle	0.47	0.47	0.47	0.22	0.22	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.43	0.44	0.20	0.28	0.28	0.22	0.19
s, saturation flow rate [veh/h]	3192	1576	1425	1597	1556	1597	3783
c, Capacity [veh/h]	1512	747	675	343	334	378	896
d1, Uniform Delay [s]	34.19	34.52	24.14	54.78	54.78	52.09	50.44
k, delay calibration	0.04	0.13	0.04	0.50	0.50	0.31	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.03	6.67	0.16	151.01	160.50	22.55	0.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.93	0.42	1.29	1.31	0.93	0.82
d, Delay for Lane Group [s/veh]	35.23	41.19	24.30	205.79	215.28	74.64	51.17
Lane Group LOS	D	D	C	F	F	E	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	21.70	23.07	6.24	26.43	26.63	14.37	8.17
50th-Percentile Queue Length [ft/ln]	542.42	576.77	155.96	660.65	665.74	359.27	204.30
95th-Percentile Queue Length [veh/ln]	29.34	30.95	10.33	39.60	40.13	20.59	12.86
95th-Percentile Queue Length [ft/ln]	733.39	773.70	258.37	989.97	1003.26	514.70	321.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.67	24.30	24.30	205.79	215.28	215.28	0.00	74.64	0.00	0.00	51.17	51.17
Movement LOS	D	C	C	F	F	F		E			D	D
d_A, Approach Delay [s/veh]	35.66			210.51			74.64			51.17		
Approach LOS	D			F			E			D		
d_I, Intersection Delay [s/veh]	77.04											
Intersection LOS	E											
Intersection V/C	0.942											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	47	96	59	0	14	86	30	0	24	194	50	0	35	176	22
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	47	96	59	0	14	86	30	0	24	194	50	0	35	176	22
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	14	28	17	0	4	25	9	0	7	56	14	0	10	51	6
Total Analysis Volume [veh/h]	0	55	112	69	0	17	102	35	0	28	224	58	0	41	206	26
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	632	612	662	647
Degree of Utilization, x	0.37	0.25	0.47	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.99	2.50	2.09
95th-Percentile Queue Length [ft]	43.21	24.80	62.52	52.37
Approach Delay [s/veh]	12.06	10.85	13.14	12.56
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.35			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.200

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	21	85	28	13	67	17	9	71	33	24	66	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	85	28	13	67	17	9	71	33	24	66	23
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	27	9	4	18	5	3	25	12	7	20	7
Total Analysis Volume [veh/h]	26	106	35	14	73	18	13	100	47	29	79	28
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	659	772	654	762	666	775	654	771
Degree of Utilization, x	0.20	0.05	0.13	0.02	0.17	0.06	0.17	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.14	0.46	0.07	0.61	0.19	0.59	0.11
95th-Percentile Queue Length [ft]	18.57	3.56	11.44	1.81	15.20	4.84	14.71	2.82
Approach Delay [s/veh]	9.12		8.79		8.75		8.93	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.91							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	888	110	268	948	0	32	1085	209	74	0	192
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	888	110	268	948	0	32	1085	209	74	0	192
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	238	30	74	261	0	8	271	52	23	0	60
Total Analysis Volume [veh/h]	36	0	953	118	295	1045	0	32	1085	209	92	0	240
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.07	0.41	0.29		0.07	0.21
s, saturation flow rate [veh/h]	1810	3618	1584	714	3618		1231	1132
c, Capacity [veh/h]	47	2511	1100	563	2625		192	177
d1, Uniform Delay [s]	72.54	9.52	7.57	6.15	7.93		57.66	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.48
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.44	0.20	3.46	0.45		0.69	191.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.38	0.11	0.52	0.40		0.48	1.36
d, Delay for Lane Group [s/veh]	81.74	9.95	7.77	9.62	8.38		58.35	254.88
Lane Group LOS	F	A	A	A	A		E	F
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.52	1.32	2.72	6.43		3.24	16.18
50th-Percentile Queue Length [ft/ln]	37.61	163.01	32.88	67.94	160.84		81.12	404.40
95th-Percentile Queue Length [veh/ln]	2.71	10.71	2.37	4.89	10.59		5.84	25.79
95th-Percentile Queue Length [ft/ln]	67.70	267.71	59.18	122.29	264.83		146.01	644.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	9.95	7.77	9.62	8.38	0.00	0.00	0.00	0.00	58.35	0.00	254.88
Movement LOS	F		A	A	A	A					E		F
d_A, Approach Delay [s/veh]	12.06				8.65			0.00			200.42		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	32.92												
Intersection LOS	C												
Intersection V/C	0.523												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPROVAL YEAR (2020) NO PROJECT CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	69.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.196

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	10	2570	2	310	3460	30	10	10	10	250	20	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	2570	2	310	3460	30	10	10	10	250	20	250
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	732	1	83	922	8	3	3	3	68	5	68
Total Analysis Volume [veh/h]	11	2927	2	330	3687	32	12	12	12	273	22	273
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	3	144	46	186	186	36	35	86
g / C, Green / Cycle	0.01	0.60	0.19	0.78	0.78	0.15	0.15	0.36
(v / s)_i Volume / Saturation Flow Rate	0.01	0.57	0.18	0.67	0.68	0.18	0.45	0.17
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1892	196	659	1594
c, Capacity [veh/h]	24	3095	347	2808	1468	49	124	571
d1, Uniform Delay [s]	117.59	44.66	95.96	18.45	18.62	92.54	106.79	59.66
k, delay calibration	0.04	0.50	0.23	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.12	7.70	22.79	3.96	7.41	64.51	640.84	2.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.95	0.95	0.87	0.87	0.73	2.37	0.48
d, Delay for Lane Group [s/veh]	122.72	52.36	118.75	22.41	26.03	157.05	747.62	62.51
Lane Group LOS	F	D	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.72	54.37	22.52	43.98	48.01	3.18	30.12	13.68
50th-Percentile Queue Length [ft/ln]	18.07	1359.37	562.95	1099.55	1200.22	79.51	752.99	341.93
95th-Percentile Queue Length [veh/ln]	1.30	66.47	30.30	54.86	59.37	5.72	49.19	19.74
95th-Percentile Queue Length [ft/ln]	32.52	1661.70	757.51	1371.46	1484.31	143.11	1229.66	493.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	122.72	52.36	0.00	118.75	23.64	26.03	157.05	157.05	157.05	747.62	747.62	62.51
Movement LOS	F	D		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	52.63			31.41			157.05			418.33		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	69.17											
Intersection LOS	E											
Intersection V/C	1.196											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	72.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.937

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	150	370	80	0	10	480	190	0	50	110	250	0	40	150	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	370	80	0	10	480	190	0	50	110	250	0	40	150	50
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	44	109	24	0	3	131	52	0	15	33	75	0	11	40	13
Total Analysis Volume [veh/h]	177	435	94	0	11	524	207	0	60	132	300	0	42	159	53
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	62	62	1	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.62	0.62	0.01	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.07	0.01	0.28	0.14	0.51	0.19	0.38	0.04
s, saturation flow rate [veh/h]	1810	1900	1425	1810	1900	1441	379	1542	535	1212
c, Capacity [veh/h]	189	1185	889	24	1013	768	117	578	142	224
d1, Uniform Delay [s]	44.46	9.17	7.57	48.94	15.04	12.72	40.18	24.26	39.06	34.76
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.50	0.13	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	0.88	0.24	4.72	1.89	0.86	322.37	0.86	222.12	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

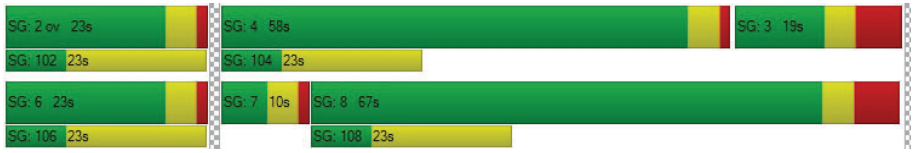
X, volume / capacity	0.94	0.37	0.11	0.45	0.52	0.27	1.64	0.52	1.41	0.24
d, Delay for Lane Group [s/veh]	53.33	10.05	7.81	53.66	16.92	13.58	362.55	25.12	261.18	34.96
Lane Group LOS	D	B	A	D	B	B	F	C	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.78	4.55	0.82	0.30	7.82	2.62	13.44	5.62	12.28	1.10
50th-Percentile Queue Length [ft/ln]	119.51	113.69	20.47	7.59	195.41	65.45	335.94	140.51	307.11	27.39
95th-Percentile Queue Length [veh/ln]	8.37	8.04	1.47	0.55	12.40	4.71	23.20	9.51	20.70	1.97
95th-Percentile Queue Length [ft/ln]	209.15	201.12	36.84	13.66	310.04	117.81	579.89	237.71	517.58	49.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.33	10.05	7.81	53.66	53.66	16.92	13.58	362.5	362.5	362.5	25.12	261.1	261.1	261.1	34.96
Movement LOS	D	B	A	D	D	B	B	F	F	F	C	F	F	F	C
d_A, Approach Delay [s/veh]	20.60			16.54				156.80				213.98			
Approach LOS	C			B				F				F			
d_I, Intersection Delay [s/veh]	72.16														
Intersection LOS	E														
Intersection V/C	0.937														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.299

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	460	250	0	220	570	0	160	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	460	250	0	220	570	0	160	120
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	127	69	0	63	163	0	45	34
Total Analysis Volume [veh/h]	0	506	275	0	252	652	0	180	135
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	61	61	61	73	73	14	14	14
g / C, Green / Cycle	0.61	0.61	0.61	0.73	0.73	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.18	0.25	0.18	0.06	0.06	0.07
s, saturation flow rate [veh/h]	1900	1729	1548	1027	3618	1691	1739	1430
c, Capacity [veh/h]	1194	1053	943	793	2625	241	248	204
d1, Uniform Delay [s]	8.87	8.87	9.28	4.68	4.59	39.31	39.15	39.51
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.51	0.78	1.05	0.23	0.50	0.44	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

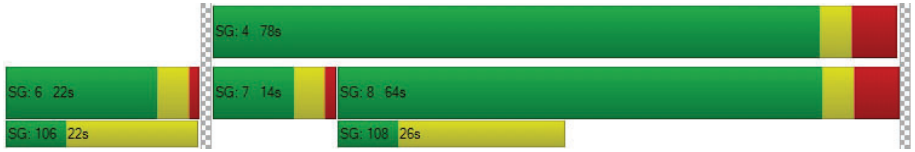
X, volume / capacity	0.22	0.23	0.29	0.32	0.25	0.46	0.43	0.49
d, Delay for Lane Group [s/veh]	9.30	9.37	10.07	5.74	4.82	39.82	39.58	40.18
Lane Group LOS	A	A	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.59	2.38	2.87	1.62	1.97	2.49	2.39	2.27
50th-Percentile Queue Length [ft/ln]	64.82	59.45	71.69	40.46	49.14	62.29	59.82	56.77
95th-Percentile Queue Length [veh/ln]	4.67	4.28	5.16	2.91	3.54	4.48	4.31	4.09
95th-Percentile Queue Length [ft/ln]	116.68	107.02	129.04	72.84	88.45	112.11	107.68	102.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.30	9.33	10.07	5.74	5.74	4.82	39.82	39.72	40.04
Movement LOS	A	A	B	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	9.59			5.08			39.85		
Approach LOS	A			A			D		
d_I, Intersection Delay [s/veh]	12.32								
Intersection LOS	B								
Intersection V/C	0.299								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	670	130	90	600	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	670	130	90	600	30	40
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	35	25	164	10	13
Total Analysis Volume [veh/h]	729	141	98	656	39	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	73	73	73	73	14
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.14
(v / s)_i Volume / Saturation Flow Rate	0.20	0.09	0.13	0.18	0.05
s, saturation flow rate [veh/h]	3618	1496	733	3618	1692
c, Capacity [veh/h]	2627	1086	535	2627	240
d1, Uniform Delay [s]	4.69	4.14	7.83	4.58	38.89
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.25	0.75	0.23	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

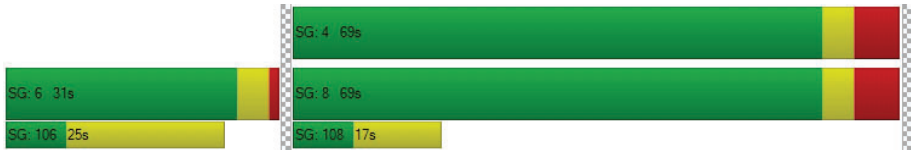
X, volume / capacity	0.28	0.13	0.18	0.25	0.38
d, Delay for Lane Group [s/veh]	4.96	4.38	8.58	4.81	39.27
Lane Group LOS	A	A	A	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.25	0.81	0.94	1.97	2.04
50th-Percentile Queue Length [ft/ln]	56.25	20.23	23.56	49.34	51.00
95th-Percentile Queue Length [veh/ln]	4.05	1.46	1.70	3.55	3.67
95th-Percentile Queue Length [ft/ln]	101.25	36.41	42.42	88.81	91.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.96	4.38	8.58	4.81	39.27	39.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.86		5.30		39.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	6.90					
Intersection LOS	A					
Intersection V/C	0.256					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	740	150	90	550	70	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	740	150	90	550	70	70
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	200	41	24	148	22	22
Total Analysis Volume [veh/h]	801	162	97	590	89	89
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	67	67	78	78	8	20
g / C, Green / Cycle	0.67	0.67	0.78	0.78	0.08	0.20
(v / s)_i Volume / Saturation Flow Rate	0.22	0.11	0.12	0.16	0.06	0.06
s, saturation flow rate [veh/h]	3618	1487	826	3618	1378	1418
c, Capacity [veh/h]	2419	994	689	2836	116	283
d1, Uniform Delay [s]	7.05	6.16	3.02	2.79	44.83	34.18
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.35	0.43	0.17	4.01	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

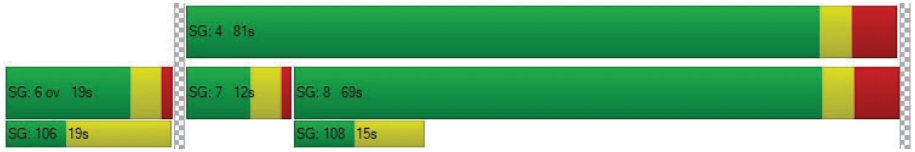
X, volume / capacity	0.33	0.16	0.14	0.21	0.77	0.31
d, Delay for Lane Group [s/veh]	7.42	6.51	3.44	2.95	48.84	34.42
Lane Group LOS	A	A	A	A	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.37	1.25	0.40	1.16	2.28	1.86
50th-Percentile Queue Length [ft/ln]	84.37	31.16	10.02	29.06	56.88	46.40
95th-Percentile Queue Length [veh/ln]	6.07	2.24	0.72	2.09	4.10	3.34
95th-Percentile Queue Length [ft/ln]	151.86	56.08	18.03	52.30	102.38	83.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.42	6.51	3.44	2.95	48.84	34.42
Movement LOS	A	A	A	A	D	C
d_A, Approach Delay [s/veh]	7.27		3.02		41.63	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.02					
Intersection LOS	A					
Intersection V/C	0.303					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	820	142	67	590	10	20	13	10	100	20	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	820	142	67	590	10	20	13	10	100	20	130
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	215	41	18	163	3	7	6	4	29	6	38
Total Analysis Volume [veh/h]	21	859	165	71	654	11	30	24	15	118	24	153
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	65	65	58	58	5	15	15
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.05	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.18	0.18	0.03	0.08	0.10
s, saturation flow rate [veh/h]	865	3618	1900	1886	1740	1824	1458
c, Capacity [veh/h]	468	1960	916	909	79	224	179
d1, Uniform Delay [s]	13.59	16.53	19.52	19.55	56.12	50.12	51.64
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.71	1.12	1.14	2.35	1.12	4.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

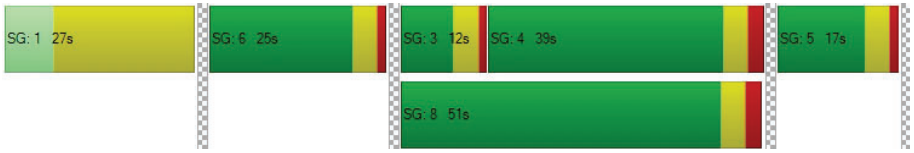
X, volume / capacity	0.04	0.44	0.36	0.37	0.57	0.64	0.86
d, Delay for Lane Group [s/veh]	13.60	17.25	20.64	20.69	58.47	51.24	56.15
Lane Group LOS	B	B	C	C	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.26	7.17	6.07	6.09	1.38	4.17	4.77
50th-Percentile Queue Length [ft/ln]	6.62	179.24	151.86	152.16	34.46	104.15	119.28
95th-Percentile Queue Length [veh/ln]	0.48	11.56	10.12	10.13	2.48	7.50	8.35
95th-Percentile Queue Length [ft/ln]	11.92	289.02	252.90	253.32	62.02	187.47	208.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.60	17.25	0.00	0.00	20.66	20.69	58.47	0.00	58.47	51.24	51.24	56.15
Movement LOS	B	B			C	C	E		E	D	D	E
d_A, Approach Delay [s/veh]	17.16			20.66			58.47			53.79		
Approach LOS	B			C			E			D		
d_I, Intersection Delay [s/veh]	25.11											
Intersection LOS	C											
Intersection V/C	0.368											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.439

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	470	780	690	30	60	460
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	780	690	30	60	460
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	215	185	8	18	135
Total Analysis Volume [veh/h]	517	858	741	32	70	539
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	80	80	80	6	30
g / C, Green / Cycle	0.16	0.67	0.67	0.67	0.05	0.25
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.20	0.02	0.04	0.20
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2668
c, Capacity [veh/h]	569	2423	2423	1082	96	677
d1, Uniform Delay [s]	49.37	8.58	8.23	6.68	55.90	41.86
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.41	0.33	0.05	3.86	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

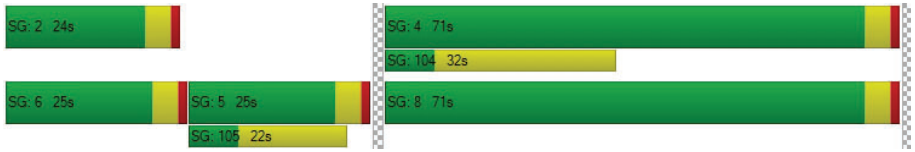
X, volume / capacity	0.91	0.35	0.31	0.03	0.73	0.80
d, Delay for Lane Group [s/veh]	51.74	8.98	8.56	6.73	59.76	42.69
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.78	4.70	3.89	0.28	2.29	7.96
50th-Percentile Queue Length [ft/ln]	194.39	117.52	97.29	7.00	57.22	198.98
95th-Percentile Queue Length [veh/ln]	12.35	8.26	7.00	0.50	4.12	12.59
95th-Percentile Queue Length [ft/ln]	308.72	206.42	175.11	12.61	103.00	314.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.74	8.98	8.56	6.73	59.76	42.69
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	25.06		8.48		44.65	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.74					
Intersection LOS	C					
Intersection V/C	0.439					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	40	110	20	0	180	0	120	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	40	110	20	0	180	0	120	180
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	11	30	5	0	47	0	32	48
Total Analysis Volume [veh/h]	0	0	0	0	43	119	22	0	190	0	127	190
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		19	19	19	31	31	31
g / C, Green / Cycle		0.21	0.21	0.21	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate		0.03	0.04	0.04	0.13	0.07	0.13
s, saturation flow rate [veh/h]		1256	1900	1758	1440	1900	1518
c, Capacity [veh/h]		265	409	378	583	662	529
d1, Uniform Delay [s]		33.92	28.83	28.90	21.43	20.50	21.87
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.28	0.20	0.23	1.48	0.14	0.41
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.16	0.17	0.18	0.33	0.19	0.36
d, Delay for Lane Group [s/veh]		34.20	29.03	29.13	22.91	20.64	22.28
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.83	1.25	1.23	3.04	1.82	2.93
50th-Percentile Queue Length [ft/ln]		20.82	31.13	30.67	76.06	45.55	73.18
95th-Percentile Queue Length [veh/ln]		1.50	2.24	2.21	5.48	3.28	5.27
95th-Percentile Queue Length [ft/ln]		37.47	56.03	55.21	136.92	81.99	131.73

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	34.20	29.07	29.13	0.00	22.91	0.00	20.64	22.28
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.28				22.11			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.40											
Intersection LOS	C											
Intersection V/C	0.491											

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Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	1140	180	110	680	0	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	1140	180	110	680	0	20
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	299	47	29	182	0	5
Total Analysis Volume [veh/h]	0	52	1197	189	118	727	0	21
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	50	50	50
g / C, Green / Cycle	0.45	0.45	0.45	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.07	0.33	0.12	0.17	0.20	0.20
s, saturation flow rate [veh/h]	722	3618	1537	675	1900	1875
c, Capacity [veh/h]	301	1610	684	357	1044	1030
d1, Uniform Delay [s]	23.41	20.74	15.82	14.56	11.39	11.40
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.25	3.16	1.00	2.47	0.97	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

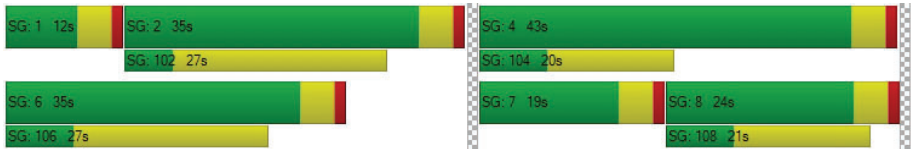
X, volume / capacity	0.17	0.74	0.28	0.33	0.36	0.36
d, Delay for Lane Group [s/veh]	24.66	23.90	16.83	17.02	12.35	12.38
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.92	10.53	2.56	1.30	4.20	4.17
50th-Percentile Queue Length [ft/ln]	22.88	263.17	63.91	32.54	105.06	104.24
95th-Percentile Queue Length [veh/ln]	1.65	15.85	4.60	2.34	7.56	7.51
95th-Percentile Queue Length [ft/ln]	41.18	396.19	115.04	58.57	189.11	187.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.66	23.90	16.83	17.02	12.37	0.00	12.38
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	23.00				13.00			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.40							
Intersection LOS	C							
Intersection V/C	0.491							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	36.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	40	80	130	20	70	40	30	300	60	80	270	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	80	130	20	70	40	30	300	60	80	270	50
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	22	35	6	22	12	11	113	23	21	70	13
Total Analysis Volume [veh/h]	43	87	141	25	87	50	45	453	91	83	281	52
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.13	0.24	0.04	0.13	0.06	0.09	0.09	0.09
s, saturation flow rate [veh/h]	1272	1698	678	1064	3618	1589	953	1900	1770
c, Capacity [veh/h]	73	263	140	491	1709	751	426	898	836
d1, Uniform Delay [s]	50.01	41.24	41.96	19.18	15.91	14.76	21.63	15.28	15.33
k, delay calibration	0.04	0.04	0.22	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.76	3.35	99.73	0.37	0.38	0.33	1.02	0.47	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.87	1.16	0.09	0.27	0.12	0.19	0.19	0.20
d, Delay for Lane Group [s/veh]	52.77	44.60	141.70	19.55	16.29	15.09	22.65	15.75	15.86
Lane Group LOS	D	D	F	B	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.12	5.61	7.33	0.71	3.13	1.20	1.44	2.30	2.24
50th-Percentile Queue Length [ft/ln]	27.93	140.30	183.28	17.63	78.31	30.08	36.09	57.61	55.92
95th-Percentile Queue Length [veh/ln]	2.01	9.50	12.48	1.27	5.64	2.17	2.60	4.15	4.03
95th-Percentile Queue Length [ft/ln]	50.27	237.43	311.95	31.73	140.96	54.14	64.96	103.69	100.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.77	44.60	44.60	141.70	141.70	141.70	19.55	16.29	15.09	22.65	15.79	15.86
Movement LOS	D	D	D	F	F	F	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	45.90			141.70			16.35			17.17		
Approach LOS	D			F			B			B		
d_I, Intersection Delay [s/veh]	36.28											
Intersection LOS	D											
Intersection V/C	0.364											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	30	170	60	30	100	60	80	80	30	30	60	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	170	60	30	100	60	80	80	30	30	60	120
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	51	18	9	30	18	23	23	8	9	17	34
Total Analysis Volume [veh/h]	36	205	72	36	120	72	90	90	34	34	69	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	52	52
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.03	0.11	0.05	0.03	0.11	0.16	0.22
s, saturation flow rate [veh/h]	1210	1900	1546	1196	1759	1346	1100
c, Capacity [veh/h]	133	338	275	134	313	751	613
d1, Uniform Delay [s]	46.47	37.88	35.44	46.36	37.93	13.88	14.74
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.66	0.19	0.40	0.73	0.95	1.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.61	0.26	0.27	0.61	0.29	0.39
d, Delay for Lane Group [s/veh]	46.87	38.53	35.63	46.75	38.66	14.83	16.61
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	4.59	1.50	0.88	4.31	2.90	3.53
50th-Percentile Queue Length [ft/ln]	21.94	114.75	37.56	21.91	107.76	72.40	88.31
95th-Percentile Queue Length [veh/ln]	1.58	8.10	2.70	1.58	7.72	5.21	6.36
95th-Percentile Queue Length [ft/ln]	39.49	202.59	67.61	39.43	192.89	130.32	158.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.87	38.53	35.63	46.75	38.66	38.66	14.83	14.83	14.83	16.61	16.61	16.61
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	38.82			39.94			14.83			16.61		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	28.56											
Intersection LOS	C											
Intersection V/C	0.327											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	50	210	90	40	90	30	70	130	40	30	110	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	210	90	40	90	30	70	130	40	30	110	140
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	59	25	13	29	10	18	34	10	8	30	38
Total Analysis Volume [veh/h]	56	237	101	52	117	39	73	135	41	33	121	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.04	0.12	0.11	0.04	0.09	0.21	0.03	0.14	0.10
s, saturation flow rate [veh/h]	1250	1900	900	1161	1803	983	1566	1100	1584
c, Capacity [veh/h]	195	365	173	142	347	544	789	598	799
d1, Uniform Delay [s]	42.49	37.22	36.69	46.19	35.66	20.86	12.61	15.33	13.60
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.73	1.16	0.59	0.34	2.03	0.12	1.04	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

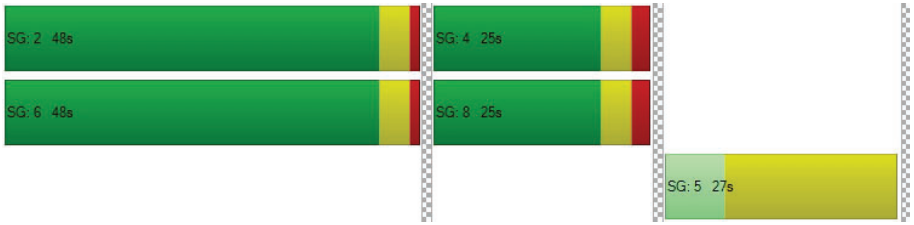
X, volume / capacity	0.29	0.65	0.58	0.37	0.45	0.38	0.05	0.26	0.19
d, Delay for Lane Group [s/veh]	42.79	37.94	37.85	46.78	36.00	22.89	12.73	16.37	14.14
Lane Group LOS	D	D	D	D	D	C	B	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.30	5.30	2.25	1.27	3.33	4.23	0.49	2.00	1.98
50th-Percentile Queue Length [ft/ln]	32.49	132.41	56.25	31.82	83.16	105.63	12.14	49.91	49.39
95th-Percentile Queue Length [veh/ln]	2.34	9.07	4.05	2.29	5.99	7.60	0.87	3.59	3.56
95th-Percentile Queue Length [ft/ln]	58.48	226.76	101.26	57.28	149.70	189.90	21.85	89.84	88.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.79	37.94	37.85	46.78	36.00	36.00	22.89	22.89	12.73	16.37	16.37	14.14
Movement LOS	D	D	D	D	D	D	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	38.61			38.69			21.21			15.25		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	28.68											
Intersection LOS	C											
Intersection V/C	0.336											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	26.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	30	260	80	40	100	10	80	110	50	60	110	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	260	80	40	100	10	80	110	50	60	110	150
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	75	23	12	29	3	22	31	14	19	35	48
Total Analysis Volume [veh/h]	35	301	93	47	117	12	90	124	56	77	142	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23	23	45	45	45	45	45
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.06	0.04	0.07	0.07	0.10	0.06	0.07	0.12
s, saturation flow rate [veh/h]	1281	1900	1546	1095	1859	1266	1777	1223	1900	1553
c, Capacity [veh/h]	262	433	352	138	423	562	800	524	855	699
d1, Uniform Delay [s]	37.28	35.43	31.73	46.13	32.04	20.22	16.82	21.20	16.34	17.26
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.76	0.15	0.54	0.15	0.61	0.65	0.59	0.42	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

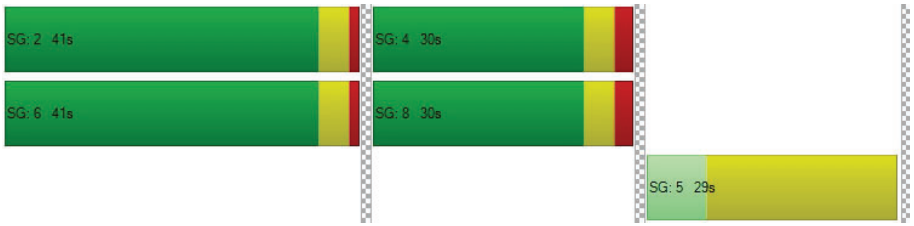
X, volume / capacity	0.13	0.70	0.26	0.34	0.30	0.16	0.23	0.15	0.17	0.28
d, Delay for Lane Group [s/veh]	37.36	36.19	31.87	46.67	32.19	20.83	17.47	21.79	16.75	18.24
Lane Group LOS	D	D	C	D	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	6.65	1.83	1.15	2.56	1.44	2.58	1.27	1.97	2.87
50th-Percentile Queue Length [ft/ln]	18.63	166.22	45.72	28.74	63.98	36.09	64.55	31.74	49.17	71.78
95th-Percentile Queue Length [veh/ln]	1.34	10.88	3.29	2.07	4.61	2.60	4.65	2.29	3.54	5.17
95th-Percentile Queue Length [ft/ln]	33.53	271.94	82.29	51.73	115.16	64.96	116.18	57.13	88.50	129.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.36	36.19	31.87	46.67	32.19	32.19	20.83	17.47	17.47	21.79	16.75	18.24
Movement LOS	D	D	C	D	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.35			36.06			18.59			18.39		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.50											
Intersection LOS	C											
Intersection V/C	0.283											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.294

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	20	290	0	29	120	50	66	90	0	20	170	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	290	0	29	120	50	66	90	0	20	170	150
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	82	0	8	31	13	20	27	0	6	47	42
Total Analysis Volume [veh/h]	23	329	0	31	123	51	79	108	0	22	189	166
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23		68	68
g / C, Green / Cycle	0.19	0.19	0.19	0.19		0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.07	0.03		0.11	0.12
s, saturation flow rate [veh/h]	1263	1863	1863	1545		1890	1449
c, Capacity [veh/h]	210	357	357	296		1066	817
d1, Uniform Delay [s]	47.44	47.56	41.93	40.50		12.78	12.90
k, delay calibration	0.04	0.09	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.08	8.82	0.21	0.10		0.41	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.92	0.34	0.17		0.19	0.21
d, Delay for Lane Group [s/veh]	47.53	56.38	42.14	40.60		13.19	13.48
Lane Group LOS	D	E	D	D		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	10.48	3.16	1.26		2.87	2.42
50th-Percentile Queue Length [ft/ln]	15.63	261.96	78.92	31.60		71.76	60.51
95th-Percentile Queue Length [veh/ln]	1.13	15.79	5.68	2.28		5.17	4.36
95th-Percentile Queue Length [ft/ln]	28.13	394.68	142.05	56.88		129.17	108.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.53	56.38	0.00	0.00	42.14	40.60	0.00	0.00	0.00	13.19	13.19	13.48
Movement LOS	D	E			D	D				B	B	B
d_A, Approach Delay [s/veh]	55.81			41.69			0.00			13.32		
Approach LOS	E			D			A			B		
d_I, Intersection Delay [s/veh]	35.35											
Intersection LOS	D											
Intersection V/C	0.294											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	13.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	40	30	0	20	430	0	360	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	30	0	20	430	0	360	100
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	9	0	5	115	0	95	26
Total Analysis Volume [veh/h]	0	46	34	0	21	460	0	380	105
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	6	58	58	58	58
g / C, Green / Cycle	0.06	0.06	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.13	0.14	0.14
s, saturation flow rate [veh/h]	1810	1544	925	3618	1900	1579
c, Capacity [veh/h]	114	97	516	2079	1128	907
d1, Uniform Delay [s]	45.04	44.88	13.86	10.36	10.48	10.54
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	0.80	0.15	0.25	0.48	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.35	0.04	0.22	0.23	0.25
d, Delay for Lane Group [s/veh]	45.89	45.68	14.01	10.61	10.96	11.18
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.11	0.82	0.27	2.42	2.85	2.49
50th-Percentile Queue Length [ft/ln]	27.73	20.46	6.74	60.51	71.26	62.21
95th-Percentile Queue Length [veh/ln]	2.00	1.47	0.49	4.36	5.13	4.48
95th-Percentile Queue Length [ft/ln]	49.91	36.83	12.13	108.92	128.26	111.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.89	45.89	45.68	14.01	14.01	10.61	10.96	11.03	11.18
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	45.80			10.75			11.07		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	13.58								
Intersection LOS	B								
Intersection V/C	0.167								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	100	40	70	140	50	30	210	30	50	200	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	100	40	70	140	50	30	210	30	50	200	60
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	28	11	19	37	13	8	57	8	14	57	17
Total Analysis Volume [veh/h]	22	112	45	74	149	53	33	229	33	57	228	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	11	11
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.26	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.06	0.03	0.06	0.08	0.03	0.17	0.21
s, saturation flow rate [veh/h]	1238	1900	1480	1265	1900	1517	1782	1693
c, Capacity [veh/h]	434	504	393	460	504	403	851	822
d1, Uniform Delay [s]	10.28	7.75	7.52	10.31	7.92	7.56	5.90	6.19
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.08	0.05	0.06	0.12	0.05	0.09	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.22	0.11	0.16	0.30	0.13	0.35	0.43
d, Delay for Lane Group [s/veh]	10.30	7.83	7.57	10.37	8.04	7.61	5.99	6.32
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.29	0.12	0.28	0.44	0.15	0.68	0.76
50th-Percentile Queue Length [ft/ln]	1.93	7.37	2.89	6.98	10.95	3.73	16.98	18.89
95th-Percentile Queue Length [veh/ln]	0.14	0.53	0.21	0.50	0.79	0.27	1.22	1.36
95th-Percentile Queue Length [ft/ln]	3.48	13.26	5.20	12.56	19.72	6.71	30.57	34.00

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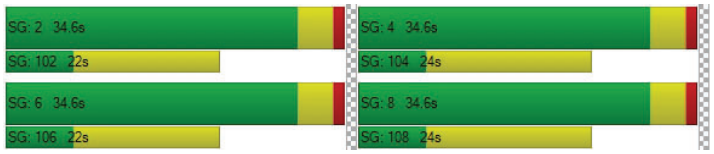
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.30	7.83	7.57	10.37	8.04	7.61	5.99	5.99	5.99	6.32	6.32	6.32
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.07			8.58			5.99			6.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.08											
Intersection LOS	A											
Intersection V/C	0.287											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	120	20	20	250	40	20	130	70	40	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	120	20	20	250	40	20	130	70	40	140	30
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	33	6	6	76	12	6	40	22	12	41	9
Total Analysis Volume [veh/h]	22	132	22	24	302	48	25	160	86	47	163	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	8	8
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.02	0.19	0.16	0.14
s, saturation flow rate [veh/h]	1015	1828	1215	1821	1745	1760
c, Capacity [veh/h]	395	635	537	632	678	696
d1, Uniform Delay [s]	10.41	6.12	8.23	6.93	7.54	7.39
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.07	0.01	0.28	0.14	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

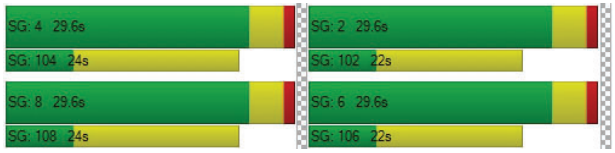
X, volume / capacity	0.06	0.24	0.04	0.55	0.40	0.35
d, Delay for Lane Group [s/veh]	10.43	6.19	8.24	7.22	7.69	7.50
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.08	0.29	0.07	0.76	1.16	0.58
50th-Percentile Queue Length [ft/ln]	1.91	7.20	1.63	18.96	28.89	14.42
95th-Percentile Queue Length [veh/ln]	0.14	0.52	0.12	1.36	2.08	1.04
95th-Percentile Queue Length [ft/ln]	3.44	12.96	2.94	34.12	51.99	25.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.43	6.19	6.19	8.24	7.22	7.22	7.69	7.69	7.69	7.50	7.50	7.50
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.72			7.28			7.69			7.50		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.34											
Intersection LOS	A											
Intersection V/C	0.347											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	50	130	60	60	210	30	40	360	60	120	420	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	130	60	60	210	30	40	360	60	120	420	150
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	42	19	16	56	8	11	98	16	31	110	39
Total Analysis Volume [veh/h]	65	169	78	65	226	32	43	390	65	126	440	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.05	0.05	0.12	0.02	0.05	0.11	0.04	0.11	0.16	0.17
s, saturation flow rate [veh/h]	1173	1900	1579	1236	1900	1586	834	3618	1588	1182	1900	1704
c, Capacity [veh/h]	148	368	306	190	368	308	234	1190	522	548	844	757
d1, Uniform Delay [s]	46.41	35.75	34.26	43.30	36.97	33.24	34.28	25.30	23.54	17.04	18.51	18.59
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.76	0.33	0.16	0.40	0.62	0.05	1.72	0.74	0.49	0.08	1.24	1.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

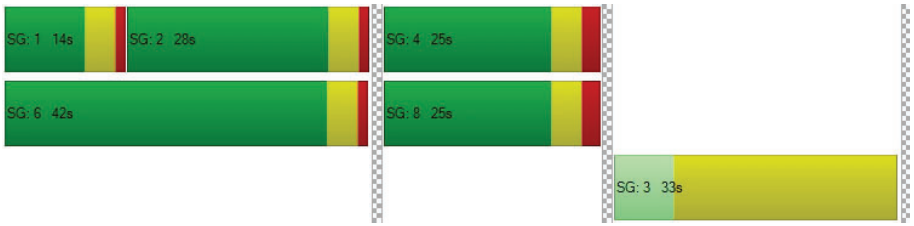
X, volume / capacity	0.44	0.46	0.25	0.34	0.61	0.10	0.18	0.33	0.12	0.23	0.37	0.38
d, Delay for Lane Group [s/veh]	47.17	36.08	34.42	43.70	37.59	33.29	36.00	26.04	24.03	17.12	19.75	20.02
Lane Group LOS	D	D	C	D	D	C	D	C	C	B	B	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.61	3.62	1.60	1.53	5.02	0.64	1.00	3.57	1.14	1.71	4.97	4.61
50th-Percentile Queue Length [ft/ln]	40.19	90.39	39.95	38.35	125.40	15.88	24.91	89.18	28.48	42.87	124.37	115.37
95th-Percentile Queue Length [veh/ln]	2.89	6.51	2.88	2.76	8.69	1.14	1.79	6.42	2.05	3.09	8.63	8.14
95th-Percentile Queue Length [ft/ln]	72.33	162.70	71.91	69.03	217.23	28.58	44.83	160.52	51.27	77.17	215.81	203.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.17	36.08	34.42	43.70	37.59	33.29	36.00	26.04	24.03	17.12	19.83	20.02
Movement LOS	D	D	C	D	D	C	D	C	C	B	B	C
d_A, Approach Delay [s/veh]	37.98			38.39			26.64			19.40		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	27.77											
Intersection LOS	C											
Intersection V/C	0.287											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.311

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	50	220	50	20	280	40	10	90	50	40	150	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	220	50	20	280	40	10	90	50	40	150	60
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	62	14	5	77	11	3	27	15	12	45	18
Total Analysis Volume [veh/h]	56	247	56	22	306	44	12	109	60	48	179	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	48	48	48	48	48	48	20	20
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.48	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.04	0.02	0.09	0.10	0.11	0.18
s, saturation flow rate [veh/h]	1047	1900	1558	1151	1900	1803	1720	1647
c, Capacity [veh/h]	493	911	747	509	911	865	378	367
d1, Uniform Delay [s]	18.87	15.56	14.04	19.63	14.93	14.97	35.83	39.19
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.73	0.20	0.16	0.48	0.52	0.35	6.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

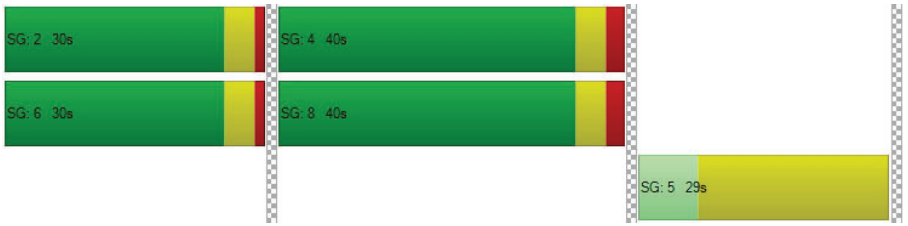
X, volume / capacity	0.11	0.27	0.07	0.04	0.19	0.20	0.48	0.81
d, Delay for Lane Group [s/veh]	19.34	16.29	14.23	19.79	15.40	15.48	36.18	45.99
Lane Group LOS	B	B	B	B	B	B	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.86	3.41	0.70	0.34	2.34	2.29	3.94	7.67
50th-Percentile Queue Length [ft/ln]	21.57	85.22	17.50	8.49	58.56	57.29	98.56	191.75
95th-Percentile Queue Length [veh/ln]	1.55	6.14	1.26	0.61	4.22	4.12	7.10	12.21
95th-Percentile Queue Length [ft/ln]	38.83	153.40	31.50	15.29	105.40	103.11	177.40	305.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.34	16.29	14.23	19.79	15.44	15.48	36.18	36.18	36.18	45.99	45.99	45.99
Movement LOS	B	B	B	B	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	16.44			15.70			36.18			45.99		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	26.44											
Intersection LOS	C											
Intersection V/C	0.311											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.294

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	50	300	80	40	330	10	0	180	70	0	210	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	300	80	40	330	10	0	180	70	0	210	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	89	24	11	92	3	0	50	19	0	55	13
Total Analysis Volume [veh/h]	60	357	95	44	367	11	0	201	78	0	222	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	57	57	57	57	13	13	13	13
g / C, Green / Cycle	0.57	0.57	0.57	0.57	0.57	0.57	0.13	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.06	0.04	0.10	0.10	0.11	0.05	0.07	0.08
s, saturation flow rate [veh/h]	1021	1900	1587	1041	1900	1879	1900	1564	1900	1759
c, Capacity [veh/h]	579	1085	907	534	1085	1073	240	197	240	222
d1, Uniform Delay [s]	13.47	11.32	9.78	16.16	10.21	10.22	42.68	40.17	41.14	41.40
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	0.81	0.23	0.30	0.35	0.36	2.99	0.48	0.81	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.33	0.10	0.08	0.17	0.18	0.84	0.40	0.57	0.62
d, Delay for Lane Group [s/veh]	13.83	12.13	10.01	16.46	10.56	10.57	45.68	40.65	41.95	42.45
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.75	4.11	0.95	0.61	1.96	1.94	5.01	1.78	3.22	3.26
50th-Percentile Queue Length [ft/ln]	18.75	102.64	23.65	15.28	48.91	48.62	125.20	44.56	80.62	81.40
95th-Percentile Queue Length [veh/ln]	1.35	7.39	1.70	1.10	3.52	3.50	8.68	3.21	5.80	5.86
95th-Percentile Queue Length [ft/ln]	33.76	184.76	42.57	27.50	88.04	87.52	216.96	80.21	145.11	146.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.83	12.13	10.01	16.46	10.57	10.57	0.00	45.68	40.65	0.00	42.14	42.45
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	11.94			11.18			44.27			42.20		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.38											
Intersection LOS	C											
Intersection V/C	0.294											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	130	410	170	20	290	50	0	160	50	110	220	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	410	170	20	290	50	0	160	50	110	220	50
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	112	46	5	75	13	0	44	14	31	62	14
Total Analysis Volume [veh/h]	142	448	186	21	299	51	0	175	55	124	248	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	55	55	63	47	47	13	29	25	25	25
g / C, Green / Cycle	0.09	0.45	0.45	0.52	0.39	0.39	0.11	0.24	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.08	0.24	0.12	0.02	0.09	0.10	0.09	0.03	0.08	0.13	0.04
s, saturation flow rate [veh/h]	1810	1900	1573	1041	1900	1783	1900	1588	1461	1900	1590
c, Capacity [veh/h]	170	863	714	467	741	695	207	383	287	398	333
d1, Uniform Delay [s]	53.47	23.40	20.28	15.73	24.64	24.73	52.49	35.79	40.83	43.18	38.91
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.11	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.05	2.23	0.88	0.18	0.76	0.85	3.61	0.06	1.07	0.60	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

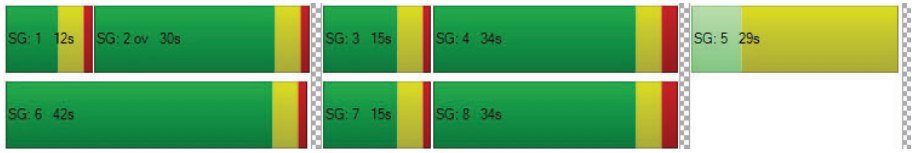
X, volume / capacity	0.83	0.52	0.26	0.04	0.24	0.25	0.84	0.14	0.43	0.62	0.17
d, Delay for Lane Group [s/veh]	57.52	25.62	21.16	15.91	25.41	25.58	56.10	35.85	41.90	43.78	39.00
Lane Group LOS	E	C	C	B	C	C	E	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.37	9.37	3.35	0.30	3.53	3.45	5.38	1.28	3.18	6.70	1.36
50th-Percentile Queue Length [ft/ln]	109.16	234.17	83.85	7.39	88.37	86.18	134.49	32.09	79.57	167.57	33.97
95th-Percentile Queue Length [veh/ln]	7.79	14.39	6.04	0.53	6.36	6.20	9.18	2.31	5.73	10.95	2.45
95th-Percentile Queue Length [ft/ln]	194.83	359.65	150.92	13.30	159.07	155.12	229.58	57.77	143.23	273.72	61.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.52	25.62	21.16	15.91	25.48	25.58	0.00	56.10	35.85	41.90	43.78	39.00
Movement LOS	E	C	C	B	C	C		E	D	D	D	D
d_A, Approach Delay [s/veh]	30.39			24.95			51.26			42.61		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	34.83											
Intersection LOS	C											
Intersection V/C	0.394											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	270	720	0	0	400	30	181	0	84	100	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	720	0	0	400	30	181	0	84	100	80	40
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	209	0	0	111	8	52	0	24	27	22	11
Total Analysis Volume [veh/h]	314	836	0	0	444	33	208	0	96	110	88	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	80	80	65	65		11	11
g / C, Green / Cycle	0.67	0.67	0.54	0.54		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.29	0.23	0.13	0.13		0.07	0.07
s, saturation flow rate [veh/h]	1079	3618	1900	1844		1821	1604
c, Capacity [veh/h]	742	2415	1024	994		162	143
d1, Uniform Delay [s]	8.52	8.63	14.58	14.65		53.54	53.63
k, delay calibration	0.22	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.79	0.39	0.53	0.57		3.14	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

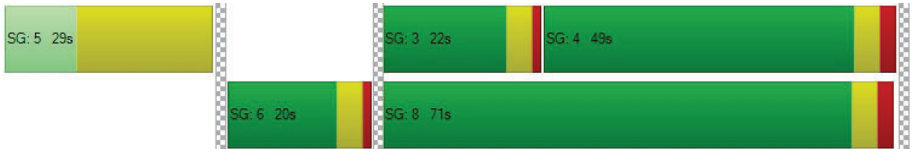
X, volume / capacity	0.42	0.35	0.23	0.24		0.78	0.80
d, Delay for Lane Group [s/veh]	9.31	9.02	15.11	15.22		56.68	57.56
Lane Group LOS	A	A	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	3.28	4.59	3.49	3.51		3.94	3.58
50th-Percentile Queue Length [ft/ln]	81.91	114.67	87.19	87.70		98.40	89.47
95th-Percentile Queue Length [veh/ln]	5.90	8.10	6.28	6.31		7.08	6.44
95th-Percentile Queue Length [ft/ln]	147.44	202.47	156.94	157.86		177.11	161.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.31	9.02	0.00	0.00	15.16	15.22	0.00	0.00	0.00	56.68	57.39	57.56
Movement LOS	A	A			B	B				E	E	E
d_A, Approach Delay [s/veh]	9.10			15.17			0.00			57.10		
Approach LOS	A			B			A			E		
d_I, Intersection Delay [s/veh]	16.86											
Intersection LOS	B											
Intersection V/C	0.303											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.704

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	430	0	0	580	850	540
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	430	0	0	580	850	540
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	0	0	174	221	141
Total Analysis Volume [veh/h]	475	0	0	697	885	562
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.13	0.19	0.35	0.51
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	492
d1, Uniform Delay [s]	15.65	16.84	21.22	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	0.83	0.48	85.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.43	0.79	1.14
d, Delay for Lane Group [s/veh]	16.11	17.67	21.70	110.30
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.08	4.88	6.76	20.40
50th-Percentile Queue Length [ft/ln]	76.88	121.98	169.06	509.96
95th-Percentile Queue Length [veh/ln]	5.54	8.50	11.03	30.41
95th-Percentile Queue Length [ft/ln]	138.38	212.55	275.68	760.17

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Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.11	0.00	0.00	17.67	21.70	110.30
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.11		17.67		56.11	
Approach LOS	B		B		E	
d_I, Intersection Delay [s/veh]	38.63					
Intersection LOS	D					
Intersection V/C	0.704					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	390	440	280	830	210	50	540	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	390	440	280	830	210	50	540	70	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	109	123	77	227	57	16	174	23	0	0	0
Total Analysis Volume [veh/h]	34	437	493	306	908	230	64	697	90	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	34	56	56	17	17	17
g / C, Green / Cycle	0.03	0.28	0.28	0.38	0.62	0.62	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.32	0.09	0.31	0.33	0.16	0.16	0.17
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1679	1880	1729	1615
c, Capacity [veh/h]	59	528	426	1331	1185	1047	357	329	307
d1, Uniform Delay [s]	42.90	30.48	32.50	19.02	9.20	9.50	35.22	35.21	35.35
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	13.91	94.27	0.03	1.47	1.91	2.26	2.42	2.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

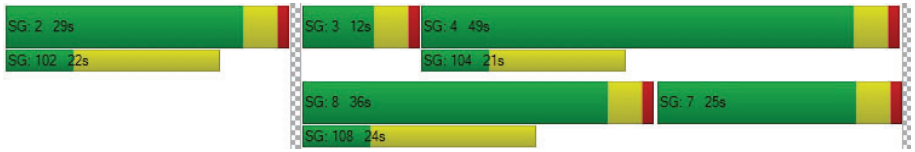
X, volume / capacity	0.57	0.83	1.16	0.23	0.49	0.53	0.85	0.85	0.87
d, Delay for Lane Group [s/veh]	46.12	44.39	126.76	19.06	10.67	11.41	37.48	37.63	38.31
Lane Group LOS	D	D	F	B	B	B	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.79	10.65	20.10	2.12	5.98	5.93	6.46	5.94	5.72
50th-Percentile Queue Length [ft/ln]	19.78	266.22	502.45	53.12	149.39	148.16	161.42	148.50	143.11
95th-Percentile Queue Length [veh/ln]	1.42	16.00	29.86	3.82	9.98	9.92	10.62	9.94	9.65
95th-Percentile Queue Length [ft/ln]	35.61	400.01	746.40	95.62	249.62	247.98	265.61	248.43	241.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	44.39	126.76	19.06	10.93	11.41	37.48	37.75	38.31	0.00	0.00	0.00
Movement LOS	D	D	F	B	B	B	D	D	D			
d_A, Approach Delay [s/veh]	86.58			12.73			37.79			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	41.12											
Intersection LOS	D											
Intersection V/C	0.574											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.289

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	140	110	120	60	80	10	20	440	20	70	560	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	110	120	60	80	10	20	440	20	70	560	40
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	28	31	19	25	3	5	118	5	19	149	11
Total Analysis Volume [veh/h]	145	114	124	75	100	12	21	473	21	75	598	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	22	22	22	22	22	64	64	64	64	64	64
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.12	0.06	0.08	0.06	0.06	0.03	0.13	0.01	0.08	0.17	0.17
s, saturation flow rate [veh/h]	1253	1900	1536	1270	1847	791	3618	1538	925	1900	1827
c, Capacity [veh/h]	263	427	345	266	415	507	2327	989	600	1222	1175
d1, Uniform Delay [s]	40.63	31.95	32.67	38.13	31.97	10.40	7.32	6.45	10.02	7.67	7.70
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	0.12	0.23	0.21	0.13	0.15	0.20	0.04	0.43	0.53	0.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

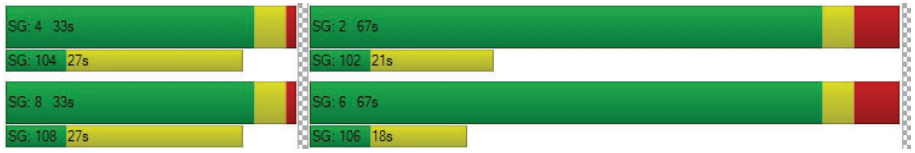
X, volume / capacity	0.55	0.27	0.36	0.28	0.27	0.04	0.20	0.02	0.13	0.27	0.27
d, Delay for Lane Group [s/veh]	41.31	32.08	32.91	38.35	32.10	10.56	7.52	6.49	10.45	8.20	8.26
Lane Group LOS	D	C	C	D	C	B	A	A	B	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.40	2.25	2.51	1.64	2.21	0.23	1.97	0.16	0.81	2.92	2.88
50th-Percentile Queue Length [ft/ln]	85.03	56.22	62.69	41.09	55.28	5.72	49.33	4.01	20.21	73.04	71.89
95th-Percentile Queue Length [veh/ln]	6.12	4.05	4.51	2.96	3.98	0.41	3.55	0.29	1.46	5.26	5.18
95th-Percentile Queue Length [ft/ln]	153.05	101.20	112.84	73.97	99.51	10.30	88.79	7.21	36.38	131.48	129.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.31	32.08	32.91	38.35	32.10	32.10	10.56	7.52	6.49	10.45	8.23	8.26
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	35.84			34.61			7.60			8.46		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	16.75											
Intersection LOS	B											
Intersection V/C	0.289											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.288

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	290	50	20	120	30	10	140	20	30	160	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	290	50	20	120	30	10	140	20	30	160	70
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	81	14	6	35	9	3	43	6	9	47	21
Total Analysis Volume [veh/h]	101	324	56	23	140	35	12	173	25	35	189	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	69	22	22
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.69	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.11	0.02	0.10	0.12	0.18
s, saturation flow rate [veh/h]	1216	1900	1774	1014	1815	1796	1679
c, Capacity [veh/h]	832	1305	1219	702	1247	435	411
d1, Uniform Delay [s]	7.66	5.44	5.46	7.31	5.41	34.18	36.89
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.24	0.27	0.09	0.24	0.83	2.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.15	0.15	0.03	0.14	0.48	0.75
d, Delay for Lane Group [s/veh]	7.95	5.68	5.72	7.40	5.64	35.01	39.63
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	1.29	1.25	0.19	1.16	4.49	7.24
50th-Percentile Queue Length [ft/ln]	21.82	32.22	31.25	4.77	29.02	112.14	181.08
95th-Percentile Queue Length [veh/ln]	1.57	2.32	2.25	0.34	2.09	7.96	11.66
95th-Percentile Queue Length [ft/ln]	39.27	57.99	56.26	8.59	52.23	198.98	291.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.95	5.70	5.72	7.40	5.64	5.64	35.01	35.01	35.01	39.63	39.63	39.63
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.17			5.84			35.01			39.63		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	19.77											
Intersection LOS	B											
Intersection V/C	0.288											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	80	480	110	30	90	20	30	250	20	40	200	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	480	110	30	90	20	30	250	20	40	200	60
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	126	29	9	27	6	8	69	5	11	54	16
Total Analysis Volume [veh/h]	84	502	115	35	106	24	33	275	22	43	214	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	24	24	24	24	24	63	63	63	63	63	63
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.63	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.17	0.04	0.07	0.03	0.08	0.08	0.04	0.11	0.04
s, saturation flow rate [veh/h]	1210	1900	1715	816	1789	1153	1900	1822	1064	1900	1491
c, Capacity [veh/h]	269	458	413	123	431	715	1191	1143	681	1191	935
d1, Uniform Delay [s]	37.64	34.60	34.90	45.91	31.07	10.06	7.55	7.56	9.52	7.84	7.26
k, delay calibration	0.04	0.05	0.07	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.93	1.63	0.47	0.14	0.12	0.22	0.23	0.18	0.33	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

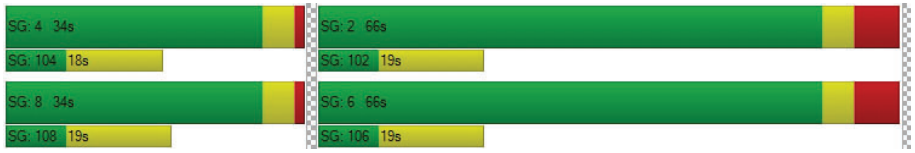
X, volume / capacity	0.31	0.69	0.72	0.28	0.30	0.05	0.13	0.13	0.06	0.18	0.07
d, Delay for Lane Group [s/veh]	37.88	35.53	36.53	46.37	31.21	10.18	7.76	7.80	9.70	8.17	7.41
Lane Group LOS	D	D	D	D	C	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.84	6.98	6.70	0.85	2.54	0.34	1.28	1.27	0.44	1.91	0.54
50th-Percentile Queue Length [ft/ln]	45.92	174.58	167.62	21.37	63.47	8.57	32.09	31.77	10.90	47.73	13.39
95th-Percentile Queue Length [veh/ln]	3.31	11.32	10.95	1.54	4.57	0.62	2.31	2.29	0.78	3.44	0.96
95th-Percentile Queue Length [ft/ln]	82.66	282.93	273.78	38.47	114.24	15.43	57.76	57.19	19.62	85.91	24.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.88	35.89	36.53	46.37	31.21	31.21	10.18	7.78	7.80	9.70	8.17	7.41
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	36.24			34.43			8.02			8.22		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	23.97											
Intersection LOS	C											
Intersection V/C	0.287											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	90	570	100	30	60	50	70	220	50	40	240	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	570	100	30	60	50	70	220	50	40	240	40
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	168	29	9	17	14	19	58	13	11	68	11
Total Analysis Volume [veh/h]	106	670	118	34	69	57	74	233	53	45	271	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	29	29	29	29	29	61	61	61	61	61
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.08	0.21	0.22	0.05	0.08	0.07	0.16	0.04	0.14	0.03
s, saturation flow rate [veh/h]	1262	1900	1744	698	1674	1105	1817	1094	1900	1513
c, Capacity [veh/h]	338	560	514	119	493	664	1115	650	1166	928
d1, Uniform Delay [s]	34.02	31.60	31.89	45.76	26.90	11.55	8.86	11.61	8.71	7.70
k, delay calibration	0.04	0.16	0.18	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	2.56	3.52	0.49	0.10	0.34	0.56	0.21	0.47	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.72	0.75	0.29	0.26	0.11	0.26	0.07	0.23	0.05
d, Delay for Lane Group [s/veh]	34.22	34.16	35.42	46.25	27.00	11.89	9.42	11.82	9.18	7.80
Lane Group LOS	C	C	D	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.20	8.87	8.62	0.83	2.26	0.84	2.75	0.51	2.56	0.38
50th-Percentile Queue Length [ft/ln]	54.95	221.82	215.46	20.80	56.55	20.93	68.86	12.64	63.90	9.46
95th-Percentile Queue Length [veh/ln]	3.96	13.76	13.43	1.50	4.07	1.51	4.96	0.91	4.60	0.68
95th-Percentile Queue Length [ft/ln]	98.91	343.94	335.83	37.43	101.79	37.68	123.95	22.75	115.02	17.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.22	34.66	35.42	46.25	27.00	27.00	11.89	9.42	9.42	11.82	9.18	7.80
Movement LOS	C	C	D	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	34.70			31.09			9.93			9.34		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	24.19											
Intersection LOS	C											
Intersection V/C	0.377											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	660	30	20	20	70	0	0	0	6	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	660	30	20	20	70	0	0	0	6	130	30
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	185	8	6	6	22	0	0	0	2	39	9
Total Analysis Volume [veh/h]	15	741	34	26	26	89	0	0	0	6	155	36
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	41	41	4	49		40
g / C, Green / Cycle	0.41	0.41	0.04	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.20	0.03	0.01	0.07		0.10
s, saturation flow rate [veh/h]	3618	1342	1810	1610		1830
c, Capacity [veh/h]	1485	551	65	793		742
d1, Uniform Delay [s]	21.84	17.82	47.10	13.86		19.73
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.20	0.22	1.45	0.38		0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

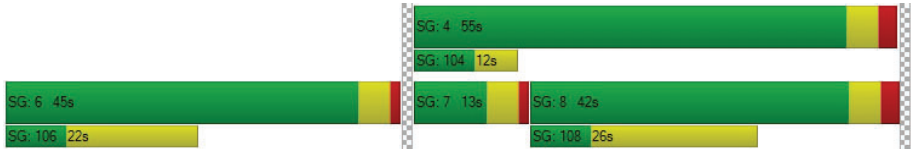
X, volume / capacity	0.50	0.06	0.40	0.15		0.26
d, Delay for Lane Group [s/veh]	23.04	18.04	48.55	14.24		20.57
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.52	0.50	0.65	1.44		3.08
50th-Percentile Queue Length [ft/ln]	163.07	12.57	16.26	36.06		77.07
95th-Percentile Queue Length [veh/ln]	10.71	0.90	1.17	2.60		5.55
95th-Percentile Queue Length [ft/ln]	267.78	22.62	29.27	64.91		138.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.04	18.04	48.55	14.24	14.24	0.00	0.00	0.00	0.00	20.57	20.57
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.83			20.57			0.00			20.57		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	22.15											
Intersection LOS	C											
Intersection V/C	0.324											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.772

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	110	40	100	190	50	70	340	30	40	290	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	40	100	190	50	70	340	30	40	290	110
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	29	11	28	53	14	20	98	9	11	81	31
Total Analysis Volume [veh/h]	21	118	43	112	212	56	81	391	35	45	324	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.54	0.09	0.08	0.23	0.05	0.17	0.09
s, saturation flow rate [veh/h]	600	600	600	600	1009	1834	948	1900	1296
c, Capacity [veh/h]	278	219	288	219	474	924	406	957	652
d1, Uniform Delay [s]	18.36	15.19	25.28	15.56	15.20	11.23	17.01	10.40	9.53
k, delay calibration	0.04	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	0.16	90.65	0.23	0.78	1.66	0.55	0.96	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

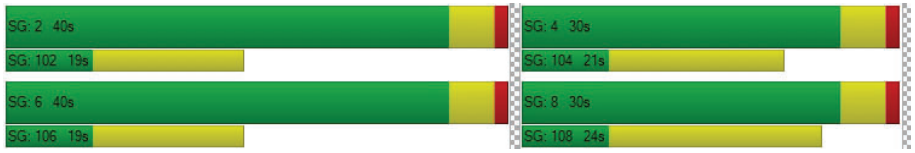
X, volume / capacity	0.50	0.20	1.12	0.26	0.17	0.46	0.11	0.34	0.19
d, Delay for Lane Group [s/veh]	18.88	15.36	115.93	15.78	15.98	12.89	17.56	11.36	10.17
Lane Group LOS	B	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.76	0.45	12.03	0.60	0.93	4.17	0.55	2.89	1.03
50th-Percentile Queue Length [ft/ln]	43.88	11.22	300.77	14.98	23.22	104.22	13.75	72.27	25.82
95th-Percentile Queue Length [veh/ln]	3.16	0.81	19.00	1.08	1.67	7.50	0.99	5.20	1.86
95th-Percentile Queue Length [ft/ln]	78.99	20.20	474.95	26.97	41.80	187.59	24.75	130.08	46.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.88	18.88	15.36	115.93	115.93	15.78	15.98	12.89	12.89	17.56	11.36	10.17
Movement LOS	B	B	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	18.04			101.17			13.38			11.63		
Approach LOS	B			F			B			B		
d_I, Intersection Delay [s/veh]	34.74											
Intersection LOS	C											
Intersection V/C	0.772											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	170	70	30	90	20	60	370	60	60	310	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	170	70	30	90	20	60	370	60	60	310	40
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	54	22	11	34	7	16	100	16	17	90	12
Total Analysis Volume [veh/h]	77	217	89	45	134	30	65	402	65	70	359	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	42	42	42	42	42	42	42	42
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	17	17	17	17
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.41	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.07	0.18	0.04	0.09	0.07	0.27	0.08	0.23
s, saturation flow rate [veh/h]	1071	1721	1036	1740	891	1706	829	1777
c, Capacity [veh/h]	456	646	371	653	342	691	290	720
d1, Uniform Delay [s]	12.18	9.95	14.29	9.03	14.79	10.21	16.86	9.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.20	0.05	0.07	0.10	0.43	0.16	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

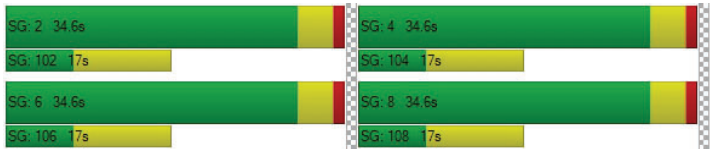
X, volume / capacity	0.17	0.47	0.12	0.25	0.19	0.68	0.24	0.56
d, Delay for Lane Group [s/veh]	12.25	10.15	14.35	9.11	14.89	10.65	17.01	9.87
Lane Group LOS	B	B	B	A	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.46	1.59	0.30	0.77	0.47	2.67	0.55	2.16
50th-Percentile Queue Length [ft/ln]	11.48	39.63	7.54	19.18	11.65	66.72	13.86	54.01
95th-Percentile Queue Length [veh/ln]	0.83	2.85	0.54	1.38	0.84	4.80	1.00	3.89
95th-Percentile Queue Length [ft/ln]	20.67	71.33	13.57	34.52	20.97	120.09	24.95	97.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.25	10.15	10.15	14.35	9.11	9.11	14.89	10.65	10.65	17.01	9.87	9.87
Movement LOS	B	B	B	B	A	A	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	10.57			10.24			11.17			10.92		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.83											
Intersection LOS	B											
Intersection V/C	0.452											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	150	360	270	60	390	20	20	540	160	220	550	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	360	270	60	390	20	20	540	160	220	550	40
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	99	75	16	106	5	6	155	46	59	147	11
Total Analysis Volume [veh/h]	166	398	298	65	424	22	23	618	183	235	587	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.14	0.21	0.19	0.07	0.12	0.12	0.03	0.17	0.12	0.24	0.16	0.03
s, saturation flow rate [veh/h]	1200	1900	1560	994	1900	1857	835	3618	1551	997	3618	1542
c, Capacity [veh/h]	430	670	551	111	442	432	348	1574	675	567	2008	856
d1, Uniform Delay [s]	23.74	26.49	25.89	48.85	33.38	33.42	23.06	19.25	18.10	12.30	11.81	10.18
k, delay calibration	0.30	0.09	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.59	0.68	0.33	1.84	0.34	0.35	0.37	0.74	0.99	2.22	0.37	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.59	0.54	0.59	0.51	0.51	0.07	0.39	0.27	0.41	0.29	0.05
d, Delay for Lane Group [s/veh]	25.32	27.17	26.21	50.69	33.72	33.77	23.43	19.99	19.09	14.53	12.18	10.29
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.95	7.72	5.60	1.66	4.67	4.62	0.41	4.94	2.85	2.85	3.35	0.44
50th-Percentile Queue Length [ft/ln]	73.64	192.97	140.12	41.50	116.79	115.40	10.19	123.50	71.16	71.30	83.70	10.90
95th-Percentile Queue Length [veh/ln]	5.30	12.28	9.49	2.99	8.22	8.14	0.73	8.59	5.12	5.13	6.03	0.78
95th-Percentile Queue Length [ft/ln]	132.54	306.88	237.19	74.70	205.41	203.49	18.34	214.63	128.08	128.33	150.65	19.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.32	27.17	26.21	50.69	33.74	33.77	23.43	19.99	19.09	14.53	12.18	10.29
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	26.49			35.90			19.89			12.73		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.39											
Intersection LOS	C											
Intersection V/C	0.451											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	49.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	130	620	120	20	670	40	30	110	80	70	140	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	620	120	20	670	40	30	110	80	70	140	50
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	170	33	5	177	11	10	37	27	19	38	14
Total Analysis Volume [veh/h]	142	678	131	21	708	42	41	150	109	76	153	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	56	56	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.56	0.56	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.23	0.03	0.20	0.20	0.39	0.08	0.57	0.04
s, saturation flow rate [veh/h]	886	1900	1741	787	1900	1828	493	1325	400	1413
c, Capacity [veh/h]	578	1056	967	514	985	948	179	364	158	388
d1, Uniform Delay [s]	8.29	12.63	12.74	7.75	14.47	14.54	32.07	28.66	40.42	27.36
k, delay calibration	0.42	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.84	1.10	1.27	0.15	1.14	1.22	85.95	0.17	234.90	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

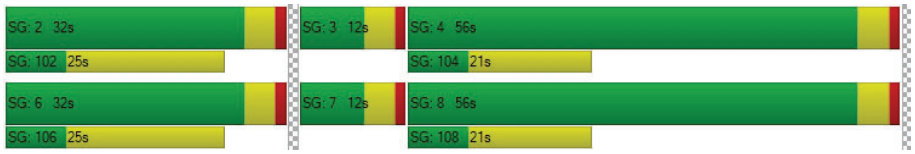
X, volume / capacity	0.25	0.39	0.41	0.04	0.38	0.39	1.07	0.30	1.45	0.14
d, Delay for Lane Group [s/veh]	9.13	13.73	14.01	7.90	15.60	15.76	118.02	28.82	275.32	27.43
Lane Group LOS	A	B	B	A	B	B	F	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.26	5.35	5.13	0.18	5.26	5.20	7.65	2.04	14.18	0.98
50th-Percentile Queue Length [ft/ln]	31.45	133.73	128.21	4.40	131.55	130.09	191.16	51.03	354.60	24.55
95th-Percentile Queue Length [veh/ln]	2.26	9.14	8.84	0.32	9.02	8.94	12.60	3.67	24.08	1.77
95th-Percentile Queue Length [ft/ln]	56.61	228.55	221.06	7.92	225.61	223.61	315.01	91.85	601.98	44.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.13	13.84	14.01	7.90	15.68	15.76	118.02	118.02	28.82	275.32	275.32	27.43
Movement LOS	A	B	B	A	B	B	F	F	C	F	F	C
d_A, Approach Delay [s/veh]	13.16			15.47			85.61			227.31		
Approach LOS	B			B			F			F		
d_I, Intersection Delay [s/veh]	49.73											
Intersection LOS	D											
Intersection V/C	0.812											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	750	190	70	720	30	30	320	120	110	320	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	750	190	70	720	30	30	320	120	110	320	120
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	200	51	20	203	8	8	87	33	29	84	31
Total Analysis Volume [veh/h]	117	798	202	79	814	34	33	347	130	115	336	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	58	47	47	58	46	46	22	22	22	33	33	33
g / C, Green / Cycle	0.58	0.47	0.47	0.58	0.46	0.46	0.22	0.22	0.22	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.14	0.27	0.28	0.10	0.22	0.23	0.03	0.13	0.14	0.10	0.18	0.08
s, saturation flow rate [veh/h]	846	1900	1740	762	1900	1865	1030	1900	1654	1179	1900	1513
c, Capacity [veh/h]	493	889	814	430	879	863	127	416	362	381	631	502
d1, Uniform Delay [s]	11.07	19.48	19.61	11.81	18.61	18.64	46.26	35.10	35.45	24.76	27.11	24.34
k, delay calibration	0.30	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.09	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	2.78	3.17	0.94	1.92	1.97	0.40	0.51	0.69	0.37	0.26	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

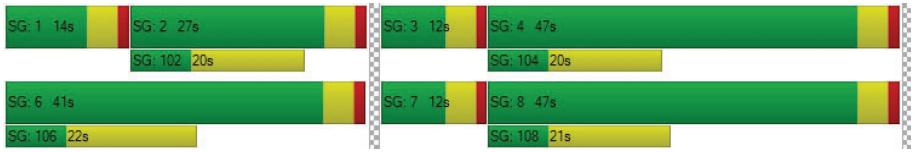
X, volume / capacity	0.24	0.58	0.59	0.18	0.49	0.49	0.26	0.60	0.63	0.30	0.53	0.25
d, Delay for Lane Group [s/veh]	11.76	22.26	22.77	12.75	20.53	20.61	46.66	35.61	36.14	25.13	27.37	24.44
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.21	9.15	8.66	0.85	7.10	7.02	0.81	5.41	5.09	1.96	6.44	2.17
50th-Percentile Queue Length [ft/ln]	30.17	228.80	216.61	21.18	177.52	175.50	20.29	135.25	127.16	49.09	161.06	54.18
95th-Percentile Queue Length [veh/ln]	2.17	14.11	13.49	1.52	11.47	11.37	1.46	9.22	8.79	3.53	10.60	3.90
95th-Percentile Queue Length [ft/ln]	54.31	352.84	337.29	38.12	286.78	284.13	36.53	230.62	219.63	88.36	265.12	97.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.76	22.44	22.77	12.75	20.57	20.61	46.66	35.76	36.14	25.13	27.37	24.44
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	21.38			19.90			36.56			26.28		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	24.32											
Intersection LOS	C											
Intersection V/C	0.487											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	100	970	180	30	870	40	50	190	140	140	220	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	970	180	30	870	40	50	190	140	140	220	50
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	248	46	8	229	11	15	56	41	40	63	14
Total Analysis Volume [veh/h]	102	994	184	32	918	42	59	223	165	160	251	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	7	51	51	40	40	40	26	26	26	35	35
g / C, Green / Cycle	0.07	0.51	0.51	0.40	0.40	0.40	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.32	0.33	0.07	0.25	0.26	0.05	0.12	0.11	0.31	0.04
s, saturation flow rate [veh/h]	1810	1900	1735	484	1900	1851	1147	1900	1481	1333	1486
c, Capacity [veh/h]	130	978	893	139	755	736	73	488	380	475	524
d1, Uniform Delay [s]	45.66	17.24	17.58	39.82	24.36	24.45	50.00	31.28	31.07	30.00	21.76
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.94	2.91	3.55	3.86	4.15	4.38	7.94	0.25	0.29	18.64	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

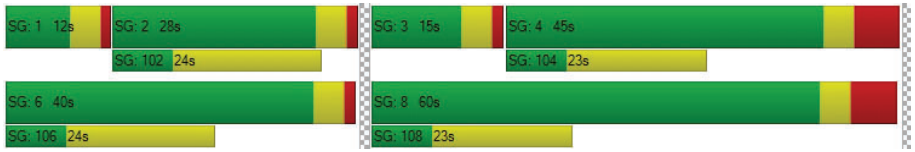
X, volume / capacity	0.79	0.62	0.64	0.23	0.64	0.65	0.81	0.46	0.43	0.87	0.11
d, Delay for Lane Group [s/veh]	49.61	20.15	21.13	43.68	28.51	28.83	57.94	31.53	31.36	48.64	21.80
Lane Group LOS	D	C	C	D	C	C	E	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.62	10.17	9.98	0.87	9.86	9.78	1.62	4.46	3.28	10.29	0.89
50th-Percentile Queue Length [ft/ln]	65.46	254.23	249.56	21.77	246.61	244.59	40.38	111.49	82.09	257.21	22.13
95th-Percentile Queue Length [veh/ln]	4.71	15.40	15.16	1.57	15.02	14.91	2.91	7.92	5.91	15.55	1.59
95th-Percentile Queue Length [ft/ln]	117.82	384.97	379.11	39.18	375.38	372.83	72.69	198.08	147.76	388.72	39.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.61	20.54	21.13	43.68	28.66	28.83	57.94	31.53	31.36	48.64	48.64	21.80
Movement LOS	D	C	C	D	C	C	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	22.94			29.15			34.96			45.37		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.85											
Intersection LOS	C											
Intersection V/C	0.545											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	70.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	80	1250	120	20	1140	20	6	70	70	66	110	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	1250	120	20	1140	20	6	70	70	66	110	40
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	340	33	5	313	5	2	23	23	18	33	12
Total Analysis Volume [veh/h]	87	1360	131	22	1250	22	7	92	92	70	133	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	33	33	3	30	30	40	40
g / C, Green / Cycle	0.07	0.37	0.37	0.03	0.33	0.33	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.05	0.40	0.41	0.01	0.34	0.34	0.11	0.10
s, saturation flow rate [veh/h]	1810	1900	1821	1810	1900	1883	1717	1795
c, Capacity [veh/h]	126	701	672	62	633	627	762	797
d1, Uniform Delay [s]	40.95	28.43	28.43	42.54	30.04	30.04	15.59	15.48
k, delay calibration	0.04	0.50	0.50	0.04	0.43	0.44	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	55.71	65.17	1.30	35.26	36.49	0.75	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

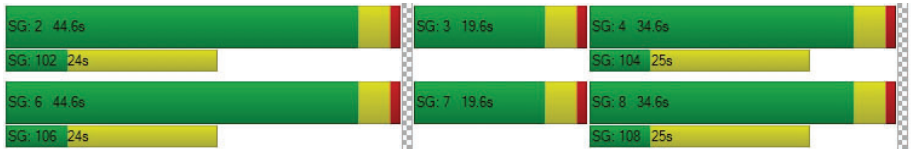
X, volume / capacity	0.69	1.07	1.10	0.36	1.01	1.01	0.24	0.23
d, Delay for Lane Group [s/veh]	43.44	84.15	93.60	43.84	65.30	66.53	16.34	16.15
Lane Group LOS	D	F	F	D	F	F	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	25.16	25.88	0.50	19.28	19.32	2.43	2.36
50th-Percentile Queue Length [ft/ln]	48.78	628.88	646.92	12.41	482.09	483.07	60.73	59.11
95th-Percentile Queue Length [veh/ln]	3.51	35.07	36.49	0.89	26.63	26.74	4.37	4.26
95th-Percentile Queue Length [ft/ln]	87.81	876.73	912.29	22.33	665.68	668.50	109.31	106.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.44	88.37	93.60	43.84	65.90	66.53	0.00	16.34	16.34	0.00	16.15	16.15
Movement LOS	D	F	F	D	E	E		B	B		B	B
d_A, Approach Delay [s/veh]	86.33			65.54			16.34			16.15		
Approach LOS	F			E			B			B		
d_I, Intersection Delay [s/veh]	70.11											
Intersection LOS	E											
Intersection V/C	0.525											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	90.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.959

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	260	680	0	0	1210	40	0	0	0	720	250	800
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	680	0	0	1210	40	0	0	0	720	250	800
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	195	0	0	339	11	0	0	0	190	66	212
Total Analysis Volume [veh/h]	299	782	0	0	1355	45	0	0	0	762	265	846
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	17	50	29	29		30	30	30	30
g / C, Green / Cycle	0.18	0.56	0.32	0.32		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.17	0.22	0.26	0.25		0.54	0.26	0.29	0.53
s, saturation flow rate [veh/h]	1810	3618	3618	1866		900	1847	1475	900
c, Capacity [veh/h]	334	2026	1174	606		304	624	498	304
d1, Uniform Delay [s]	35.86	11.11	27.66	27.37		29.80	26.74	27.93	29.80
k, delay calibration	0.23	0.50	0.50	0.50		0.50	0.24	0.32	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.09	0.56	5.60	9.16		279.3	4.54	12.49	267.0
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.39	0.79	0.77		1.59	0.78	0.87	1.56
d, Delay for Lane Group [s/veh]	51.95	11.67	33.27	36.53		309.1	31.28	40.42	296.8
Lane Group LOS	D	B	C	D		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	7.76	4.21	9.72	10.25		29.55	9.30	9.68	28.51
50th-Percentile Queue Length [ft/ln]	194.03	105.13	242.99	256.35		738.7	232.6	242.1	712.7
95th-Percentile Queue Length [veh/ln]	12.33	7.57	14.83	15.51		48.11	14.31	14.79	46.33
95th-Percentile Queue Length [ft/ln]	308.25	189.20	370.81	387.65		1202.	357.6	369.6	1158.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.95	11.67	0.00	0.00	34.28	36.53	0.00	0.00	0.00	201.81	33.37	188.05
Movement LOS	D	B			C	D				F	C	F
d_A, Approach Delay [s/veh]	22.81			34.36			0.00			172.14		
Approach LOS	C			C			A			F		
d_I, Intersection Delay [s/veh]	90.76											
Intersection LOS	F											
Intersection V/C	0.959											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	800	740	800	1090	0	200	480	270	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	800	740	800	1090	0	200	480	270	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	228	211	232	316	0	67	161	90	0	0	0
Total Analysis Volume [veh/h]	0	912	843	927	1263	0	268	643	362	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	29	29	29	22	55	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.24	0.62	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.26	0.35	0.26	0.25	0.23
s, saturation flow rate [veh/h]	3618	1522	1522	3514	3618	1847	1729	1585
c, Capacity [veh/h]	1166	491	491	852	2228	521	488	447
d1, Uniform Delay [s]	27.31	29.06	29.06	34.12	10.21	31.17	31.14	30.09
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.11	0.11	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	2.37	2.37	57.58	1.05	6.46	6.63	1.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

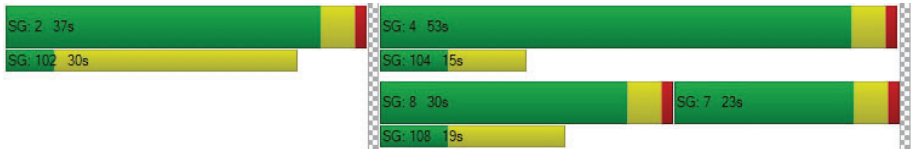
X, volume / capacity	0.75	0.89	0.89	1.09	0.57	0.90	0.90	0.81
d, Delay for Lane Group [s/veh]	27.69	31.43	31.43	91.70	11.27	37.63	37.77	32.03
Lane Group LOS	C	C	C	F	B	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.08	8.86	8.86	15.84	6.84	10.33	9.66	7.21
50th-Percentile Queue Length [ft/ln]	202.03	221.45	221.45	395.99	171.09	258.26	241.52	180.23
95th-Percentile Queue Length [veh/ln]	12.74	13.74	13.74	23.45	11.13	15.60	14.76	11.61
95th-Percentile Queue Length [ft/ln]	318.58	343.47	343.47	586.24	278.34	390.04	368.95	290.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	27.69	31.43	91.70	11.27	0.00	37.63	37.72	32.03	0.00	0.00	0.00
Movement LOS		C	C	F	B		D	D	C			
d_A, Approach Delay [s/veh]	29.56			45.31			36.08			0.00		
Approach LOS	C			D			D			A		
d_I, Intersection Delay [s/veh]	37.76											
Intersection LOS	D											
Intersection V/C	0.807											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	840	140	60	570	40	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	840	140	60	570	40	90
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	241	40	16	154	12	27
Total Analysis Volume [veh/h]	962	160	65	616	48	108
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	76	76	76	76	11	11
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.27	0.10	0.11	0.17	0.03	0.09
s, saturation flow rate [veh/h]	3618	1557	592	3618	1405	1174
c, Capacity [veh/h]	2757	1187	459	2757	149	124
d1, Uniform Delay [s]	3.86	3.16	6.75	3.41	41.37	44.01
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.24	0.65	0.19	0.46	6.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.13	0.14	0.22	0.32	0.87
d, Delay for Lane Group [s/veh]	4.21	3.39	7.39	3.60	41.84	50.85
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.58	0.74	0.57	1.45	1.10	2.82
50th-Percentile Queue Length [ft/ln]	64.38	18.56	14.37	36.37	27.47	70.50
95th-Percentile Queue Length [veh/ln]	4.64	1.34	1.03	2.62	1.98	5.08
95th-Percentile Queue Length [ft/ln]	115.88	33.40	25.86	65.47	49.44	126.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.21	3.39	7.39	3.60	41.84	50.85
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.09		3.96		48.07	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.55					
Intersection LOS	A					
Intersection V/C	0.358					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	50	30	0	20	40	50	0	30	160	30	0	20	160	40
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	50	30	0	20	40	50	0	30	160	30	0	20	160	40
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	15	9	0	7	14	18	0	10	54	10	0	5	43	11
Total Analysis Volume [veh/h]	0	35	59	35	0	29	58	72	0	40	215	40	0	22	173	43
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	571	665	576	669	634	736	630	726
Degree of Utilization, x	0.16	0.05	0.15	0.11	0.40	0.05	0.31	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.58	0.17	0.53	0.36	1.94	0.17	1.32	0.19
95th-Percentile Queue Length [ft]	14.62	4.16	13.22	9.00	48.42	4.31	32.88	4.72
Approach Delay [s/veh]	9.74		9.45		11.56		10.43	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.54							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	300	130	0	40	480	0	140	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	300	130	0	40	480	0	140	60
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	88	38	0	11	134	0	37	16
Total Analysis Volume [veh/h]	0	352	153	0	45	538	0	149	64
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.19	0.09	0.04	0.28	0.09	0.05
s, saturation flow rate [veh/h]	1900	1615	1045	1900	1711	1351
c, Capacity [veh/h]	1192	953	616	1122	391	309
d1, Uniform Delay [s]	5.24	4.71	7.93	5.95	16.56	15.87
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.36	0.23	1.47	0.23	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

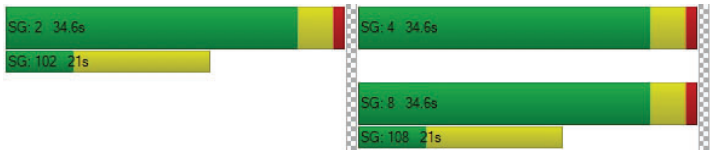
X, volume / capacity	0.30	0.16	0.07	0.48	0.38	0.21
d, Delay for Lane Group [s/veh]	5.87	5.07	8.16	7.42	16.79	15.99
Lane Group LOS	A	A	A	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.45	0.58	0.27	2.62	1.37	0.56
50th-Percentile Queue Length [ft/ln]	36.34	14.56	6.64	65.50	34.20	14.09
95th-Percentile Queue Length [veh/ln]	2.62	1.05	0.48	4.72	2.46	1.01
95th-Percentile Queue Length [ft/ln]	65.41	26.20	11.95	117.90	61.56	25.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.87	5.87	5.07	8.16	8.16	7.42	16.79	16.79	15.99
Movement LOS	A	A	A	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	5.63			7.48			16.55		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	8.24								
Intersection LOS	A								
Intersection V/C	0.370								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	60	20	20	130	10	20	150	20	20	110	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	60	20	20	130	10	20	150	20	20	110	20
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	17	6	6	36	3	7	51	7	6	32	6
Total Analysis Volume [veh/h]	34	69	23	22	144	11	27	205	27	23	128	23
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	695	733	717
Degree of Utilization, x	0.18	0.25	0.35	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.66	1.01	1.60	0.95
95th-Percentile Queue Length [ft]	16.60	25.22	39.93	23.69
Approach Delay [s/veh]	9.38	9.94	10.58	9.62
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	9.99			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	110	50	40	210	30	30	150	30	40	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	50	40	210	30	30	150	30	40	100	30
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	19	12	61	9	10	51	10	11	28	8
Total Analysis Volume [veh/h]	31	168	76	47	245	35	41	203	41	44	111	33
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	607	608	592	571
Degree of Utilization, x	0.45	0.54	0.48	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.35	3.20	2.61	1.43
95th-Percentile Queue Length [ft]	58.76	80.08	65.22	35.78
Approach Delay [s/veh]	13.74	15.61	14.60	12.38
Approach LOS	B	C	B	B
Intersection Delay [s/veh]	14.30			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	36.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	110	210	30	30	300	30	10	80	110	60	150	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	210	30	30	300	30	10	80	110	60	150	40
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	60	9	8	85	8	3	24	33	22	54	14
Total Analysis Volume [veh/h]	127	242	35	34	339	34	12	97	133	87	217	58
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	429	481	435	480	442	457
Degree of Utilization, x	0.86	0.07	0.86	0.07	0.55	0.79

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	8.62	0.23	8.57	0.23	3.22	7.13
95th-Percentile Queue Length [ft]	215.57	5.87	214.37	5.69	80.56	178.13
Approach Delay [s/veh]	41.99		41.15		20.60	34.69
Approach LOS	E		E		C	D
Intersection Delay [s/veh]	36.22					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	93.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	30	200	410	70	90	10	20	350	60	110	60	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	200	410	70	90	10	20	350	60	110	60	30
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	51	105	20	25	3	6	110	19	29	16	8
Total Analysis Volume [veh/h]	31	205	420	79	102	11	25	438	75	115	63	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	38	46	39	16	16	16	16
g / C, Green / Cycle	0.58	0.47	0.58	0.49	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.38	0.08	0.06	0.02	0.28	0.13	0.06
s, saturation flow rate [veh/h]	1358	1625	957	1847	1184	1810	901	1674
c, Capacity [veh/h]	877	765	418	905	251	372	90	344
d1, Uniform Delay [s]	7.25	18.26	12.37	11.13	30.57	31.87	40.12	26.82
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.15	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	9.43	1.00	0.28	0.06	175.14	131.11	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

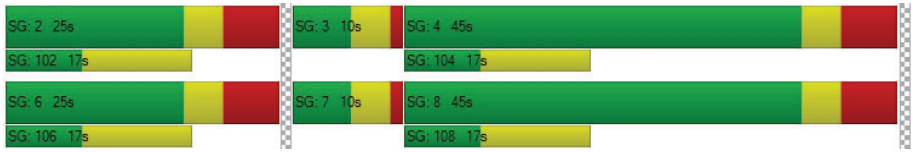
X, volume / capacity	0.04	0.82	0.19	0.12	0.10	1.38	1.28	0.27
d, Delay for Lane Group [s/veh]	7.26	27.70	13.37	11.42	30.63	207.01	171.23	26.98
Lane Group LOS	A	C	B	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	10.81	0.65	1.09	0.42	25.06	5.01	1.47
50th-Percentile Queue Length [ft/ln]	4.95	270.23	16.25	27.23	10.55	626.38	125.22	36.67
95th-Percentile Queue Length [veh/ln]	0.36	16.20	1.17	1.96	0.76	38.59	9.02	2.64
95th-Percentile Queue Length [ft/ln]	8.92	405.03	29.25	49.01	18.99	964.67	225.39	66.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.26	27.70	27.70	13.37	11.42	11.42	30.63	207.01	207.01	171.23	26.98	26.98
Movement LOS	A	C	C	B	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	26.73			12.22			198.82			106.35		
Approach LOS	C			B			F			F		
d_I, Intersection Delay [s/veh]	93.46											
Intersection LOS	F											
Intersection V/C	0.690											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.340

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	60	110	20	10	80	10	10	140	30	20	120	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	110	20	10	80	10	10	140	30	20	120	10
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	31	6	3	22	3	3	48	10	6	34	3
Total Analysis Volume [veh/h]	67	123	22	11	88	11	14	193	41	23	136	11
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	698	682	729	703
Degree of Utilization, x	0.30	0.16	0.34	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.28	0.57	1.51	0.94
95th-Percentile Queue Length [ft]	32.03	14.32	37.70	23.58
Approach Delay [s/veh]	10.39	9.29	10.46	9.74
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	10.10			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	120	10	20	210	30	20	90	40	40	90	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	10	20	210	30	20	90	40	40	90	30
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	3	6	59	8	6	26	12	13	28	9
Total Analysis Volume [veh/h]	33	133	11	23	238	34	23	104	46	50	113	38
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	665	695	667	666
Degree of Utilization, x	0.27	0.42	0.26	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.07	2.12	1.03	1.27
95th-Percentile Queue Length [ft]	26.74	53.04	25.81	31.77
Approach Delay [s/veh]	10.37	11.94	10.27	10.74
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	10.98			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2620	110	0	3700	210	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2620	110	0	3700	210	10
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	754	32	0	949	69	3
Total Analysis Volume [veh/h]	3015	127	0	3795	276	13
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	87	87	87	87
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	66	66	66	10
g / C, Green / Cycle	0.76	0.76	0.76	0.12
(v / s)_i Volume / Saturation Flow Rate	0.66	0.64	0.62	0.18
s, saturation flow rate [veh/h]	3192	1641	6089	1588
c, Capacity [veh/h]	2438	1254	4650	183
d1, Uniform Delay [s]	7.04	6.69	6.43	38.39
k, delay calibration	0.04	0.15	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	2.09	0.14	285.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

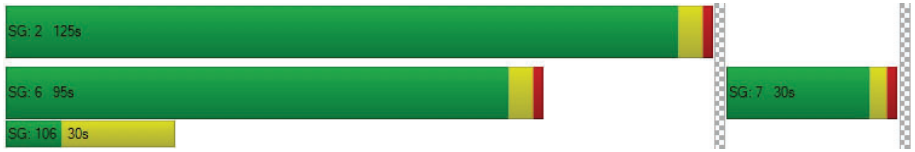
X, volume / capacity	0.86	0.84	0.82	1.58
d, Delay for Lane Group [s/veh]	7.40	8.78	6.57	323.50
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.68	8.86	7.12	18.30
50th-Percentile Queue Length [ft/ln]	217.08	221.51	178.04	457.61
95th-Percentile Queue Length [veh/ln]	13.52	13.74	11.50	29.48
95th-Percentile Queue Length [ft/ln]	337.90	343.55	287.45	737.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.82	8.78	0.00	6.57	323.50	323.50
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.86		6.57		323.50	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	19.81					
Intersection LOS	B					
Intersection V/C	0.838					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	104.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.024

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2150	480	30	170	560	10	568	280	0	0	380	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2150	480	30	170	560	10	568	280	0	0	380	230
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	632	141	9	49	163	3	142	72	0	0	118	71
Total Analysis Volume [veh/h]	2529	565	35	198	651	12	568	287	0	0	471	285
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	145	145	145	145	145	145	145
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	85	85	85	25	25	25	25
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.53	0.55	0.42	0.27	0.27	0.18	0.20
s, saturation flow rate [veh/h]	3192	1522	1425	1597	1591	1597	3783
c, Capacity [veh/h]	1868	890	834	274	273	274	650
d1, Uniform Delay [s]	26.56	28.09	21.64	60.29	60.29	60.29	60.29
k, delay calibration	0.04	0.41	0.21	0.50	0.50	0.45	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	17.21	2.31	273.95	275.33	64.42	75.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.95	0.72	1.57	1.57	1.05	1.16
d, Delay for Lane Group [s/veh]	27.27	45.30	23.95	334.23	335.62	124.71	135.43
Lane Group LOS	C	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	25.01	30.51	14.93	30.99	30.99	15.03	12.52
50th-Percentile Queue Length [ft/ln]	625.19	762.76	373.35	774.74	774.77	375.76	312.93
95th-Percentile Queue Length [veh/ln]	33.21	39.57	21.27	48.09	48.12	21.89	19.64
95th-Percentile Queue Length [ft/ln]	830.23	989.23	531.79	1202.30	1202.91	547.37	490.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.42	23.95	23.95	334.23	335.62	335.62	0.00	124.71	0.00	0.00	135.43	135.43
Movement LOS	C	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	31.49			334.92			124.71			135.43		
Approach LOS	C			F			F			F		
d_I, Intersection Delay [s/veh]	104.33											
Intersection LOS	F											
Intersection V/C	1.024											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	70	50	0	20	40	30	0	10	160	20	0	30	170	40
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	70	50	0	20	40	30	0	10	160	20	0	30	170	40
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	20	15	0	6	12	9	0	3	46	6	0	9	50	12
Total Analysis Volume [veh/h]	0	23	82	58	0	24	47	35	0	12	185	23	0	35	199	47
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	699	683	725	741
Degree of Utilization, x	0.23	0.16	0.30	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.90	0.55	1.28	1.78
95th-Percentile Queue Length [ft]	22.49	13.69	32.01	44.49
Approach Delay [s/veh]	9.70	9.24	10.11	10.80
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.16			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	60	30	10	20	10	10	60	20	40	70	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	60	30	10	20	10	10	60	20	40	70	20
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	19	9	3	5	3	4	21	7	12	21	6
Total Analysis Volume [veh/h]	25	75	38	11	22	11	14	85	28	48	84	24
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	671	792	653	775	694	815	684	821
Degree of Utilization, x	0.15	0.05	0.05	0.01	0.14	0.03	0.19	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	0.15	0.16	0.04	0.50	0.11	0.71	0.09
95th-Percentile Queue Length [ft]	13.06	3.77	3.98	1.08	12.39	2.66	17.77	2.26
Approach Delay [s/veh]	8.59		8.23		8.42		8.92	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.62							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	32	0	1090	210	190	880	0	32	1085	209	50	0	50
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	1090	210	190	880	0	32	1085	209	50	0	50
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	298	57	49	226	0	8	271	52	15	0	15
Total Analysis Volume [veh/h]	32	0	1194	230	195	904	0	32	1085	209	61	0	61
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	56	56	66	58		15	15
g / C, Green / Cycle	0.03	0.62	0.62	0.73	0.65		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.33	0.14	0.31	0.25		0.04	0.04
s, saturation flow rate [veh/h]	1810	3618	1615	633	3618		1729	1501
c, Capacity [veh/h]	56	2245	1002	489	2337		293	254
d1, Uniform Delay [s]	43.00	9.67	7.55	6.58	7.51		32.18	32.36
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.32	0.91	0.53	2.42	0.48		0.13	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

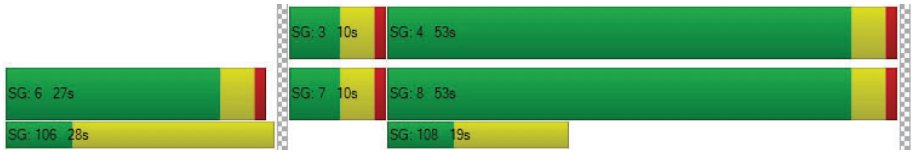
X, volume / capacity	0.57	0.53	0.23	0.40	0.39		0.21	0.24
d, Delay for Lane Group [s/veh]	46.32	10.57	8.09	9.00	8.00		32.31	32.54
Lane Group LOS	D	B	A	A	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	6.15	1.91	1.18	3.74		1.14	1.15
50th-Percentile Queue Length [ft/ln]	18.68	153.74	47.86	29.52	93.53		28.54	28.75
95th-Percentile Queue Length [veh/ln]	1.34	10.22	3.45	2.13	6.73		2.05	2.07
95th-Percentile Queue Length [ft/ln]	33.62	255.41	86.15	53.14	168.36		51.37	51.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.32	0.00	10.57	8.09	9.00	8.00	0.00	0.00	0.00	0.00	32.31	0.00	32.54
Movement LOS	D		B	A	A	A					C		C
d_A, Approach Delay [s/veh]	10.97				8.18			0.00			32.42		
Approach LOS	B				A			A			C		
d_I, Intersection Delay [s/veh]	10.80												
Intersection LOS	B												
Intersection V/C	0.409												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	47.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.008

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2510	2	290	2280	30	10	10	20	80	30	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2510	2	290	2280	30	10	10	20	80	30	300
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	728	1	74	583	8	4	4	8	24	9	90
Total Analysis Volume [veh/h]	35	2913	2	297	2332	31	16	16	32	96	36	361
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	242	242	242	242	242	242	242	242
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	137	45	176	176	45	45	95
g / C, Green / Cycle	0.03	0.57	0.19	0.73	0.73	0.19	0.19	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.56	0.16	0.43	0.43	0.28	0.22	0.22
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1887	228	608	1615
c, Capacity [veh/h]	46	2933	339	2633	1373	61	138	630
d1, Uniform Delay [s]	117.32	52.09	95.85	15.74	15.79	92.07	101.38	58.10
k, delay calibration	0.04	0.04	0.09	0.04	0.05	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	3.41	5.97	0.08	0.19	130.63	65.06	3.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

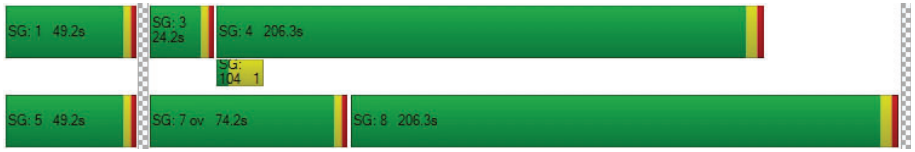
X, volume / capacity	0.75	0.99	0.88	0.59	0.59	1.05	0.95	0.57
d, Delay for Lane Group [s/veh]	126.19	55.50	101.82	15.81	15.98	222.70	166.45	61.87
Lane Group LOS	F	E	F	B	B	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.33	57.83	18.75	20.08	21.16	6.13	11.04	18.52
50th-Percentile Queue Length [ft/ln]	58.21	1445.74	468.64	501.98	529.01	153.22	275.98	462.98
95th-Percentile Queue Length [veh/ln]	4.19	70.30	25.85	27.43	28.70	10.42	16.49	25.58
95th-Percentile Queue Length [ft/ln]	104.78	1757.53	646.15	685.70	717.61	260.59	412.20	639.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	126.19	55.50	0.00	101.82	15.87	15.98	222.70	222.70	222.70	166.45	166.45	61.87
Movement LOS	F	E		F	B	B	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	56.34			25.47			222.70			89.87		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	47.43											
Intersection LOS	D											
Intersection V/C	1.008											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	140.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.192

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	240	530	110	30	440	80	60	130	190	0	60	120	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	530	110	30	440	80	60	130	190	0	60	120	70
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	64	141	29	9	126	23	16	36	52	0	19	38	22
Total Analysis Volume [veh/h]	256	565	117	34	503	92	66	142	208	0	75	151	88
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	61	61	3	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.61	0.61	0.03	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.14	0.30	0.09	0.02	0.26	0.07	0.61	0.14	0.79	0.10
s, saturation flow rate [veh/h]	1810	1900	1266	1810	1900	1352	341	1518	288	860
c, Capacity [veh/h]	189	1152	768	55	1012	720	111	570	101	159
d1, Uniform Delay [s]	44.75	11.02	8.53	47.86	14.86	11.72	40.54	22.58	41.20	36.98
k, delay calibration	0.18	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	172.01	1.49	0.42	4.07	1.75	0.37	429.00	0.15	585.54	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

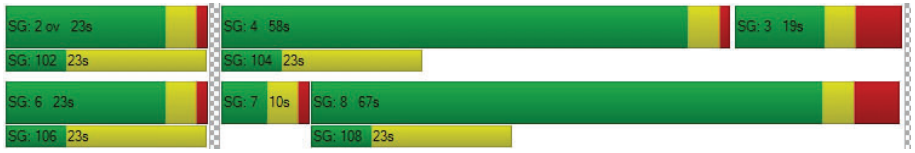
X, volume / capacity	1.35	0.49	0.15	0.61	0.50	0.13	1.88	0.36	2.23	0.55
d, Delay for Lane Group [s/veh]	216.76	12.52	8.95	51.93	16.60	12.09	469.54	22.73	626.74	38.09
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	13.67	6.94	1.13	0.90	7.38	1.07	15.95	3.57	18.95	1.96
50th-Percentile Queue Length [ft/ln]	341.69	173.43	28.13	22.39	184.62	26.70	398.67	89.18	473.86	49.11
95th-Percentile Queue Length [veh/ln]	21.96	11.26	2.03	1.61	11.84	1.92	27.61	6.42	32.80	3.54
95th-Percentile Queue Length [ft/ln]	548.90	281.42	50.64	40.29	296.04	48.06	690.17	160.52	820.10	88.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	216.76	12.52	8.95	51.93	16.60	12.09	469.54	469.54	22.73	626.7	626.7	626.7	38.09
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	67.82			17.85			246.13			461.77			
Approach LOS	E			B			F			F			
d_I, Intersection Delay [s/veh]	140.28												
Intersection LOS	F												
Intersection V/C	1.192												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.391

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	640	160	0	110	560	0	240	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	640	160	0	110	560	0	240	270
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	173	43	0	29	148	0	69	78
Total Analysis Volume [veh/h]	0	692	173	0	116	591	0	276	311
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.13	0.13	0.16	0.16	0.12	0.17
s, saturation flow rate [veh/h]	1900	1729	1371	905	3618	1299	1679	1064
c, Capacity [veh/h]	1138	1003	795	658	2509	226	293	186
d1, Uniform Delay [s]	10.89	10.89	10.08	5.63	5.61	40.56	38.51	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.04	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.74	0.88	0.63	0.59	0.22	14.32	0.95	38.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

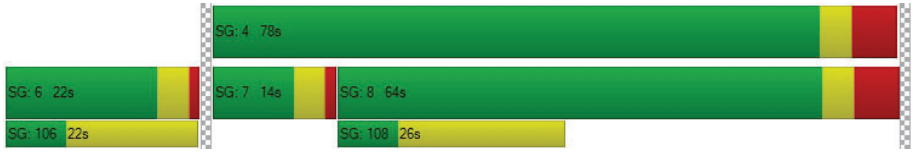
X, volume / capacity	0.32	0.33	0.22	0.18	0.24	0.92	0.66	1.00
d, Delay for Lane Group [s/veh]	11.62	11.76	10.71	6.22	5.83	54.88	39.46	79.74
Lane Group LOS	B	B	B	A	A	D	D	F
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.16	3.82	1.87	0.80	2.06	5.86	4.46	6.49
50th-Percentile Queue Length [ft/ln]	103.95	95.40	46.86	20.09	51.55	146.42	111.39	162.24
95th-Percentile Queue Length [veh/ln]	7.48	6.87	3.37	1.45	3.71	9.83	7.92	10.68
95th-Percentile Queue Length [ft/ln]	187.11	171.71	84.36	36.16	92.79	245.64	197.94	267.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.62	11.69	10.71	6.22	6.22	5.83	54.88	50.62	64.45
Movement LOS	B	B	B	A	A	A	D	D	E
d_A, Approach Delay [s/veh]	11.49			5.89			57.69		
Approach LOS	B			A			E		
d_I, Intersection Delay [s/veh]	22.22								
Intersection LOS	C								
Intersection V/C	0.391								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	640	100	70	730	110	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	640	100	70	730	110	110
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	176	27	19	194	32	32
Total Analysis Volume [veh/h]	704	110	74	776	130	130
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.19	0.08	0.10	0.21	0.15
s, saturation flow rate [veh/h]	3618	1339	745	3618	1707
c, Capacity [veh/h]	2235	827	446	2235	427
d1, Uniform Delay [s]	9.05	7.94	13.76	9.28	33.15
k, delay calibration	0.50	0.50	0.50	0.50	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.33	0.80	0.43	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

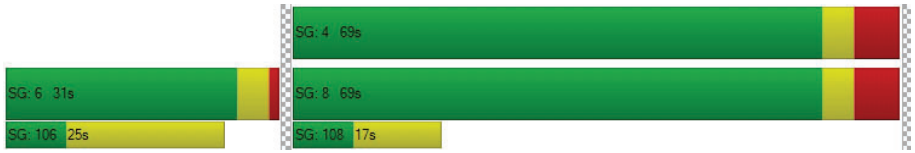
X, volume / capacity	0.31	0.13	0.17	0.35	0.61
d, Delay for Lane Group [s/veh]	9.42	8.28	14.56	9.71	33.97
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.49	1.00	1.00	3.94	5.53
50th-Percentile Queue Length [ft/ln]	87.18	25.04	24.95	98.61	138.29
95th-Percentile Queue Length [veh/ln]	6.28	1.80	1.80	7.10	9.39
95th-Percentile Queue Length [ft/ln]	156.92	45.06	44.91	177.49	234.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.42	8.28	14.56	9.71	33.97	33.97
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.27		10.13		33.97	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.99					
Intersection LOS	B					
Intersection V/C	0.367					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	660	210	110	700	160	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	660	210	110	700	160	130
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	186	59	31	200	44	36
Total Analysis Volume [veh/h]	744	237	126	800	176	143
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.21	0.18	0.14	0.22	0.21	0.12
s, saturation flow rate [veh/h]	3618	1296	875	3618	832	1238
c, Capacity [veh/h]	2190	785	668	2618	120	325
d1, Uniform Delay [s]	9.80	9.53	4.72	4.90	42.78	30.73
k, delay calibration	0.50	0.50	0.50	0.50	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.99	0.63	0.30	233.74	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

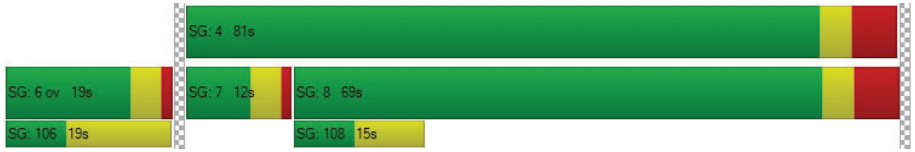
X, volume / capacity	0.34	0.30	0.19	0.31	1.47	0.44
d, Delay for Lane Group [s/veh]	10.22	10.52	5.34	5.20	276.52	31.08
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.92	2.56	0.76	2.57	10.73	2.87
50th-Percentile Queue Length [ft/ln]	97.96	64.07	19.10	64.19	268.15	71.84
95th-Percentile Queue Length [veh/ln]	7.05	4.61	1.38	4.62	18.42	5.17
95th-Percentile Queue Length [ft/ln]	176.33	115.33	34.39	115.54	460.38	129.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.22	10.52	5.34	5.20	276.52	31.08
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.29		5.22		166.49	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	30.57					
Intersection LOS	C					
Intersection V/C	0.443					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	47.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	40	800	142	67	840	80	50	13	110	150	40	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	800	142	67	840	80	50	13	110	150	40	140
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	224	41	18	221	21	15	6	32	42	11	39
Total Analysis Volume [veh/h]	45	897	165	71	882	84	59	24	129	169	45	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	81	81	72	72	13	20	20
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.09	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.06	0.25	0.25	0.26	0.11	0.12	0.12
s, saturation flow rate [veh/h]	694	3618	1900	1832	1671	1828	1283
c, Capacity [veh/h]	336	1960	917	884	149	250	175
d1, Uniform Delay [s]	19.05	20.93	26.91	27.25	68.27	63.31	63.69
k, delay calibration	0.04	0.50	0.50	0.50	0.46	0.04	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.77	2.16	2.42	156.40	3.48	9.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

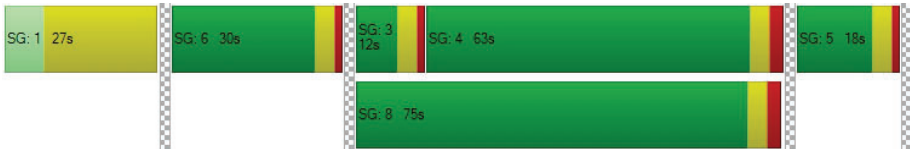
X, volume / capacity	0.13	0.46	0.53	0.55	1.26	0.86	0.90
d, Delay for Lane Group [s/veh]	19.12	21.70	29.07	29.67	224.67	66.79	73.04
Lane Group LOS	B	C	C	C	F	E	E
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	9.87	12.63	12.83	12.21	8.32	6.41
50th-Percentile Queue Length [ft/ln]	18.84	246.79	315.86	320.82	305.18	207.88	160.35
95th-Percentile Queue Length [veh/ln]	1.36	15.02	18.46	18.71	19.44	13.04	10.57
95th-Percentile Queue Length [ft/ln]	33.92	375.60	461.60	467.69	485.89	326.10	264.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.12	21.70	0.00	0.00	29.34	29.67	224.67	0.00	224.67	66.79	66.79	73.04
Movement LOS	B	C			C	C	F		F	E	E	E
d_A, Approach Delay [s/veh]	21.58			29.37			224.67			69.44		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	47.30											
Intersection LOS	D											
Intersection V/C	0.511											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.527

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	300	710	1010	70	110	660
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	710	1010	70	110	660
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	186	259	18	29	172
Total Analysis Volume [veh/h]	315	745	1036	72	115	688
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	80	80	80	13	31
g / C, Green / Cycle	0.11	0.66	0.66	0.66	0.11	0.26
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21	0.29	0.05	0.09	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1347	1221	2859
c, Capacity [veh/h]	398	2403	2403	895	131	740
d1, Uniform Delay [s]	51.79	8.51	9.47	7.14	52.74	43.36
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.36	0.34	0.57	0.18	6.98	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

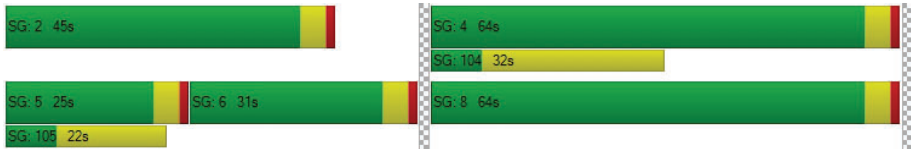
X, volume / capacity	0.79	0.31	0.43	0.08	0.88	0.93
d, Delay for Lane Group [s/veh]	53.15	8.85	10.04	7.32	59.72	45.74
Lane Group LOS	D	A	B	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.69	4.01	6.22	0.68	3.83	10.73
50th-Percentile Queue Length [ft/ln]	117.20	100.22	155.46	16.89	95.86	268.27
95th-Percentile Queue Length [veh/ln]	8.24	7.22	10.31	1.22	6.90	16.10
95th-Percentile Queue Length [ft/ln]	205.97	180.40	257.70	30.40	172.54	402.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.15	8.85	10.04	7.32	59.72	45.74
Movement LOS	D	A	B	A	E	D
d_A, Approach Delay [s/veh]	22.01		9.86		47.74	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.43					
Intersection LOS	C					
Intersection V/C	0.527					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	20	33	26	0	90	0	48	59
Total Analysis Volume [veh/h]	0	0	0	0	79	132	106	0	358	0	193	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.42	0.42	0.42	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate		0.07	0.07	0.08	0.28	0.10	0.16
s, saturation flow rate [veh/h]		1159	1900	1356	1264	1900	1460
c, Capacity [veh/h]		463	799	570	685	989	760
d1, Uniform Delay [s]		27.36	21.56	22.00	19.04	15.36	16.46
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.80	0.41	0.79	2.84	0.44	1.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.17	0.16	0.20	0.52	0.20	0.31
d, Delay for Lane Group [s/veh]		28.16	21.97	22.79	21.88	15.80	17.52
Lane Group LOS		C	C	C	C	B	B
Critical Lane Group		No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]		1.68	2.24	2.14	6.29	2.89	3.85
50th-Percentile Queue Length [ft/ln]		42.03	56.10	53.50	157.17	72.18	96.23
95th-Percentile Queue Length [veh/ln]		3.03	4.04	3.85	10.40	5.20	6.93
95th-Percentile Queue Length [ft/ln]		75.65	100.98	96.30	259.98	129.92	173.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	28.16	22.02	22.79	0.00	21.88	0.00	15.80	17.52
Movement LOS					C	C	C		C		B	B
d_A, Approach Delay [s/veh]	0.00				23.81				19.08			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.88											
Intersection LOS	D											
Intersection V/C	0.572											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	750	120	140	1270	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	750	120	140	1270	0	40
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	199	32	39	352	0	10
Total Analysis Volume [veh/h]	0	53	796	127	155	1409	0	42
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	48	48	48
g / C, Green / Cycle	0.29	0.29	0.29	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.10	0.16	0.38	0.39
s, saturation flow rate [veh/h]	373	3618	1278	956	1900	1863
c, Capacity [veh/h]	60	1053	372	335	766	750
d1, Uniform Delay [s]	59.98	38.64	33.47	26.55	34.66	34.96
k, delay calibration	0.04	0.04	0.04	0.04	0.29	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.42	0.20	0.37	15.47	21.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

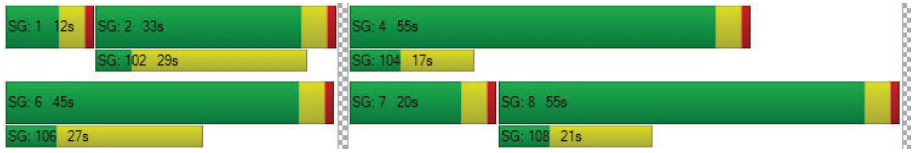
X, volume / capacity	0.88	0.76	0.34	0.46	0.95	0.96
d, Delay for Lane Group [s/veh]	74.28	39.06	33.67	26.92	50.13	56.42
Lane Group LOS	E	D	C	C	D	E
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	10.64	2.94	2.92	23.35	24.59
50th-Percentile Queue Length [ft/ln]	46.30	265.97	73.60	72.97	583.82	614.83
95th-Percentile Queue Length [veh/ln]	3.33	15.99	5.30	5.25	31.28	32.73
95th-Percentile Queue Length [ft/ln]	83.33	399.71	132.47	131.34	781.96	818.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	39.06	33.67	26.92	53.17	0.00	56.42
Movement LOS		E	D	C	C	D		E
d_A, Approach Delay [s/veh]	40.27				50.72			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.88							
Intersection LOS	D							
Intersection V/C	0.572							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	71.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	70	120	180	0	20	70	80	0	20	260	70	0	120	360	70
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	70	120	180	0	20	70	80	0	20	260	70	0	120	360	70
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	19	32	48	0	5	19	22	0	6	75	20	0	31	93	18
Total Analysis Volume [veh/h]	0	75	128	192	0	22	76	87	0	23	299	81	0	124	372	72
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.27	0.02	0.08	0.05	0.11	0.12	0.12
s, saturation flow rate [veh/h]	1242	1686	686	961	3618	1577	1097	1900	1773
c, Capacity [veh/h]	73	261	140	431	1709	745	511	898	838
d1, Uniform Delay [s]	50.02	42.26	41.78	20.09	15.17	14.67	20.29	15.81	15.86
k, delay calibration	0.04	0.10	0.30	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	36.39	107.83	172.20	0.24	0.22	0.29	1.12	0.68	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	1.22	1.32	0.05	0.17	0.11	0.24	0.25	0.26
d, Delay for Lane Group [s/veh]	86.41	150.09	213.98	20.33	15.40	14.97	21.41	16.49	16.60
Lane Group LOS	F	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.54	14.14	10.13	0.37	1.97	1.06	2.08	3.20	3.08
50th-Percentile Queue Length [ft/ln]	63.61	353.42	253.33	9.24	49.20	26.61	52.08	80.06	76.89
95th-Percentile Queue Length [veh/ln]	4.58	22.17	17.08	0.67	3.54	1.92	3.75	5.76	5.54
95th-Percentile Queue Length [ft/ln]	114.49	554.13	426.93	16.63	88.56	47.89	93.74	144.10	138.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	86.41	86.41	150.0	150.0	213.9	213.9	213.9	213.9	20.33	20.33	15.40	14.97	21.41	21.41	16.53	16.60
Movement LOS	F	F	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	138.00				213.98				15.59				17.61			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	71.17															
Intersection LOS	E															
Intersection V/C	0.392															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	90	220	130	30	160	40	60	80	60	70	100	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	220	130	30	160	40	60	80	60	70	100	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	58	34	9	47	12	18	25	18	20	28	26
Total Analysis Volume [veh/h]	95	232	137	35	189	47	74	99	74	79	113	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	25	45	45
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.09	0.03	0.13	0.18	0.27
s, saturation flow rate [veh/h]	1162	1900	1546	1167	1815	1399	1100
c, Capacity [veh/h]	195	468	381	205	447	678	542
d1, Uniform Delay [s]	43.54	32.36	31.17	40.49	32.65	17.87	20.52
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.30	0.21	0.15	0.36	1.51	3.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

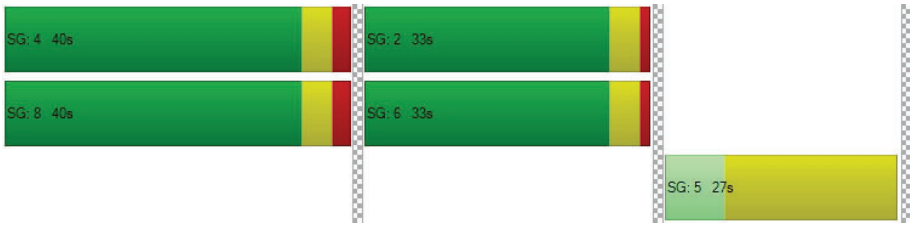
X, volume / capacity	0.49	0.50	0.36	0.17	0.53	0.36	0.54
d, Delay for Lane Group [s/veh]	44.24	32.66	31.38	40.63	33.01	19.38	24.37
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	4.76	2.71	0.79	4.89	3.88	5.52
50th-Percentile Queue Length [ft/ln]	57.21	118.92	67.65	19.63	122.18	96.99	138.12
95th-Percentile Queue Length [veh/ln]	4.12	8.33	4.87	1.41	8.51	6.98	9.38
95th-Percentile Queue Length [ft/ln]	102.98	208.35	121.77	35.33	212.82	174.57	234.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.24	32.66	31.38	40.63	33.01	33.01	19.38	19.38	19.38	24.37	24.37	24.37
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	34.66			34.00			19.38			24.37		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	29.19											
Intersection LOS	C											
Intersection V/C	0.397											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	96.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.135

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	80	210	180	70	150	70	80	140	70	60	170	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	210	180	70	150	70	80	140	70	60	170	200
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	59	51	19	42	19	22	38	19	17	49	57
Total Analysis Volume [veh/h]	90	236	203	78	167	78	87	152	76	69	195	230
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.25	0.07	0.14	0.88	0.05	0.76	0.15
s, saturation flow rate [veh/h]	1153	1900	800	1162	1766	271	1570	347	1581
c, Capacity [veh/h]	126	370	156	144	344	185	789	220	795
d1, Uniform Delay [s]	48.56	37.01	40.25	47.09	37.64	31.76	12.99	26.19	14.46
k, delay calibration	0.04	0.04	0.40	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.79	0.69	168.75	1.17	1.04	164.30	0.24	125.74	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

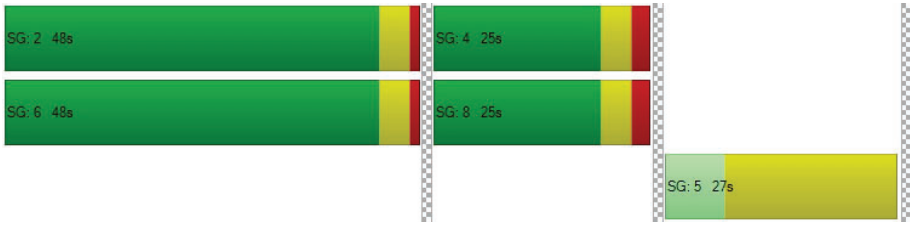
X, volume / capacity	0.71	0.64	1.30	0.54	0.71	1.29	0.10	1.20	0.29
d, Delay for Lane Group [s/veh]	51.35	37.70	209.00	48.26	38.68	196.06	13.23	151.93	15.38
Lane Group LOS	D	D	F	D	D	F	B	F	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.32	5.26	11.02	1.96	5.58	13.08	0.92	10.40	3.14
50th-Percentile Queue Length [ft/ln]	57.92	131.54	275.46	49.12	139.47	326.92	23.11	260.09	78.47
95th-Percentile Queue Length [veh/ln]	4.17	9.02	18.44	3.54	9.45	22.10	1.66	17.55	5.65
95th-Percentile Queue Length [ft/ln]	104.26	225.58	460.96	88.42	236.32	552.48	41.60	438.75	141.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.35	37.70	209.00	48.26	38.68	38.68	196.06	196.06	13.23	151.93	151.93	15.38
Movement LOS	D	D	F	D	D	D	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	105.76			40.99			151.95			88.35		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	96.75											
Intersection LOS	F											
Intersection V/C	1.135											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.281

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	50	210	100	70	170	40	70	150	100	70	160	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	210	100	70	170	40	70	150	100	70	160	200
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	62	30	19	45	11	18	39	26	20	46	58
Total Analysis Volume [veh/h]	59	249	119	75	182	43	73	157	105	81	185	231
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	22	22	22	22	45	45	45	45	45
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.08	0.07	0.12	0.06	0.15	0.07	0.10	0.15
s, saturation flow rate [veh/h]	1174	1900	1462	1149	1823	1218	1749	1135	1900	1560
c, Capacity [veh/h]	180	425	327	169	408	531	795	458	863	709
d1, Uniform Delay [s]	43.37	34.69	32.82	44.83	34.39	20.65	17.51	23.46	16.49	17.47
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.39	0.48	0.25	0.68	0.44	0.54	1.11	0.84	0.57	1.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

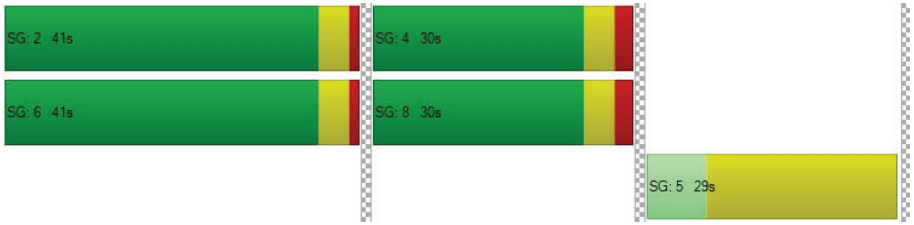
X, volume / capacity	0.33	0.59	0.36	0.44	0.55	0.14	0.33	0.18	0.21	0.33
d, Delay for Lane Group [s/veh]	43.76	35.17	33.07	45.51	34.82	21.19	18.61	24.31	17.06	18.69
Lane Group LOS	D	D	C	D	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.39	5.34	2.41	1.82	4.79	1.18	3.96	1.44	2.61	3.51
50th-Percentile Queue Length [ft/ln]	34.81	133.62	60.34	45.56	119.65	29.56	98.94	35.89	65.14	87.68
95th-Percentile Queue Length [veh/ln]	2.51	9.14	4.34	3.28	8.37	2.13	7.12	2.58	4.69	6.31
95th-Percentile Queue Length [ft/ln]	62.65	228.40	108.61	82.01	209.34	53.21	178.09	64.61	117.25	157.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.76	35.17	33.07	45.51	34.82	34.82	21.19	18.61	18.61	24.31	17.06	18.69
Movement LOS	D	D	C	D	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.77			37.50			19.18			19.00		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.19											
Intersection LOS	C											
Intersection V/C	0.281											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	20	250	0	29	320	60	66	90	0	90	210	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	250	0	29	320	60	66	90	0	90	210	120
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	67	0	8	86	16	20	27	0	24	56	32
Total Analysis Volume [veh/h]	21	268	0	31	344	64	79	108	0	96	223	127
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28		63	63
g / C, Green / Cycle	0.23	0.23	0.23	0.23		0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.02	0.14	0.18	0.05		0.13	0.13
s, saturation flow rate [veh/h]	1032	1863	1863	1368		1863	1525
c, Capacity [veh/h]	100	437	437	321		972	796
d1, Uniform Delay [s]	56.57	41.04	43.09	36.86		15.75	15.86
k, delay calibration	0.04	0.04	0.29	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.38	0.52	8.20	0.11		0.61	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.61	0.79	0.20		0.25	0.26
d, Delay for Lane Group [s/veh]	56.96	41.56	51.29	36.97		16.36	16.65
Lane Group LOS	E	D	D	D		B	B
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	7.15	10.45	1.51		3.82	3.33
50th-Percentile Queue Length [ft/ln]	15.89	178.73	261.27	37.86		95.53	83.24
95th-Percentile Queue Length [veh/ln]	1.14	11.53	15.75	2.73		6.88	5.99
95th-Percentile Queue Length [ft/ln]	28.61	288.35	393.81	68.15		171.95	149.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.96	41.56	0.00	0.00	51.29	36.97	0.00	0.00	0.00	16.36	16.46	16.65
Movement LOS	E	D			D	D				B	B	B
d_A, Approach Delay [s/veh]	42.68			49.05			0.00			16.49		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	34.73											
Intersection LOS	C											
Intersection V/C	0.320											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.239

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	70	60	0	490	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	60	0	490	100
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	20	0	136	28
Total Analysis Volume [veh/h]	0	0	0	0	93	80	0	542	111
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.05	0.05	0.18	0.19
s, saturation flow rate [veh/h]	792	3618	1810	1581	1900	1609
c, Capacity [veh/h]	417	2045	130	114	1110	909
d1, Uniform Delay [s]	0.00	0.00	45.38	45.34	11.58	11.62
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.72	2.95	0.75	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.71	0.70	0.32	0.33
d, Delay for Lane Group [s/veh]	0.00	0.00	48.10	48.29	12.33	12.60
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.32	2.00	4.18	3.66
50th-Percentile Queue Length [ft/ln]	0.00	0.00	58.03	50.09	104.43	91.38
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.18	3.61	7.52	6.58
95th-Percentile Queue Length [ft/ln]	0.00	0.00	104.46	90.17	187.98	164.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	48.10	48.10	48.29	12.33	12.43	12.60
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			48.19			12.46		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	19.94								
Intersection LOS	B								
Intersection V/C	0.239								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	30	160	60	80	140	40	30	230	20	50	230	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	160	60	80	140	40	30	230	20	50	230	80
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	16	23	40	11	9	71	6	14	62	22
Total Analysis Volume [veh/h]	31	168	63	90	158	45	37	285	25	54	249	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	10	10	14	14
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.04	0.08	0.08	0.03	0.19	0.24
s, saturation flow rate [veh/h]	1217	1900	1413	1171	1900	1485	1781	1650
c, Capacity [veh/h]	441	582	433	427	582	455	871	818
d1, Uniform Delay [s]	11.49	8.97	8.56	12.26	8.92	8.44	6.96	7.29
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.10	0.06	0.09	0.09	0.03	0.11	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

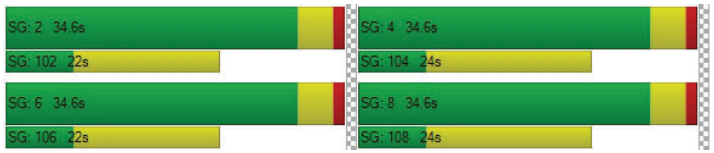
X, volume / capacity	0.07	0.29	0.15	0.21	0.27	0.10	0.40	0.48
d, Delay for Lane Group [s/veh]	11.52	9.07	8.62	12.35	9.01	8.47	7.07	7.45
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.15	0.65	0.23	0.48	0.64	0.17	1.21	1.32
50th-Percentile Queue Length [ft/ln]	3.68	16.16	5.81	11.97	16.08	4.34	30.28	32.96
95th-Percentile Queue Length [veh/ln]	0.26	1.16	0.42	0.86	1.16	0.31	2.18	2.37
95th-Percentile Queue Length [ft/ln]	6.62	29.08	10.45	21.54	28.94	7.81	54.51	59.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.52	9.07	8.62	12.35	9.01	8.47	7.07	7.07	7.07	7.45	7.45	7.45
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.25			9.96			7.07			7.45		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.28											
Intersection LOS	A											
Intersection V/C	0.325											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	200	60	20	180	20	30	170	50	30	130	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	200	60	20	180	20	30	170	50	30	130	60
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	59	18	5	48	5	9	50	15	8	36	17
Total Analysis Volume [veh/h]	83	237	71	22	194	22	35	200	59	33	144	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	12	12	12	12	11	11
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.02	0.12	0.17	0.14
s, saturation flow rate [veh/h]	1147	1763	1045	1846	1740	1682
c, Capacity [veh/h]	494	659	417	690	710	693
d1, Uniform Delay [s]	10.05	7.50	10.83	7.01	8.35	8.13
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.19	0.02	0.09	0.14	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

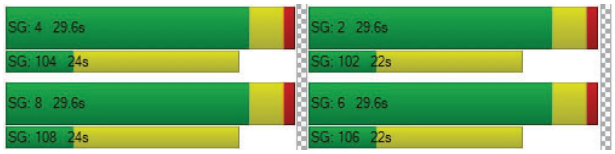
X, volume / capacity	0.17	0.47	0.05	0.31	0.41	0.35
d, Delay for Lane Group [s/veh]	10.11	7.69	10.85	7.11	8.49	8.24
Lane Group LOS	B	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.92	0.09	0.60	1.54	0.80
50th-Percentile Queue Length [ft/ln]	8.28	22.92	2.34	14.90	38.54	19.90
95th-Percentile Queue Length [veh/ln]	0.60	1.65	0.17	1.07	2.78	1.43
95th-Percentile Queue Length [ft/ln]	14.90	41.25	4.20	26.83	69.38	35.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.11	7.69	7.69	10.85	7.11	7.11	8.49	8.49	8.49	8.24	8.24	8.24
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.21			7.45			8.49			8.24		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.13											
Intersection LOS	A											
Intersection V/C	0.344											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	50	130	100	110	180	60	20	370	80	130	520	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	130	100	110	180	60	20	370	80	130	520	110
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	42	32	30	48	16	5	98	21	36	143	30
Total Analysis Volume [veh/h]	65	168	129	118	194	65	21	394	85	143	574	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.08	0.10	0.10	0.04	0.03	0.11	0.05	0.12	0.19	0.19
s, saturation flow rate [veh/h]	1208	1900	1577	1237	1900	1581	761	3618	1579	1180	1900	1768
c, Capacity [veh/h]	171	368	306	190	368	307	205	1187	518	546	844	786
d1, Uniform Delay [s]	44.63	35.73	35.47	45.30	36.27	33.97	35.13	25.40	23.92	17.23	19.06	19.12
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	0.33	0.34	1.23	0.43	0.13	1.00	0.75	0.68	0.09	1.56	1.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

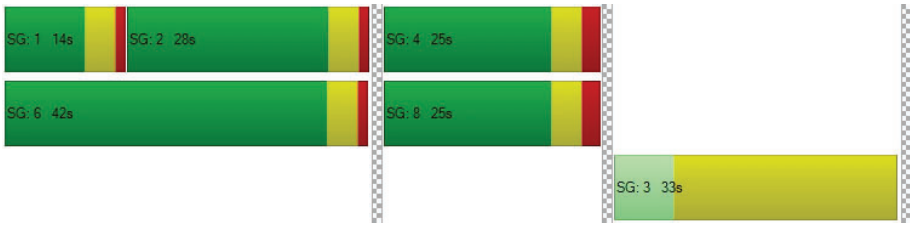
X, volume / capacity	0.38	0.46	0.42	0.62	0.53	0.21	0.10	0.33	0.16	0.26	0.42	0.43
d, Delay for Lane Group [s/veh]	45.14	36.06	35.82	46.53	36.71	34.09	36.14	26.15	24.60	17.32	20.62	20.82
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.56	3.59	2.74	2.94	4.22	1.32	0.49	3.61	1.52	1.97	5.91	5.61
50th-Percentile Queue Length [ft/ln]	39.12	89.80	68.54	73.50	105.40	32.99	12.26	90.35	37.91	49.16	147.79	140.22
95th-Percentile Queue Length [veh/ln]	2.82	6.47	4.94	5.29	7.58	2.38	0.88	6.51	2.73	3.54	9.90	9.49
95th-Percentile Queue Length [ft/ln]	70.41	161.64	123.38	132.29	189.59	59.38	22.07	162.64	68.23	88.50	247.48	237.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.14	36.06	35.82	46.53	36.71	34.09	36.14	26.15	24.60	17.32	20.70	20.82
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	37.60			39.33			26.31			20.14		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.15											
Intersection LOS	C											
Intersection V/C	0.293											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	40	160	60	50	290	60	30	150	100	60	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	160	60	50	290	60	30	150	100	60	190	50
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	45	17	16	93	19	9	43	28	17	53	14
Total Analysis Volume [veh/h]	45	181	68	64	372	77	34	170	114	66	211	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	41	41	41	41	41	41	27	27
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.05	0.10	0.04	0.05	0.12	0.12	0.21	0.25
s, saturation flow rate [veh/h]	956	1900	1555	1222	1900	1766	1542	1338
c, Capacity [veh/h]	364	776	635	472	776	722	454	403
d1, Uniform Delay [s]	25.28	19.33	18.28	23.88	19.89	19.96	32.87	35.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.16	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	0.70	0.34	0.60	0.97	1.08	2.93	11.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

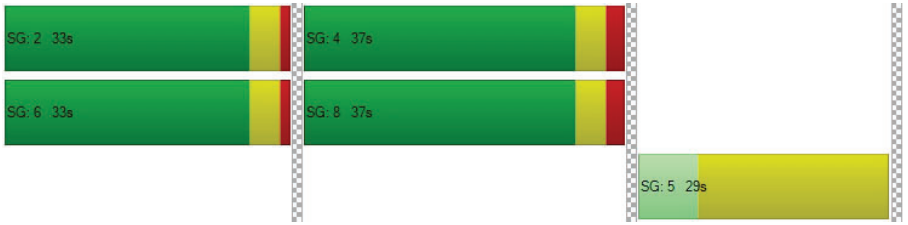
X, volume / capacity	0.12	0.23	0.11	0.14	0.30	0.30	0.70	0.82
d, Delay for Lane Group [s/veh]	25.98	20.03	18.62	24.48	20.86	21.05	35.81	46.81
Lane Group LOS	C	C	B	C	C	C	D	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.83	2.81	1.01	1.13	3.69	3.55	7.24	9.02
50th-Percentile Queue Length [ft/ln]	20.83	70.30	25.14	28.23	92.14	88.65	181.12	225.59
95th-Percentile Queue Length [veh/ln]	1.50	5.06	1.81	2.03	6.63	6.38	11.66	13.95
95th-Percentile Queue Length [ft/ln]	37.49	126.54	45.25	50.81	165.84	159.56	291.48	348.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.98	20.03	18.62	24.48	20.93	21.05	35.81	35.81	35.81	46.81	46.81	46.81
Movement LOS	C	C	B	C	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	20.61			21.39			35.81			46.81		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.17											
Intersection LOS	C											
Intersection V/C	0.372											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	60	180	80	70	310	30	0	280	130	0	360	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	180	80	70	310	30	0	280	130	0	360	70
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	54	24	19	84	8	0	76	35	0	102	20
Total Analysis Volume [veh/h]	73	218	97	76	334	32	0	303	141	0	410	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	52	52	52	52	52	52	18	18	18	18
g / C, Green / Cycle	0.52	0.52	0.52	0.52	0.52	0.52	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.06	0.06	0.10	0.10	0.16	0.09	0.13	0.14
s, saturation flow rate [veh/h]	1032	1900	1583	1182	1900	1834	1900	1560	1900	1780
c, Capacity [veh/h]	521	983	819	574	983	949	341	280	341	320
d1, Uniform Delay [s]	17.16	13.16	12.41	17.65	12.91	12.93	40.02	36.98	38.62	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.52	0.30	0.48	0.42	0.45	3.15	0.52	1.07	1.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.22	0.12	0.13	0.19	0.19	0.89	0.50	0.72	0.77
d, Delay for Lane Group [s/veh]	17.72	13.68	12.71	18.13	13.33	13.37	43.17	37.50	39.69	40.46
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.07	2.67	1.13	1.12	2.22	2.18	7.48	3.13	5.70	5.79
50th-Percentile Queue Length [ft/ln]	26.68	66.81	28.22	27.96	55.53	54.53	186.88	78.16	142.51	144.63
95th-Percentile Queue Length [veh/ln]	1.92	4.81	2.03	2.01	4.00	3.93	11.96	5.63	9.62	9.73
95th-Percentile Queue Length [ft/ln]	48.03	120.26	50.80	50.32	99.96	98.15	298.98	140.69	240.40	243.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.72	13.68	12.71	18.13	13.35	13.37	0.00	43.17	37.50	0.00	40.00	40.46
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	14.20			14.17			41.37			40.07		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.22											
Intersection LOS	C											
Intersection V/C	0.274											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.495

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	150	280	110	80	420	80	0	210	120	190	340	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	280	110	80	420	80	0	210	120	190	340	80
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	81	32	26	135	26	0	58	33	54	97	23
Total Analysis Volume [veh/h]	173	324	127	103	540	103	0	234	134	217	389	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	13	48	48	59	41	41	17	35	29	29	29
g / C, Green / Cycle	0.11	0.40	0.40	0.49	0.34	0.34	0.14	0.29	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.08	0.09	0.17	0.18	0.12	0.09	0.16	0.20	0.06
s, saturation flow rate [veh/h]	1810	1900	1568	1190	1900	1779	1900	1558	1388	1900	1564
c, Capacity [veh/h]	200	752	621	537	650	608	267	451	285	457	376
d1, Uniform Delay [s]	52.50	26.40	23.83	17.58	31.45	31.53	50.60	33.17	42.95	43.54	36.79
k, delay calibration	0.07	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.15	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.43	1.80	0.74	0.79	2.82	3.09	3.64	0.14	17.28	6.01	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

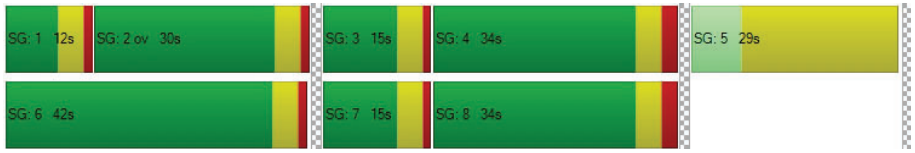
X, volume / capacity	0.86	0.43	0.20	0.19	0.51	0.51	0.88	0.30	0.76	0.85	0.24
d, Delay for Lane Group [s/veh]	59.94	28.20	24.58	18.38	34.27	34.62	54.23	33.31	60.23	49.55	36.91
Lane Group LOS	E	C	C	B	C	C	D	C	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.49	7.02	2.48	1.63	8.04	7.68	7.15	3.07	6.85	11.63	2.19
50th-Percentile Queue Length [ft/ln]	137.16	175.52	61.99	40.77	200.89	191.88	178.77	76.64	171.21	290.82	54.63
95th-Percentile Queue Length [veh/ln]	9.33	11.37	4.46	2.94	12.68	12.22	11.54	5.52	11.14	17.23	3.93
95th-Percentile Queue Length [ft/ln]	233.19	284.16	111.57	73.39	317.11	305.47	288.41	137.96	278.51	430.66	98.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.94	28.20	24.58	18.38	34.41	34.62	0.00	54.23	33.31	60.23	49.55	36.91
Movement LOS	E	C	C	B	C	C		D	C	E	D	D
d_A, Approach Delay [s/veh]	36.26			32.23			46.61			51.21		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.87											
Intersection LOS	D											
Intersection V/C	0.495											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	190	530	0	0	730	100	181	0	84	190	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	530	0	0	730	100	181	0	84	190	140	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	158	0	0	201	28	52	0	24	52	38	8
Total Analysis Volume [veh/h]	227	634	0	0	806	110	208	0	96	209	154	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	75	75	61	61		16	16
g / C, Green / Cycle	0.62	0.62	0.51	0.51		0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.28	0.18	0.24	0.25		0.12	0.11
s, saturation flow rate [veh/h]	800	3618	1900	1801		1810	1669
c, Capacity [veh/h]	483	2255	972	922		241	223
d1, Uniform Delay [s]	12.52	10.33	18.85	19.18		50.97	50.77
k, delay calibration	0.31	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.03	0.31	1.64	1.91		3.66	3.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

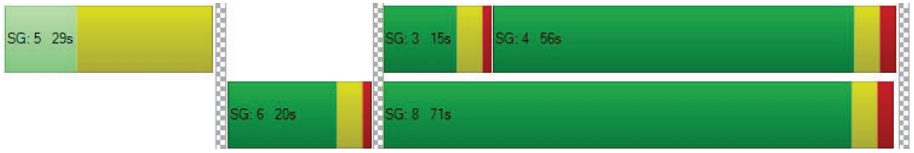
X, volume / capacity	0.47	0.28	0.47	0.50		0.87	0.84
d, Delay for Lane Group [s/veh]	14.55	10.64	20.49	21.10		54.63	54.04
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	3.81	8.38	8.56		6.45	5.73
50th-Percentile Queue Length [ft/ln]	69.54	95.35	209.41	214.12		161.14	143.20
95th-Percentile Queue Length [veh/ln]	5.01	6.87	13.12	13.36		10.61	9.65
95th-Percentile Queue Length [ft/ln]	125.17	171.64	328.08	334.11		265.23	241.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.55	10.64	0.00	0.00	20.75	21.10	0.00	0.00	0.00	54.63	54.04	54.04
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	11.67			20.79			0.00			54.35		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.29											
Intersection LOS	C											
Intersection V/C	0.429											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	320	0	0	930	860	410
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	0	0	930	860	410
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	91	0	0	263	236	113
Total Analysis Volume [veh/h]	366	0	0	1052	945	450
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_PM_LOS.pdf

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	37	37
g / C, Green / Cycle	0.62	0.62	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.10	0.29	0.27	0.28
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2235	2235	1073	484
d1, Uniform Delay [s]	9.73	12.34	39.54	40.36
k, delay calibration	0.50	0.50	0.04	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	0.71	0.98	15.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

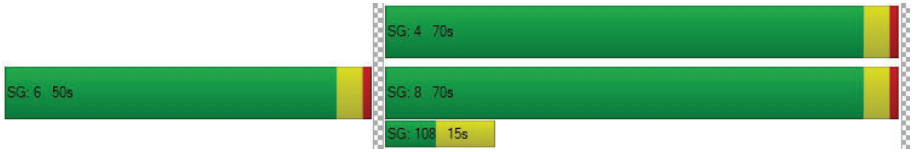
X, volume / capacity	0.16	0.47	0.88	0.93
d, Delay for Lane Group [s/veh]	9.89	13.05	40.52	55.61
Lane Group LOS	A	B	D	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.06	7.53	12.49	14.05
50th-Percentile Queue Length [ft/ln]	51.40	188.33	312.26	351.31
95th-Percentile Queue Length [veh/ln]	3.70	12.03	18.29	20.20
95th-Percentile Queue Length [ft/ln]	92.52	300.86	457.16	505.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.89	0.00	0.00	13.05	40.52	55.61
Movement LOS	A			B	D	E
d_A, Approach Delay [s/veh]	9.89		13.05		45.39	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	28.68					
Intersection LOS	C					
Intersection V/C	0.574					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	20	290	190	350	1240	160	30	360	60	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	290	190	350	1240	160	30	360	60	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	74	49	98	346	45	9	108	18	0	0	0
Total Analysis Volume [veh/h]	20	297	194	391	1386	179	36	430	72	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	23	23	68	89	89	15	15	15
g / C, Green / Cycle	0.02	0.20	0.20	0.56	0.74	0.74	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.16	0.11	0.11	0.41	0.44	0.10	0.10	0.11
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1780	1882	1729	1585
c, Capacity [veh/h]	37	372	352	1985	1406	1317	234	215	197
d1, Uniform Delay [s]	58.14	45.95	43.45	12.78	6.89	7.23	51.20	51.18	51.44
k, delay calibration	0.04	0.20	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.43	7.26	0.50	0.02	1.59	1.98	2.78	2.96	4.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

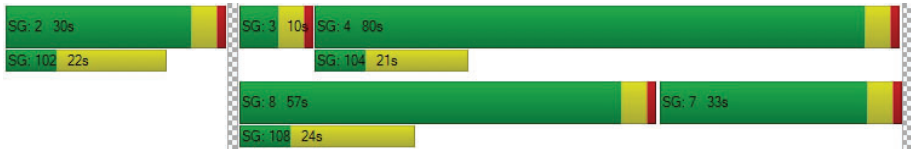
X, volume / capacity	0.54	0.80	0.55	0.20	0.56	0.59	0.82	0.82	0.86
d, Delay for Lane Group [s/veh]	62.57	53.21	43.95	12.80	8.48	9.21	53.99	54.15	55.54
Lane Group LOS	E	D	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.65	9.17	5.25	2.56	8.31	8.79	5.78	5.30	5.15
50th-Percentile Queue Length [ft/ln]	16.19	229.18	131.19	64.02	207.66	219.74	144.46	132.42	128.68
95th-Percentile Queue Length [veh/ln]	1.17	14.13	9.00	4.61	13.03	13.65	9.72	9.07	8.87
95th-Percentile Queue Length [ft/ln]	29.13	353.32	225.12	115.23	325.82	341.29	243.01	226.78	221.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.57	53.21	43.95	12.80	8.80	9.21	53.99	54.40	55.54	0.00	0.00	0.00
Movement LOS	E	D	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	50.06			9.64			54.53			0.00		
Approach LOS	D			A			D			A		
d_I, Intersection Delay [s/veh]	24.55											
Intersection LOS	C											
Intersection V/C	0.557											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	17.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.391

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	90	270	140	40	70	30	30	500	50	80	640	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	270	140	40	70	30	30	500	50	80	640	110
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	75	39	11	18	8	8	130	13	21	171	29
Total Analysis Volume [veh/h]	100	299	155	42	74	32	31	522	52	86	685	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	26	26	26	26	26	61	61	61	61	61	61
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.11	0.04	0.06	0.05	0.14	0.04	0.10	0.22	0.23
s, saturation flow rate [veh/h]	1160	1900	1455	1057	1689	683	3618	1422	870	1900	1674
c, Capacity [veh/h]	293	494	378	181	439	389	2198	864	522	1154	1017
d1, Uniform Delay [s]	35.78	32.41	30.56	41.80	29.14	15.05	8.97	7.97	12.94	9.80	10.02
k, delay calibration	0.04	0.05	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.51	0.26	0.24	0.10	0.40	0.25	0.13	0.68	0.86	1.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

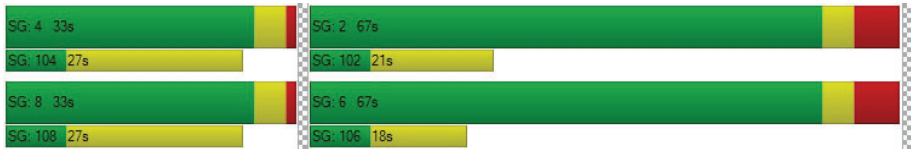
X, volume / capacity	0.34	0.61	0.41	0.23	0.24	0.08	0.24	0.06	0.16	0.36	0.38
d, Delay for Lane Group [s/veh]	36.04	32.92	30.83	42.04	29.24	15.46	9.23	8.10	13.62	10.67	11.12
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.14	6.25	3.05	0.96	1.98	0.43	2.52	0.46	1.10	4.49	4.40
50th-Percentile Queue Length [ft/ln]	53.43	156.18	76.19	24.10	49.54	10.83	63.00	11.60	27.59	112.17	109.97
95th-Percentile Queue Length [veh/ln]	3.85	10.35	5.49	1.74	3.57	0.78	4.54	0.84	1.99	7.96	7.84
95th-Percentile Queue Length [ft/ln]	96.17	258.66	137.15	43.38	89.17	19.50	113.40	20.89	49.67	199.01	195.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.04	32.92	30.83	42.04	29.24	29.24	15.46	9.23	8.10	13.62	10.85	11.12
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	32.90			32.87			9.45			11.15		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	17.63											
Intersection LOS	B											
Intersection V/C	0.391											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.316

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	380	40	10	100	40	20	230	30	20	180	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	380	40	10	100	40	20	230	30	20	180	30
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	103	11	3	30	12	6	67	9	6	54	9
Total Analysis Volume [veh/h]	87	414	44	12	118	47	23	267	35	24	217	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	68	68	68	68	68	23	23
g / C, Green / Cycle	0.68	0.68	0.68	0.68	0.68	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.13	0.01	0.10	0.19	0.17
s, saturation flow rate [veh/h]	1185	1900	1797	933	1736	1710	1626
c, Capacity [veh/h]	806	1290	1220	638	1179	430	412
d1, Uniform Delay [s]	7.80	5.87	5.89	7.81	5.69	36.46	35.26
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	0.31	0.33	0.05	0.25	2.72	1.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.18	0.19	0.02	0.14	0.76	0.67
d, Delay for Lane Group [s/veh]	8.07	6.17	6.23	7.87	5.94	39.18	37.18
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.76	1.64	1.61	0.10	1.14	7.65	6.27
50th-Percentile Queue Length [ft/ln]	18.98	41.08	40.30	2.61	28.47	191.26	156.67
95th-Percentile Queue Length [veh/ln]	1.37	2.96	2.90	0.19	2.05	12.19	10.37
95th-Percentile Queue Length [ft/ln]	34.17	73.95	72.53	4.69	51.25	304.66	259.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.07	6.20	6.23	7.87	5.94	5.94	39.18	39.18	39.18	37.18	37.18	37.18
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.50			6.07			39.18			37.18		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	20.88											
Intersection LOS	C											
Intersection V/C	0.316											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	130	410	110	60	120	30	30	360	40	70	300	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	410	110	60	120	30	30	360	40	70	300	40
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	117	31	17	34	8	9	105	12	22	94	12
Total Analysis Volume [veh/h]	148	467	125	68	135	34	35	421	47	87	375	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	27	27	27	27	27	59	59	59	59	59	59
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.27	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.13	0.16	0.18	0.08	0.10	0.03	0.12	0.13	0.10	0.20	0.04
s, saturation flow rate [veh/h]	1157	1900	1626	831	1751	1002	1900	1767	907	1900	1407
c, Capacity [veh/h]	278	521	446	156	480	545	1128	1050	536	1128	836
d1, Uniform Delay [s]	38.73	31.41	31.96	43.98	29.16	14.44	9.42	9.48	13.22	10.27	8.55
k, delay calibration	0.04	0.04	0.08	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.59	0.40	1.09	0.71	0.16	0.23	0.42	0.48	0.65	0.79	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

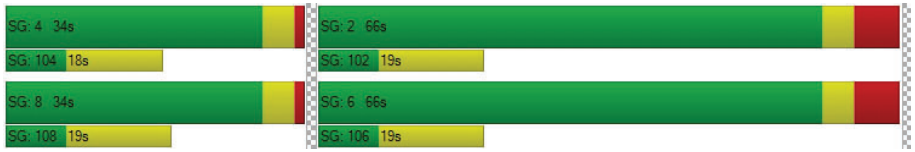
X, volume / capacity	0.53	0.59	0.64	0.44	0.35	0.06	0.21	0.22	0.16	0.33	0.06
d, Delay for Lane Group [s/veh]	39.32	31.81	33.05	44.69	29.33	14.67	9.84	9.97	13.87	11.06	8.69
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.39	6.29	6.05	1.65	3.21	0.46	2.41	2.37	1.13	4.17	0.47
50th-Percentile Queue Length [ft/ln]	84.84	157.25	151.15	41.24	80.33	11.53	60.15	59.19	28.13	104.17	11.67
95th-Percentile Queue Length [veh/ln]	6.11	10.40	10.08	2.97	5.78	0.83	4.33	4.26	2.03	7.50	0.84
95th-Percentile Queue Length [ft/ln]	152.71	260.08	251.96	74.24	144.60	20.76	108.27	106.54	50.63	187.51	21.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.32	32.24	33.05	44.69	29.33	29.33	14.67	9.90	9.97	13.87	11.06	8.69
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	A
d_A, Approach Delay [s/veh]	33.79			33.73			10.24			11.31		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.06											
Intersection LOS	C											
Intersection V/C	0.373											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	150	490	120	40	100	90	110	250	70	60	350	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	490	120	40	100	90	110	250	70	60	350	50
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	129	31	11	28	25	29	67	19	17	97	14
Total Analysis Volume [veh/h]	157	514	126	45	111	100	117	266	75	66	387	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28	28	63	63	63	63	63
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.17	0.18	0.06	0.13	0.12	0.19	0.06	0.20	0.04
s, saturation flow rate [veh/h]	1167	1900	1674	800	1655	993	1771	1031	1900	1435
c, Capacity [veh/h]	255	532	469	151	464	579	1112	605	1193	901
d1, Uniform Delay [s]	41.07	31.36	31.77	43.00	29.69	13.58	8.58	12.47	8.70	7.20
k, delay calibration	0.04	0.05	0.08	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.90	0.57	1.18	0.40	0.26	0.79	0.72	0.36	0.72	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.62	0.66	0.30	0.45	0.20	0.31	0.11	0.32	0.06
d, Delay for Lane Group [s/veh]	41.97	31.93	32.95	43.40	29.95	14.37	9.30	12.83	9.42	7.33
Lane Group LOS	D	C	C	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.75	6.85	6.56	1.06	4.12	1.52	3.27	0.79	3.75	0.45
50th-Percentile Queue Length [ft/ln]	93.74	171.19	164.02	26.56	102.95	37.90	81.76	19.69	93.72	11.14
95th-Percentile Queue Length [veh/ln]	6.75	11.14	10.76	1.91	7.41	2.73	5.89	1.42	6.75	0.80
95th-Percentile Queue Length [ft/ln]	168.73	278.48	269.04	47.80	185.31	68.22	147.17	35.44	168.70	20.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.97	32.29	32.95	43.40	29.95	29.95	14.37	9.30	9.30	12.83	9.42	7.33
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	34.30			32.31			10.59			9.64		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	22.47											
Intersection LOS	C											
Intersection V/C	0.388											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	660	40	20	20	120	0	0	0	6	220	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	660	40	20	20	120	0	0	0	6	220	70
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	182	11	6	6	35	0	0	0	2	73	23
Total Analysis Volume [veh/h]	15	726	44	24	24	142	0	0	0	6	291	93
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	41	41	3	49		40
g / C, Green / Cycle	0.41	0.41	0.03	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.20	0.03	0.01	0.10		0.21
s, saturation flow rate [veh/h]	3618	1353	1810	1588		1811
c, Capacity [veh/h]	1494	559	62	783		733
d1, Uniform Delay [s]	21.54	17.80	47.26	14.34		22.48
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.13	0.27	1.48	0.62		2.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

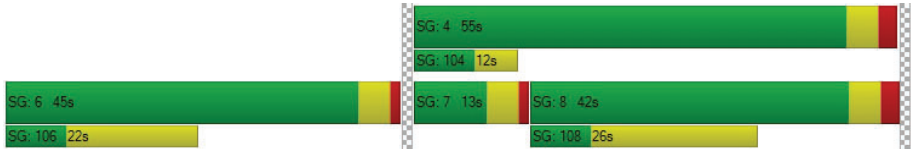
X, volume / capacity	0.49	0.08	0.39	0.21		0.52
d, Delay for Lane Group [s/veh]	22.67	18.07	48.74	14.95		25.14
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.32	0.65	0.60	2.17		7.20
50th-Percentile Queue Length [ft/ln]	158.08	16.31	15.06	54.13		179.97
95th-Percentile Queue Length [veh/ln]	10.45	1.17	1.08	3.90		11.60
95th-Percentile Queue Length [ft/ln]	261.17	29.36	27.10	97.43		289.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	22.67	18.07	48.74	14.95	14.95	0.00	0.00	0.00	0.00	25.14	25.14
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.41			19.22			0.00			25.14		
Approach LOS	C			B			A			C		
d_I, Intersection Delay [s/veh]	22.74											
Intersection LOS	C											
Intersection V/C	0.426											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	30	170	60	90	150	50	70	380	30	30	350	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	170	60	90	150	50	70	380	30	30	350	160
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	49	17	25	42	14	21	115	9	8	96	44
Total Analysis Volume [veh/h]	35	196	69	102	169	56	85	459	36	33	382	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.39	0.12	0.45	0.09	0.09	0.27	0.04	0.20	0.13
s, saturation flow rate [veh/h]	600	600	600	600	971	1844	902	1900	1325
c, Capacity [veh/h]	278	219	290	219	438	928	362	957	667
d1, Uniform Delay [s]	22.88	15.94	24.67	15.56	16.46	11.79	18.45	10.80	9.94
k, delay calibration	0.34	0.04	0.47	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.51	0.30	37.15	0.23	0.99	2.19	0.50	1.25	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

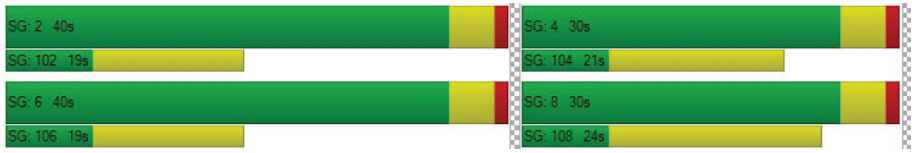
X, volume / capacity	0.83	0.32	0.94	0.26	0.19	0.53	0.09	0.40	0.26
d, Delay for Lane Group [s/veh]	40.39	16.24	61.81	15.78	17.45	13.98	18.95	12.04	10.90
Lane Group LOS	D	B	E	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.91	0.76	7.48	0.60	1.04	5.13	0.43	3.56	1.54
50th-Percentile Queue Length [ft/ln]	122.86	18.94	186.94	14.98	25.90	128.26	10.63	88.92	38.44
95th-Percentile Queue Length [veh/ln]	8.55	1.36	11.96	1.08	1.86	8.84	0.77	6.40	2.77
95th-Percentile Queue Length [ft/ln]	213.75	34.09	299.06	26.97	46.62	221.12	19.13	160.05	69.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.39	40.39	16.24	61.81	61.81	15.78	17.45	13.98	13.98	18.95	12.04	10.90
Movement LOS	D	D	B	E	E	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	34.83			53.93			14.49			12.09		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	24.27											
Intersection LOS	C											
Intersection V/C	0.720											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	100	160	90	30	50	10	30	440	50	50	410	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	160	90	30	50	10	30	440	50	50	410	30
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	45	25	11	18	4	9	138	16	14	112	8
Total Analysis Volume [veh/h]	112	179	100	44	73	15	38	552	63	55	448	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_PM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	36	36	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	17	17	17	17
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.04	0.05	0.05	0.34	0.07	0.26
s, saturation flow rate [veh/h]	1274	1698	1081	1812	836	1822	786	1821
c, Capacity [veh/h]	443	474	290	506	385	851	310	851
d1, Uniform Delay [s]	13.00	11.28	15.83	9.91	11.46	7.77	14.36	7.00
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	0.43	0.09	0.06	0.04	0.44	0.10	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

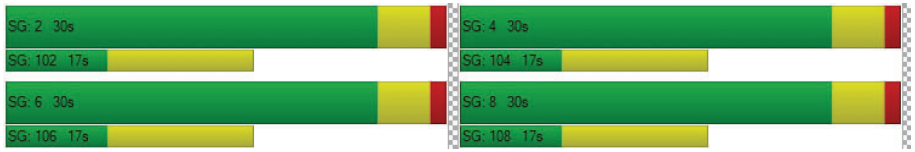
X, volume / capacity	0.25	0.59	0.15	0.17	0.10	0.72	0.18	0.57
d, Delay for Lane Group [s/veh]	13.11	11.71	15.92	9.97	11.50	8.21	14.46	7.22
Lane Group LOS	B	B	B	A	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	1.44	0.29	0.39	0.20	2.39	0.35	1.66
50th-Percentile Queue Length [ft/ln]	15.78	36.05	7.18	9.80	5.01	59.87	8.71	41.62
95th-Percentile Queue Length [veh/ln]	1.14	2.60	0.52	0.71	0.36	4.31	0.63	3.00
95th-Percentile Queue Length [ft/ln]	28.41	64.90	12.92	17.65	9.02	107.76	15.68	74.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.11	11.71	11.71	15.92	9.97	9.97	11.50	8.21	8.21	14.46	7.22	7.22
Movement LOS	B	B	B	B	A	A	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.11			11.95			8.40			7.96		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.39											
Intersection LOS	A											
Intersection V/C	0.502											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	210	410	270	40	270	40	20	610	160	130	660	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	410	270	40	270	40	20	610	160	130	660	50
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	108	71	12	84	12	5	160	42	35	176	13
Total Analysis Volume [veh/h]	222	434	286	50	336	50	21	639	168	139	703	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.18	0.23	0.19	0.05	0.10	0.11	0.03	0.18	0.11	0.14	0.19	0.04
s, saturation flow rate [veh/h]	1239	1900	1525	956	1900	1789	740	3618	1487	974	3618	1443
c, Capacity [veh/h]	451	670	538	90	442	416	305	1593	655	554	2008	801
d1, Uniform Delay [s]	24.43	27.14	25.77	49.67	32.83	32.94	24.17	19.02	17.65	11.57	12.28	10.27
k, delay calibration	0.50	0.13	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.33	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	1.30	0.30	1.99	0.26	0.29	0.44	0.75	0.94	0.71	0.48	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.65	0.53	0.56	0.44	0.46	0.07	0.40	0.26	0.25	0.35	0.07
d, Delay for Lane Group [s/veh]	28.23	28.44	26.08	51.67	33.09	33.23	24.61	19.77	18.60	12.28	12.77	10.43
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.29	8.72	5.35	1.28	4.01	3.90	0.39	5.08	2.57	1.50	4.18	0.54
50th-Percentile Queue Length [ft/ln]	107.31	218.11	133.83	32.08	100.21	97.46	9.66	127.10	64.30	37.59	104.38	13.62
95th-Percentile Queue Length [veh/ln]	7.69	13.57	9.15	2.31	7.22	7.02	0.70	8.78	4.63	2.71	7.52	0.98
95th-Percentile Queue Length [ft/ln]	192.26	339.21	228.70	57.75	180.38	175.44	17.39	219.55	115.73	67.66	187.88	24.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.23	28.44	26.08	51.67	33.14	33.23	24.61	19.77	18.60	12.28	12.77	10.43
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	27.68			35.28			19.65			12.55		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.24											
Intersection LOS	C											
Intersection V/C	0.447											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.800

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	810	80	40	520	30	20	190	160	50	140	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	810	80	40	520	30	20	190	160	50	140	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	213	21	12	154	9	5	50	43	14	38	11
Total Analysis Volume [veh/h]	95	854	84	47	616	36	21	202	170	55	153	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	54	54	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.54	0.54	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.25	0.25	0.06	0.17	0.17	0.25	0.12	0.53	0.03
s, saturation flow rate [veh/h]	938	1900	1815	753	1900	1850	894	1461	389	1508
c, Capacity [veh/h]	627	1022	977	493	996	969	283	399	152	411
d1, Uniform Delay [s]	7.56	14.24	14.30	8.11	13.69	13.72	31.01	29.92	33.15	27.23
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.28	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	1.53	1.64	0.38	0.89	0.93	11.86	0.27	203.18	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

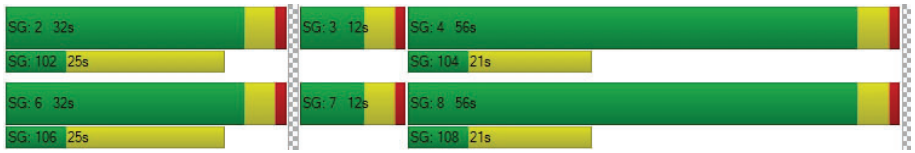
X, volume / capacity	0.15	0.47	0.47	0.10	0.33	0.33	0.79	0.43	1.37	0.11
d, Delay for Lane Group [s/veh]	7.67	15.76	15.95	8.49	14.58	14.64	42.87	30.19	236.33	27.28
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	6.77	6.61	0.40	4.36	4.30	5.25	3.31	11.37	0.78
50th-Percentile Queue Length [ft/ln]	18.70	169.17	165.30	10.08	109.07	107.51	131.17	82.85	284.35	19.46
95th-Percentile Queue Length [veh/ln]	1.35	11.03	10.83	0.73	7.79	7.70	9.00	5.97	19.53	1.40
95th-Percentile Queue Length [ft/ln]	33.66	275.82	270.72	18.14	194.70	192.53	225.08	149.14	488.27	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.67	15.84	15.95	8.49	14.61	14.64	42.87	42.87	30.19	236.33	236.33	27.28
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	15.10			14.20			37.38			199.83		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	38.10											
Intersection LOS	D											
Intersection V/C	0.800											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	100	840	150	120	630	40	50	420	170	120	380	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	840	150	120	630	40	50	420	170	120	380	110
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	216	39	32	167	11	14	117	47	33	105	30
Total Analysis Volume [veh/h]	103	864	154	127	666	42	56	467	189	132	419	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.11	0.27	0.28	0.16	0.19	0.19	0.06	0.18	0.20	0.12	0.22	0.08
s, saturation flow rate [veh/h]	930	1900	1767	778	1900	1844	967	1900	1595	1057	1900	1452
c, Capacity [veh/h]	518	820	763	409	824	800	114	470	394	344	688	526
d1, Uniform Delay [s]	11.93	22.28	22.46	14.23	19.75	19.80	48.35	34.59	35.24	24.03	26.09	22.18
k, delay calibration	0.16	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.13	0.23	0.10	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	3.76	4.27	1.97	1.66	1.74	1.20	1.85	4.42	1.51	0.81	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

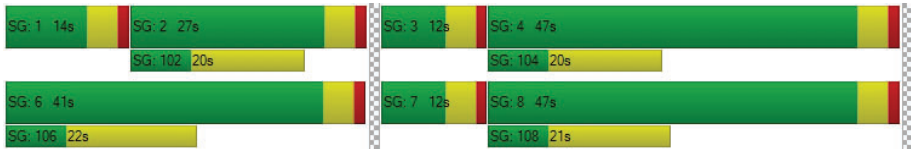
X, volume / capacity	0.20	0.64	0.65	0.31	0.43	0.44	0.49	0.73	0.79	0.38	0.61	0.23
d, Delay for Lane Group [s/veh]	12.20	26.05	26.73	16.20	21.42	21.54	49.55	36.44	39.66	25.54	26.90	22.26
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.10	10.16	9.81	1.56	6.05	5.95	1.43	7.79	7.48	2.25	8.12	1.97
50th-Percentile Queue Length [ft/ln]	27.62	254.11	245.21	38.91	151.21	148.80	35.81	194.76	187.04	56.34	202.95	49.18
95th-Percentile Queue Length [veh/ln]	1.99	15.39	14.94	2.80	10.08	9.95	2.58	12.37	11.97	4.06	12.79	3.54
95th-Percentile Queue Length [ft/ln]	49.71	384.82	373.61	70.03	252.05	248.83	64.46	309.20	299.18	101.41	319.77	88.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.20	26.32	26.73	16.20	21.48	21.54	49.55	37.29	39.66	25.54	26.90	22.26
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	25.08			20.68			38.88			25.80		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	27.06											
Intersection LOS	C											
Intersection V/C	0.568											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	130	950	180	30	810	40	60	250	150	100	280	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	950	180	30	810	40	60	250	150	100	280	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	258	49	8	220	11	16	65	39	27	76	22
Total Analysis Volume [veh/h]	141	1030	195	33	881	44	62	259	155	108	302	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	9	51	51	37	37	37	26	26	26	35	35
g / C, Green / Cycle	0.09	0.51	0.51	0.37	0.37	0.37	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.08	0.33	0.35	0.07	0.25	0.25	0.06	0.14	0.11	0.29	0.06
s, saturation flow rate [veh/h]	1810	1900	1700	462	1900	1835	1094	1900	1352	1394	1366
c, Capacity [veh/h]	172	978	875	115	711	687	72	488	347	488	482
d1, Uniform Delay [s]	44.42	17.55	18.15	44.38	25.96	26.12	50.00	31.97	31.19	29.00	22.33
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.68	3.22	4.30	6.23	4.69	5.10	10.27	0.33	0.34	15.96	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

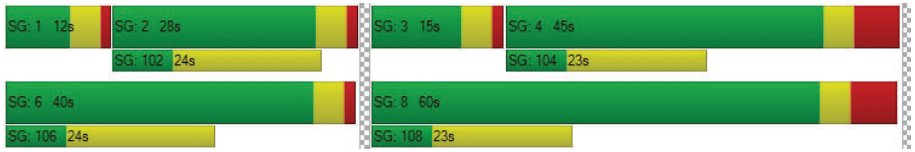
X, volume / capacity	0.82	0.64	0.68	0.29	0.66	0.67	0.86	0.53	0.45	0.84	0.18
d, Delay for Lane Group [s/veh]	48.10	20.77	22.45	50.62	30.66	31.22	60.26	32.30	31.52	44.96	22.40
Lane Group LOS	D	C	C	D	C	C	E	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.58	10.79	10.83	0.99	9.90	9.84	1.74	5.30	3.10	9.95	1.37
50th-Percentile Queue Length [ft/ln]	89.49	269.78	270.68	24.81	247.39	246.12	43.39	132.46	77.48	248.82	34.29
95th-Percentile Queue Length [veh/ln]	6.44	16.18	16.22	1.79	15.05	14.99	3.12	9.07	5.58	15.13	2.47
95th-Percentile Queue Length [ft/ln]	161.08	404.47	405.59	44.66	376.37	374.76	78.11	226.84	139.47	378.17	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.10	21.43	22.45	50.62	30.92	31.22	60.26	32.30	31.52	44.96	44.96	22.40
Movement LOS	D	C	C	D	C	C	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	24.33			31.61			35.69			41.05		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.60											
Intersection LOS	C											
Intersection V/C	0.584											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	130	1240	50	40	1020	20	6	80	110	66	150	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	1240	50	40	1020	20	6	80	110	66	150	50
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	327	13	10	266	5	2	24	32	18	42	14
Total Analysis Volume [veh/h]	137	1308	53	42	1063	21	7	95	130	70	169	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	32	32	5	28	28	40	40
g / C, Green / Cycle	0.09	0.35	0.35	0.05	0.31	0.31	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.36	0.36	0.02	0.29	0.29	0.13	0.12
s, saturation flow rate [veh/h]	1810	1900	1860	1810	1900	1878	1682	1808
c, Capacity [veh/h]	172	669	655	93	587	580	745	801
d1, Uniform Delay [s]	39.99	29.23	29.23	41.54	30.19	30.25	16.14	15.97
k, delay calibration	0.04	0.50	0.50	0.04	0.31	0.31	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.21	40.38	44.22	1.26	16.10	16.96	1.04	0.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.02	1.03	0.45	0.93	0.93	0.30	0.28
d, Delay for Lane Group [s/veh]	43.19	69.61	73.45	42.80	46.29	47.21	17.18	16.84
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.08	21.28	21.53	0.93	13.61	13.67	3.08	3.03
50th-Percentile Queue Length [ft/ln]	77.12	532.01	538.23	23.24	340.35	341.78	77.05	75.76
95th-Percentile Queue Length [veh/ln]	5.55	29.29	29.82	1.67	19.67	19.74	5.55	5.46
95th-Percentile Queue Length [ft/ln]	138.82	732.16	745.40	41.84	491.63	493.38	138.68	136.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.19	71.44	73.45	42.80	46.74	47.21	0.00	17.18	17.18	0.00	16.84	16.84
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	68.93			46.60			17.18			16.84		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	53.15											
Intersection LOS	D											
Intersection V/C	0.521											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	240	630	0	0	1190	70	0	0	0	650	270	780
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	630	0	0	1190	70	0	0	0	650	270	780
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	181	0	0	313	18	0	0	0	179	74	215
Total Analysis Volume [veh/h]	276	724	0	0	1253	74	0	0	0	715	297	858
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	20	72	47	47		39	39	39	39
g / C, Green / Cycle	0.17	0.60	0.39	0.39		0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.24	0.24		0.27	0.26	0.30	0.31
s, saturation flow rate [veh/h]	1810	3618	3618	1840		1810	1855	1434	1544
c, Capacity [veh/h]	301	2171	1429	727		585	600	463	499
d1, Uniform Delay [s]	49.12	11.98	29.03	28.87		37.43	37.14	39.28	39.59
k, delay calibration	0.25	0.50	0.50	0.50		0.26	0.25	0.35	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.06	0.41	2.02	3.77		6.97	5.84	21.78	23.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.33	0.62	0.61		0.82	0.81	0.93	0.95
d, Delay for Lane Group [s/veh]	70.18	12.40	31.05	32.64		44.39	42.99	61.06	63.42
Lane Group LOS	E	B	C	C		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.86	4.85	10.52	10.83		13.59	13.39	14.52	16.24
50th-Percentile Queue Length [ft/ln]	246.59	121.33	263.05	270.69		339.8	334.7	362.9	405.9
95th-Percentile Queue Length [veh/ln]	15.01	8.47	15.84	16.22		19.64	19.39	20.77	22.85
95th-Percentile Queue Length [ft/ln]	375.36	211.65	396.05	405.60		490.9	484.7	519.1	571.2

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.18	12.40	0.00	0.00	31.52	32.64	0.00	0.00	0.00	43.91	45.82	62.40
Movement LOS	E	B			C	C				D	D	E
d_A, Approach Delay [s/veh]	28.35			31.58			0.00			52.69		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	40.21											
Intersection LOS	D											
Intersection V/C	0.703											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	810	260	540	1240	0	110	170	250	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	810	260	540	1240	0	110	170	250	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	225	72	145	333	0	32	49	72	0	0	0
Total Analysis Volume [veh/h]	0	898	288	580	1331	0	126	195	287	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	56	87	24	24	24
g / C, Green / Cycle	0.22	0.22	0.22	0.47	0.73	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.17	0.19	0.20	0.17	0.37	0.09	0.09	0.18
s, saturation flow rate [veh/h]	3618	1553	1454	3514	3618	1830	1729	1577
c, Capacity [veh/h]	797	342	320	1644	2628	360	340	310
d1, Uniform Delay [s]	43.69	45.17	45.47	20.34	7.10	42.53	42.51	47.29
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	2.82	3.73	0.60	0.70	0.34	0.36	18.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.88	0.90	0.35	0.51	0.46	0.46	0.92
d, Delay for Lane Group [s/veh]	44.24	47.99	49.20	20.93	7.80	42.87	42.86	65.40
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.26	8.75	8.55	5.30	6.82	4.34	4.08	9.86
50th-Percentile Queue Length [ft/ln]	206.59	218.72	213.64	132.40	170.51	108.42	101.88	246.49
95th-Percentile Queue Length [veh/ln]	12.98	13.60	13.34	9.07	11.10	7.75	7.34	15.01
95th-Percentile Queue Length [ft/ln]	324.45	339.99	333.50	226.75	277.59	193.80	183.38	375.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	44.69	49.20	20.93	7.80	0.00	42.87	42.86	65.40	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	46.39			11.79			53.50			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.71											
Intersection LOS	C											
Intersection V/C	0.550											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	36.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	710	260	90	780	110	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	710	260	90	780	110	180
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	198	73	28	245	32	52
Total Analysis Volume [veh/h]	792	290	113	978	126	207
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.17	0.27	0.15	0.28
s, saturation flow rate [veh/h]	3618	1353	684	3618	832	734
c, Capacity [veh/h]	2509	938	472	2509	145	128
d1, Uniform Delay [s]	6.01	5.98	10.31	6.44	40.14	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.38
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.86	1.19	0.46	5.92	302.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.31	0.24	0.39	0.87	1.62
d, Delay for Lane Group [s/veh]	6.34	6.84	11.51	6.90	46.06	343.47
Lane Group LOS	A	A	B	A	D	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.97	2.30	1.33	3.93	3.18	13.84
50th-Percentile Queue Length [ft/ln]	74.15	57.47	33.14	98.19	79.56	345.90
95th-Percentile Queue Length [veh/ln]	5.34	4.14	2.39	7.07	5.73	23.65
95th-Percentile Queue Length [ft/ln]	133.46	103.44	59.65	176.74	143.21	591.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.34	6.84	11.51	6.90	46.06	343.47
Movement LOS	A	A	B	A	D	F
d_A, Approach Delay [s/veh]	6.48		7.37		230.94	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	36.69					
Intersection LOS	D					
Intersection V/C	0.552					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	50	40	0	20	40	20	0	30	180	40	0	20	160	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	50	40	0	20	40	20	0	30	180	40	0	20	160	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	17	13	0	6	12	6	0	8	51	11	0	6	44	8
Total Analysis Volume [veh/h]	0	27	67	54	0	25	50	25	0	34	203	45	0	22	178	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	592	687	584	679	653	759	648	750
Degree of Utilization, x	0.16	0.08	0.13	0.04	0.36	0.06	0.31	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.56	0.25	0.44	0.11	1.66	0.19	1.31	0.14
95th-Percentile Queue Length [ft]	14.03	6.37	10.98	2.86	41.47	4.72	32.71	3.45
Approach Delay [s/veh]	9.36		9.38		10.76		10.29	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.17							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.351

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	470	130	0	60	350	0	110	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	470	130	0	60	350	0	110	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	34	0	16	92	0	35	26
Total Analysis Volume [veh/h]	0	493	136	0	63	366	0	141	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.26	0.09	0.07	0.19	0.09	0.09
s, saturation flow rate [veh/h]	1900	1581	918	1900	1538	1208
c, Capacity [veh/h]	1107	866	451	1042	437	343
d1, Uniform Delay [s]	7.54	6.11	12.48	6.92	15.46	15.35
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.30	0.39	0.65	0.93	0.16	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.16	0.14	0.35	0.32	0.30
d, Delay for Lane Group [s/veh]	8.84	6.50	13.13	7.85	15.61	15.53
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	0.68	0.55	2.07	1.30	0.94
50th-Percentile Queue Length [ft/ln]	76.03	17.09	13.87	51.73	32.42	23.60
95th-Percentile Queue Length [veh/ln]	5.47	1.23	1.00	3.72	2.33	1.70
95th-Percentile Queue Length [ft/ln]	136.85	30.76	24.97	93.11	58.35	42.48

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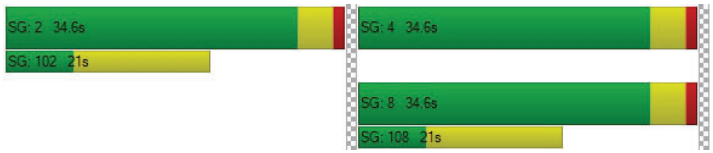
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.84	8.84	6.50	13.13	13.13	7.85	15.61	15.61	15.53
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.34			8.63			15.58		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.79								
Intersection LOS	A								
Intersection V/C	0.351								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.427

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	150	40	10	80	10	20	190	30	20	140	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	150	40	10	80	10	20	190	30	20	140	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	45	12	3	21	3	6	58	9	6	42	6
Total Analysis Volume [veh/h]	36	178	47	11	86	11	24	232	37	24	169	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	668	630	687	670
Degree of Utilization, x	0.39	0.17	0.43	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.86	0.62	2.14	1.40
95th-Percentile Queue Length [ft]	46.45	15.38	53.53	35.09
Approach Delay [s/veh]	11.81	9.89	12.09	10.93
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.45			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	220	60	30	140	20	20	190	50	20	140	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	220	60	30	140	20	20	190	50	20	140	40
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	65	18	8	38	5	6	54	14	5	38	11
Total Analysis Volume [veh/h]	48	262	71	33	154	22	23	214	56	21	150	43
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	614	574	591	574
Degree of Utilization, x	0.62	0.36	0.50	0.37

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.28	1.66	2.75	1.72
95th-Percentile Queue Length [ft]	107.08	41.50	68.79	43.00
Approach Delay [s/veh]	17.99	12.84	14.95	12.96
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	15.22			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	26.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.886

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	70	330	30	30	220	30	20	130	100	30	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	330	30	30	220	30	20	130	100	30	130	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	92	8	8	61	8	6	36	28	9	38	9
Total Analysis Volume [veh/h]	78	367	33	33	245	33	22	144	111	35	152	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	502	566	478	534	513	490
Degree of Utilization, x	0.89	0.06	0.58	0.06	0.54	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.83	0.19	3.63	0.20	3.17	2.32
95th-Percentile Queue Length [ft]	245.87	4.63	90.75	4.92	79.30	58.12
Approach Delay [s/veh]	41.22		19.03		17.91	16.30
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	26.55					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	40	200	130	110	260	10	50	150	60	90	120	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	200	130	110	260	10	50	150	60	90	120	20
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	56	37	31	73	3	13	39	16	26	35	6
Total Analysis Volume [veh/h]	45	225	146	124	292	11	52	157	63	105	141	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	48	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.04	0.22	0.11	0.16	0.05	0.13	0.09	0.10
s, saturation flow rate [veh/h]	1170	1690	1128	1877	1025	1723	1150	1716
c, Capacity [veh/h]	751	884	688	1007	159	315	131	314
d1, Uniform Delay [s]	6.87	13.13	7.69	11.54	40.43	34.49	44.13	33.27
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.46	0.57	0.77	0.44	1.05	4.34	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

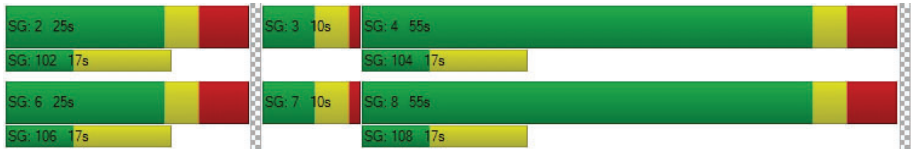
X, volume / capacity	0.06	0.42	0.18	0.30	0.33	0.70	0.80	0.52
d, Delay for Lane Group [s/veh]	6.88	14.59	8.26	12.31	40.87	35.54	48.46	33.77
Lane Group LOS	A	B	A	B	D	D	D	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.29	4.56	0.97	3.36	1.13	4.52	2.46	3.19
50th-Percentile Queue Length [ft/ln]	7.26	113.91	24.25	83.90	28.17	113.07	61.45	79.71
95th-Percentile Queue Length [veh/ln]	0.52	8.06	1.75	6.04	2.03	8.01	4.42	5.74
95th-Percentile Queue Length [ft/ln]	13.07	201.42	43.66	151.02	50.71	200.26	110.61	143.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.88	14.59	14.59	8.26	12.31	12.31	40.87	35.54	35.54	48.46	33.77	33.77
Movement LOS	A	B	B	A	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	13.76			11.14			36.56			39.51		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.43											
Intersection LOS	C											
Intersection V/C	0.378											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.495

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	190	30	10	50	10	20	180	50	20	150	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	190	30	10	50	10	20	180	50	20	150	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	54	8	3	15	3	6	55	15	5	40	5
Total Analysis Volume [veh/h]	79	215	34	12	60	12	24	219	61	21	161	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	662	615	676	648
Degree of Utilization, x	0.50	0.14	0.45	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.76	0.47	2.34	1.34
95th-Percentile Queue Length [ft]	69.04	11.79	58.41	33.38
Approach Delay [s/veh]	13.65	9.78	12.61	11.06
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	12.38			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	210	30	30	170	20	10	80	20	20	130	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	210	30	30	170	20	10	80	20	20	130	50
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	60	9	8	43	5	3	25	6	6	38	15
Total Analysis Volume [veh/h]	34	239	34	31	173	20	13	101	25	23	151	58
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	680	662	633	658
Degree of Utilization, x	0.45	0.34	0.22	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.35	1.49	0.83	1.59
95th-Percentile Queue Length [ft]	58.73	37.36	20.84	39.70
Approach Delay [s/veh]	12.57	11.20	10.29	11.43
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.59			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2640	70	0	2770	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2640	70	0	2770	100	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	717	19	0	709	27	8
Total Analysis Volume [veh/h]	2870	76	0	2835	110	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	62	62	62	62
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	45	45	45	7
g / C, Green / Cycle	0.72	0.72	0.72	0.11
(v / s)_i Volume / Saturation Flow Rate	0.62	0.59	0.47	0.09
s, saturation flow rate [veh/h]	3192	1654	6089	1553
c, Capacity [veh/h]	2289	1186	4366	178
d1, Uniform Delay [s]	6.49	6.14	4.67	26.91
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.58	0.06	3.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.83	0.65	0.80
d, Delay for Lane Group [s/veh]	6.87	6.73	4.73	30.12
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.24	5.04	2.68	2.11
50th-Percentile Queue Length [ft/ln]	131.12	126.11	67.03	52.86
95th-Percentile Queue Length [veh/ln]	9.00	8.73	4.83	3.81
95th-Percentile Queue Length [ft/ln]	225.02	218.20	120.65	95.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.82	6.73	0.00	4.73	30.12	30.12
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.82		4.73		30.12	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.38					
Intersection LOS	A					
Intersection V/C	0.707					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	82.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1960	690	40	340	450	10	568	210	0	0	290	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1960	690	40	340	450	10	568	210	0	0	290	180
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	538	189	11	100	132	3	142	55	0	0	85	53
Total Analysis Volume [veh/h]	2151	757	44	399	528	12	568	219	0	0	338	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	79	79	79	30	30	23	23
g / C, Green / Cycle	0.55	0.55	0.55	0.21	0.21	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.46	0.50	0.52	0.29	0.29	0.14	0.14
s, saturation flow rate [veh/h]	3192	1466	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1766	811	789	335	334	261	619
d1, Uniform Delay [s]	26.49	28.68	29.54	56.40	56.40	57.88	58.40
k, delay calibration	0.04	0.22	0.24	0.50	0.50	0.05	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	8.22	11.42	197.19	198.81	3.21	1.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.91	0.94	1.40	1.40	0.84	0.88
d, Delay for Lane Group [s/veh]	26.90	36.90	40.96	253.59	255.21	61.09	60.13
Lane Group LOS	C	D	D	F	F	E	E
Critical Lane Group	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	20.45	23.88	25.19	30.44	30.49	7.91	6.56
50th-Percentile Queue Length [ft/ln]	511.17	596.98	629.72	760.90	762.34	197.85	164.10
95th-Percentile Queue Length [veh/ln]	27.86	31.89	33.42	46.25	46.37	12.53	10.77
95th-Percentile Queue Length [ft/ln]	696.57	797.33	835.49	1156.34	1159.33	313.20	269.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.75	40.62	40.96	253.59	255.21	255.21	0.00	61.09	0.00	0.00	60.13	60.13
Movement LOS	C	D	D	F	F	F		E			E	F
d_A, Approach Delay [s/veh]	32.92			254.40			61.09			60.13		
Approach LOS	C			F			E			E		
d_I, Intersection Delay [s/veh]	82.09											
Intersection LOS	F											
Intersection V/C	0.958											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	70	120	70	0	20	90	20	0	20	130	80	0	40	140	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	70	120	70	0	20	90	20	0	20	130	80	0	40	140	30
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	20	35	20	0	6	27	6	0	6	38	23	0	12	41	9
Total Analysis Volume [veh/h]	0	82	140	82	0	24	106	24	0	23	150	92	0	47	164	35
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	614	656	637
Degree of Utilization, x	0.47	0.25	0.40	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.49	0.99	1.95	1.82
95th-Percentile Queue Length [ft]	62.18	24.68	48.85	45.52
Approach Delay [s/veh]	13.29	10.81	12.15	12.17
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.30			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.229

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	90	30	20	50	20	10	50	30	30	80	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	90	30	20	50	20	10	50	30	30	80	20
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	5	14	5	4	18	11	9	24	6
Total Analysis Volume [veh/h]	38	113	38	22	54	22	14	71	42	36	96	24
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	659	777	646	761	656	764	653	770
Degree of Utilization, x	0.23	0.05	0.12	0.03	0.13	0.05	0.20	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.15	0.40	0.09	0.44	0.17	0.75	0.10
95th-Percentile Queue Length [ft]	21.97	3.85	9.95	2.23	11.11	4.35	18.78	2.41
Approach Delay [s/veh]	9.33		8.70		8.57		9.28	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	890	80	180	1400	0	32	1085	209	80	0	90
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	890	80	180	1400	0	32	1085	209	80	0	90
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	239	21	50	386	0	8	271	52	25	0	28
Total Analysis Volume [veh/h]	36	0	955	86	198	1544	0	32	1085	209	100	0	112
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	107	107	117	109		23	23
g / C, Green / Cycle	0.03	0.71	0.71	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.05	0.29	0.43		0.08	0.10
s, saturation flow rate [veh/h]	1810	3618	1585	688	3618		1231	1132
c, Capacity [veh/h]	47	2570	1126	546	2625		192	177
d1, Uniform Delay [s]	72.54	8.54	6.65	5.30	9.84		58.07	59.21
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.41	0.13	1.87	0.97		0.81	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.37	0.08	0.36	0.59		0.52	0.63
d, Delay for Lane Group [s/veh]	81.74	8.95	6.78	7.17	10.81		58.88	60.61
Lane Group LOS	F	A	A	A	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.09	0.87	1.66	11.85		3.55	4.08
50th-Percentile Queue Length [ft/ln]	37.61	152.37	21.87	41.38	296.14		88.87	101.98
95th-Percentile Queue Length [veh/ln]	2.71	10.14	1.57	2.98	17.49		6.40	7.34
95th-Percentile Queue Length [ft/ln]	67.70	253.59	39.37	74.49	437.25		159.97	183.56

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	8.95	6.78	7.17	10.81	0.00	0.00	0.00	0.00	58.88	0.00	60.61
Movement LOS	F		A	A	A	B					E		E
d_A, Approach Delay [s/veh]	11.21				10.40			0.00			59.80		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	14.14												
Intersection LOS	B												
Intersection V/C	0.546												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	87.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.203

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	40	2010	2	360	2530	20	20	30	30	150	20	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	2010	2	360	2530	20	20	30	30	150	20	340
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	583	1	92	647	5	8	12	12	45	6	102
Total Analysis Volume [veh/h]	46	2333	2	368	2588	20	32	48	48	181	24	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	328	328	328	328	328	328	328	328
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	10	200	69	258	258	45	45	118
g / C, Green / Cycle	0.03	0.61	0.21	0.79	0.79	0.14	0.14	0.36
(v / s)_i Volume / Saturation Flow Rate	0.03	0.45	0.20	0.47	0.47	0.55	0.40	0.25
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1893	233	512	1615
c, Capacity [veh/h]	56	3152	378	2845	1488	46	91	580
d1, Uniform Delay [s]	157.86	45.64	128.77	14.18	14.23	134.60	146.58	90.19
k, delay calibration	0.04	0.04	0.43	0.04	0.28	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.63	0.13	36.73	0.08	1.03	867.32	597.52	7.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.74	0.97	0.60	0.60	2.80	2.25	0.71
d, Delay for Lane Group [s/veh]	168.49	45.77	165.49	14.26	15.26	1001.92	744.10	97.25
Lane Group LOS	F	D	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.16	45.42	35.49	25.78	27.57	15.04	23.14	31.65
50th-Percentile Queue Length [ft/ln]	104.05	1135.41	887.26	644.59	689.30	376.10	578.62	791.35
95th-Percentile Queue Length [veh/ln]	7.49	56.47	45.26	34.11	36.18	26.54	38.49	40.88
95th-Percentile Queue Length [ft/ln]	187.29	1411.72	1131.52	852.77	904.59	663.46	962.31	1022.02

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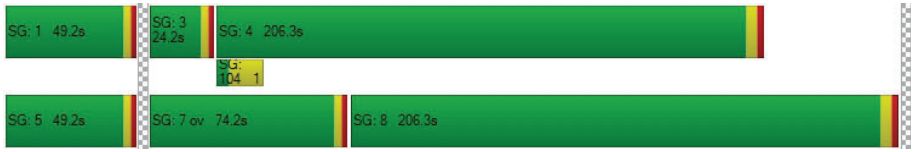
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	168.49	45.77	0.00	165.49	14.60	15.26	1001.92	1001.92	1001.92	744.10	744.10	97.25
Movement LOS	F	D		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	48.15			33.26			1001.92			313.22		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	87.60											
Intersection LOS	F											
Intersection V/C	1.203											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	148.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.252

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	310	410	120	40	460	100	70	130	220	0	30	140	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	310	410	120	40	460	100	70	130	220	0	30	140	70
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	83	109	32	11	132	29	19	36	60	0	9	44	22
Total Analysis Volume [veh/h]	330	437	128	46	526	114	77	142	241	0	38	176	88
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	60	60	4	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.60	0.60	0.04	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.18	0.23	0.10	0.03	0.28	0.08	0.79	0.16	0.37	0.10
s, saturation flow rate [veh/h]	1810	1900	1264	1810	1900	1352	276	1518	583	860
c, Capacity [veh/h]	189	1142	760	65	1012	720	100	570	150	159
d1, Uniform Delay [s]	44.75	10.32	8.85	47.68	15.10	11.93	41.40	23.17	38.86	36.98
k, delay calibration	0.36	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	351.13	0.97	0.48	5.28	1.91	0.47	568.90	0.19	225.07	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

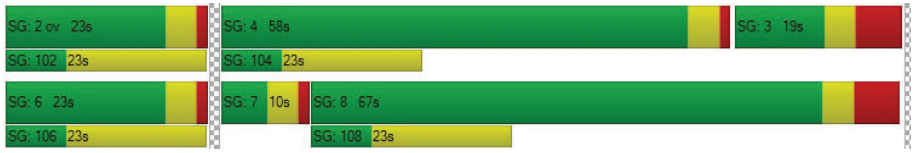
X, volume / capacity	1.75	0.38	0.17	0.71	0.52	0.16	2.19	0.42	1.42	0.55
d, Delay for Lane Group [s/veh]	395.89	11.30	9.33	52.96	17.01	12.40	610.29	23.35	263.93	38.09
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	23.07	4.95	1.27	1.22	7.87	1.35	18.28	4.24	13.10	1.96
50th-Percentile Queue Length [ft/ln]	576.73	123.79	31.66	30.56	196.68	33.72	456.88	106.05	327.45	49.11
95th-Percentile Queue Length [veh/ln]	36.68	8.60	2.28	2.20	12.47	2.43	31.71	7.62	21.93	3.54
95th-Percentile Queue Length [ft/ln]	916.89	215.03	56.99	55.01	311.67	60.69	792.67	190.49	548.29	88.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	395.89	11.30	9.33	52.96	17.01	12.40	610.29	610.29	23.35	263.9	263.9	263.9	38.09
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	152.82			18.66			302.79			198.12			
Approach LOS	F			B			F			F			
d_I, Intersection Delay [s/veh]	148.82												
Intersection LOS	F												
Intersection V/C	1.252												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	520	180	0	210	590	0	260	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	520	180	0	210	590	0	260	300
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	141	49	0	55	156	0	75	86
Total Analysis Volume [veh/h]	0	563	195	0	222	622	0	299	345
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.14	0.22	0.17	0.17	0.13	0.19
s, saturation flow rate [veh/h]	1900	1729	1370	992	3618	1299	1676	1064
c, Capacity [veh/h]	1133	999	791	727	2509	226	292	186
d1, Uniform Delay [s]	10.56	10.56	10.40	5.79	5.67	41.27	39.01	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.16	0.04	0.22
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.66	0.74	1.08	0.24	34.85	1.29	75.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

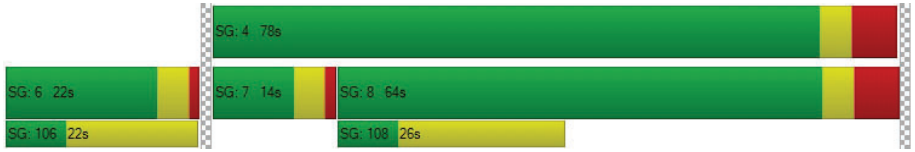
X, volume / capacity	0.26	0.27	0.25	0.31	0.25	1.00	0.73	1.10
d, Delay for Lane Group [s/veh]	11.12	11.22	11.14	6.87	5.90	76.13	40.30	116.60
Lane Group LOS	B	B	B	A	A	F	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.26	2.99	2.17	1.64	2.19	7.69	4.97	8.39
50th-Percentile Queue Length [ft/ln]	81.50	74.75	54.33	41.03	54.83	192.31	124.25	209.73
95th-Percentile Queue Length [veh/ln]	5.87	5.38	3.91	2.95	3.95	12.26	8.63	13.74
95th-Percentile Queue Length [ft/ln]	146.70	134.56	97.80	73.85	98.69	306.45	215.66	343.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.12	11.17	11.14	6.87	6.87	5.90	76.13	66.51	87.17
Movement LOS	B	B	B	A	A	A	E	E	F
d_A, Approach Delay [s/veh]	11.16			6.16			77.21		
Approach LOS	B			A			E		
d_I, Intersection Delay [s/veh]	28.22								
Intersection LOS	C								
Intersection V/C	0.397								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.356

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	570	150	130	690	100	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	570	150	130	690	100	120
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	41	35	183	30	35
Total Analysis Volume [veh/h]	627	165	138	733	118	142
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.17	0.12	0.17	0.20	0.15
s, saturation flow rate [veh/h]	3618	1339	795	3618	1698
c, Capacity [veh/h]	2235	827	481	2235	424
d1, Uniform Delay [s]	8.82	8.32	14.27	9.14	33.18
k, delay calibration	0.50	0.50	0.50	0.50	0.07
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.54	1.50	0.39	0.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

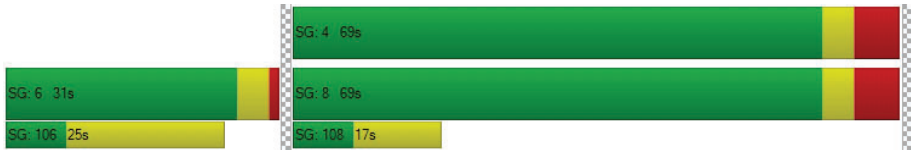
X, volume / capacity	0.28	0.20	0.29	0.33	0.61
d, Delay for Lane Group [s/veh]	9.13	8.86	15.77	9.54	34.05
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.02	1.58	1.97	3.67	5.54
50th-Percentile Queue Length [ft/ln]	75.59	39.42	49.25	91.71	138.55
95th-Percentile Queue Length [veh/ln]	5.44	2.84	3.55	6.60	9.40
95th-Percentile Queue Length [ft/ln]	136.06	70.95	88.65	165.08	235.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.13	8.86	15.77	9.54	34.05	34.05
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.07		10.52		34.05	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	13.11					
Intersection LOS	B					
Intersection V/C	0.356					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	41.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	550	240	150	640	180	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	550	240	150	640	180	150
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	155	68	43	183	50	41
Total Analysis Volume [veh/h]	620	271	171	731	198	165
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.18	0.20	0.24	0.13
s, saturation flow rate [veh/h]	3618	1296	951	3618	832	1238
c, Capacity [veh/h]	2190	785	731	2618	120	325
d1, Uniform Delay [s]	9.40	9.84	4.62	4.78	42.78	31.36
k, delay calibration	0.50	0.50	0.50	0.50	0.37	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	1.21	0.75	0.27	318.17	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.35	0.23	0.28	1.65	0.51
d, Delay for Lane Group [s/veh]	9.72	11.05	5.37	5.05	360.95	31.81
Lane Group LOS	A	B	A	A	F	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.13	3.04	1.06	2.29	13.54	3.39
50th-Percentile Queue Length [ft/ln]	78.16	75.89	26.40	57.22	338.55	84.69
95th-Percentile Queue Length [veh/ln]	5.63	5.46	1.90	4.12	23.09	6.10
95th-Percentile Queue Length [ft/ln]	140.68	136.61	47.52	102.99	577.18	152.45

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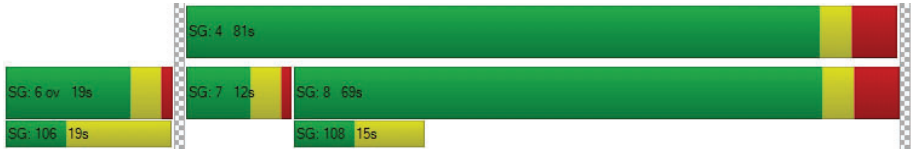
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.72	11.05	5.37	5.05	360.95	31.81
Movement LOS	A	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.12		5.11		211.34	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	41.91					
Intersection LOS	D					
Intersection V/C	0.482					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	10	800	142	67	840	20	20	13	70	190	10	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	800	142	67	840	20	20	13	70	190	10	170
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	224	41	18	221	5	6	6	21	53	3	48
Total Analysis Volume [veh/h]	11	897	165	71	882	21	23	24	82	213	11	191
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	80	80	74	74	11	24	24
g / C, Green / Cycle	0.53	0.53	0.49	0.49	0.08	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.24	0.24	0.06	0.12	0.14
s, saturation flow rate [veh/h]	693	3618	1900	1881	1654	1814	1325
c, Capacity [veh/h]	339	1934	934	924	124	287	209
d1, Uniform Delay [s]	18.41	21.59	25.44	25.52	68.48	60.65	62.11
k, delay calibration	0.04	0.50	0.50	0.50	0.08	0.07	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.80	1.79	1.84	10.64	2.96	18.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

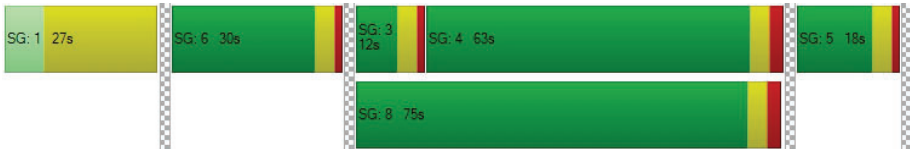
X, volume / capacity	0.03	0.46	0.48	0.49	0.84	0.78	0.91
d, Delay for Lane Group [s/veh]	18.42	22.39	27.23	27.36	79.11	63.60	80.35
Lane Group LOS	B	C	C	C	E	E	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.18	10.06	11.30	11.34	4.34	8.52	8.30
50th-Percentile Queue Length [ft/ln]	4.60	251.41	282.50	283.56	108.45	213.00	207.38
95th-Percentile Queue Length [veh/ln]	0.33	15.26	16.81	16.87	7.75	13.31	13.02
95th-Percentile Queue Length [ft/ln]	8.28	381.42	420.33	421.65	193.85	332.67	325.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.42	22.39	0.00	0.00	27.30	27.36	79.11	0.00	79.11	63.60	63.60	80.35
Movement LOS	B	C			C	C	E		E	E	E	F
d_A, Approach Delay [s/veh]	22.35			27.30			79.11			71.31		
Approach LOS	C			C			E			E		
d_I, Intersection Delay [s/veh]	35.54											
Intersection LOS	D											
Intersection V/C	0.456											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	400	670	800	170	130	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	670	800	170	130	570
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	176	205	44	34	149
Total Analysis Volume [veh/h]	420	703	821	174	135	594
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	17	75	75	75	15	36
g / C, Green / Cycle	0.14	0.62	0.62	0.62	0.12	0.30
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.23	0.13	0.11	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1331	1240	2859
c, Capacity [veh/h]	485	2258	2258	831	152	855
d1, Uniform Delay [s]	50.59	10.51	10.96	9.75	51.78	37.17
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.86	0.36	0.45	0.57	6.60	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

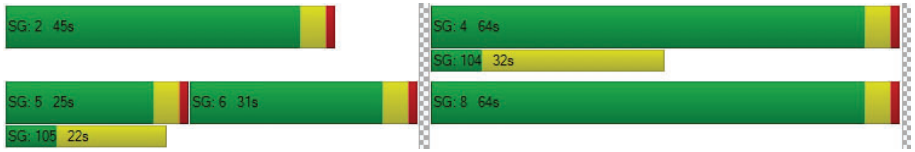
X, volume / capacity	0.87	0.31	0.36	0.21	0.89	0.69
d, Delay for Lane Group [s/veh]	52.45	10.87	11.41	10.32	58.38	37.56
Lane Group LOS	D	B	B	B	E	D
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.29	4.32	5.26	2.06	4.47	8.22
50th-Percentile Queue Length [ft/ln]	157.18	108.01	131.59	51.56	111.84	205.53
95th-Percentile Queue Length [veh/ln]	10.40	7.73	9.03	3.71	7.94	12.92
95th-Percentile Queue Length [ft/ln]	259.99	193.23	225.66	92.81	198.56	323.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.45	10.87	11.41	10.32	58.38	37.56
Movement LOS	D	B	B	B	E	D
d_A, Approach Delay [s/veh]	26.42		11.22		41.41	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.95					
Intersection LOS	C					
Intersection V/C	0.455					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	70	160	70	0	270	0	290	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	160	70	0	270	0	290	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	53	23	0	71	0	78	75
Total Analysis Volume [veh/h]	0	0	0	0	93	212	93	0	285	0	311	300
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		52	52	52	64	64	64
g / C, Green / Cycle		0.44	0.44	0.44	0.54	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate		0.09	0.08	0.10	0.24	0.16	0.20
s, saturation flow rate [veh/h]		1058	1900	1501	1203	1900	1464
c, Capacity [veh/h]		407	830	656	667	1020	786
d1, Uniform Delay [s]		29.74	20.74	21.09	15.77	15.38	16.18
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.31	0.51	0.79	2.00	0.77	1.41
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.23	0.19	0.22	0.43	0.30	0.38
d, Delay for Lane Group [s/veh]		31.05	21.25	21.88	17.77	16.15	17.59
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.12	2.81	2.70	4.54	4.80	4.96
50th-Percentile Queue Length [ft/ln]		52.89	70.31	67.47	113.46	120.03	123.92
95th-Percentile Queue Length [veh/ln]		3.81	5.06	4.86	8.03	8.39	8.61
95th-Percentile Queue Length [ft/ln]		95.20	126.55	121.44	200.81	209.86	215.20

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	31.05	21.41	21.88	0.00	17.77	0.00	16.15	17.59
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.77				17.15			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	29.83											
Intersection LOS	C											
Intersection V/C	0.484											

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Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	610	230	160	770	0	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	610	230	160	770	0	130
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	162	61	44	214	0	34
Total Analysis Volume [veh/h]	0	53	647	244	177	854	0	135
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	46	46	46
g / C, Green / Cycle	0.26	0.26	0.26	0.39	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.20	0.16	0.27	0.28
s, saturation flow rate [veh/h]	578	3618	1246	1074	1900	1730
c, Capacity [veh/h]	65	955	329	376	734	668
d1, Uniform Delay [s]	59.93	39.57	40.40	27.05	30.78	31.33
k, delay calibration	0.04	0.04	0.04	0.04	0.08	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.68	0.32	1.25	0.34	0.91	2.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.68	0.74	0.47	0.69	0.72
d, Delay for Lane Group [s/veh]	68.61	39.89	41.65	27.39	31.69	33.56
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.77	8.57	6.68	3.48	12.30	12.19
50th-Percentile Queue Length [ft/ln]	44.27	214.17	166.98	87.05	307.50	304.68
95th-Percentile Queue Length [veh/ln]	3.19	13.37	10.92	6.27	18.05	17.91
95th-Percentile Queue Length [ft/ln]	79.69	334.18	272.94	156.69	451.29	447.81

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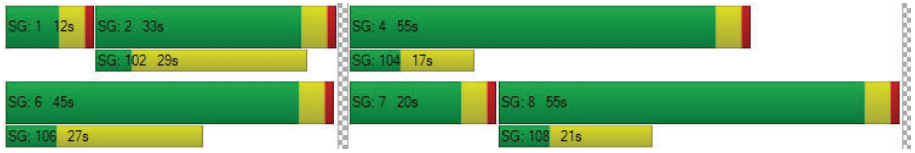
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	68.61	39.89	41.65	27.39	32.45	0.00	33.56
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	41.96				31.81			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	29.83							
Intersection LOS	C							
Intersection V/C	0.484							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	132.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.762

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	80	110	220	0	50	70	70	0	40	250	60	0	170	430	70
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	80	110	220	0	50	70	70	0	40	250	60	0	170	430	70
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	21	29	59	0	14	19	19	0	12	72	17	0	44	111	18
Total Analysis Volume [veh/h]	0	85	117	234	0	54	76	76	0	46	288	69	0	176	444	72
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.07	0.21	0.60	0.05	0.08	0.04	0.16	0.14	0.14
s, saturation flow rate [veh/h]	1255	1665	341	899	3618	1577	1108	1900	1790
c, Capacity [veh/h]	73	258	95	396	1709	745	518	898	846
d1, Uniform Delay [s]	50.02	42.26	43.24	21.55	15.12	14.55	21.25	16.16	16.20
k, delay calibration	0.04	0.16	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	85.53	169.65	559.42	0.60	0.21	0.25	1.78	0.83	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.16	1.36	2.17	0.12	0.17	0.09	0.34	0.29	0.30
d, Delay for Lane Group [s/veh]	135.54	211.91	602.67	22.15	15.34	14.80	23.03	16.99	17.10
Lane Group LOS	F	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.54	18.40	17.10	0.79	1.89	0.90	3.12	3.81	3.66
50th-Percentile Queue Length [ft/ln]	88.47	459.88	427.42	19.65	47.23	22.47	78.09	95.19	91.52
95th-Percentile Queue Length [veh/ln]	6.37	28.87	29.39	1.41	3.40	1.62	5.62	6.85	6.59
95th-Percentile Queue Length [ft/ln]	159.25	721.74	734.78	35.37	85.01	40.45	140.56	171.33	164.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	135.5	135.5	211.9	211.9	602.6	602.6	602.6	602.6	22.15	22.15	15.34	14.80	23.03	23.03	17.04	17.10
Movement LOS	F	F	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	197.02				602.67				16.02				18.57			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	132.04															
Intersection LOS	F															
Intersection V/C	0.762															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	90	230	130	40	110	30	50	90	60	70	70	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	230	130	40	110	30	50	90	60	70	70	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	61	34	12	33	9	15	28	18	20	20	26
Total Analysis Volume [veh/h]	95	243	137	47	130	35	62	111	74	79	79	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	21	21	21	21	21	49	49
g / C, Green / Cycle	0.21	0.21	0.21	0.21	0.21	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.09	0.04	0.09	0.16	0.24
s, saturation flow rate [veh/h]	1240	1900	1539	1155	1807	1543	1100
c, Capacity [veh/h]	196	392	318	144	373	804	588
d1, Uniform Delay [s]	43.87	36.12	34.57	45.78	34.66	15.07	16.93
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	0.60	0.34	0.48	0.31	0.99	2.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

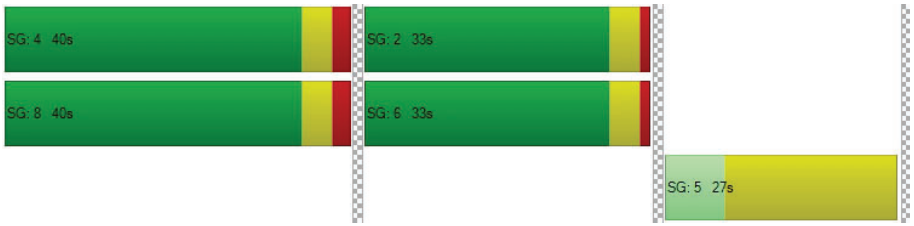
X, volume / capacity	0.49	0.62	0.43	0.33	0.44	0.31	0.44
d, Delay for Lane Group [s/veh]	44.56	36.71	34.92	46.27	34.97	16.06	19.33
Lane Group LOS	D	D	C	D	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	5.34	2.88	1.14	3.47	3.39	4.22
50th-Percentile Queue Length [ft/ln]	57.27	133.58	71.98	28.57	86.78	84.68	105.42
95th-Percentile Queue Length [veh/ln]	4.12	9.13	5.18	2.06	6.25	6.10	7.58
95th-Percentile Queue Length [ft/ln]	103.08	228.35	129.56	51.42	156.21	152.43	189.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.56	36.71	34.92	46.27	34.97	34.97	16.06	16.06	16.06	19.33	19.33	19.33
Movement LOS	D	D	C	D	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	37.77			37.47			16.06			19.33		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.21											
Intersection LOS	C											
Intersection V/C	0.364											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	85.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.088

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	70	260	190	60	150	50	40	230	100	80	170	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	260	190	60	150	50	40	230	100	80	170	190
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	73	53	17	42	14	11	62	27	23	49	55
Total Analysis Volume [veh/h]	79	293	214	67	167	56	43	249	108	92	195	218
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.15	0.27	0.06	0.12	0.51	0.07	0.82	0.14
s, saturation flow rate [veh/h]	1176	1900	800	1103	1792	573	1570	350	1581
c, Capacity [veh/h]	145	370	156	105	349	330	789	224	795
d1, Uniform Delay [s]	47.10	38.33	40.25	49.24	37.02	21.68	13.27	31.33	14.33
k, delay calibration	0.04	0.08	0.44	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.18	2.74	200.17	2.40	0.73	27.58	0.36	157.39	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

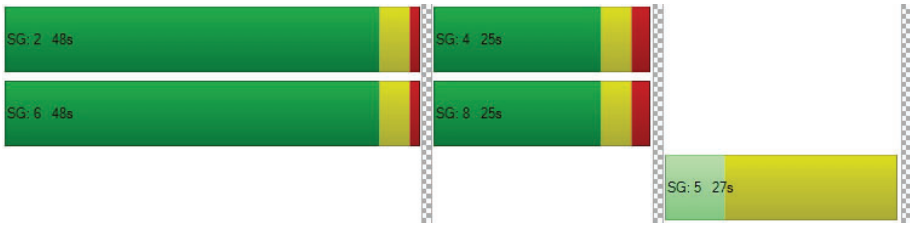
X, volume / capacity	0.54	0.79	1.37	0.64	0.64	0.89	0.14	1.28	0.27
d, Delay for Lane Group [s/veh]	48.28	41.07	240.42	51.64	37.75	49.26	13.63	188.71	15.19
Lane Group LOS	D	D	F	D	D	D	B	F	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.99	6.96	12.38	1.72	4.98	6.29	1.34	15.33	2.95
50th-Percentile Queue Length [ft/ln]	49.76	173.88	309.42	43.05	124.43	157.22	33.61	383.34	73.66
95th-Percentile Queue Length [veh/ln]	3.58	11.28	20.72	3.10	8.64	10.40	2.42	25.34	5.30
95th-Percentile Queue Length [ft/ln]	89.57	282.00	517.89	77.49	215.89	260.04	60.49	633.39	132.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.28	41.07	240.42	51.64	37.75	37.75	49.26	49.26	13.63	188.71	188.71	15.19
Movement LOS	D	D	F	D	D	D	D	D	B	F	F	B
d_A, Approach Delay [s/veh]	114.84			40.96			39.64			113.80		
Approach LOS	F			D			D			F		
d_I, Intersection Delay [s/veh]	85.63											
Intersection LOS	F											
Intersection V/C	1.088											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.350

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	80	200	200	90	200	40	70	210	110	120	200	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	200	200	90	200	40	70	210	110	120	200	200
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	59	59	24	53	11	18	55	29	35	58	58
Total Analysis Volume [veh/h]	95	237	237	96	214	43	73	220	115	139	231	231
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.16	0.08	0.14	0.06	0.19	0.13	0.12	0.15
s, saturation flow rate [veh/h]	1140	1900	1472	1161	1833	1168	1769	1062	1900	1559
c, Capacity [veh/h]	185	460	357	205	444	463	770	370	827	679
d1, Uniform Delay [s]	44.30	32.80	34.22	42.77	33.39	23.62	19.68	29.77	18.16	18.73
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	0.33	0.80	0.62	0.45	0.73	1.79	2.90	0.84	1.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

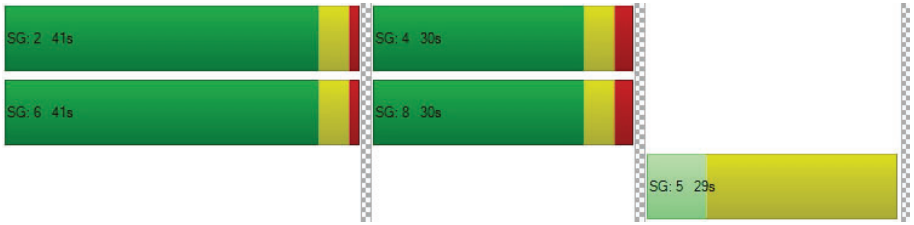
X, volume / capacity	0.51	0.51	0.66	0.47	0.58	0.16	0.44	0.38	0.28	0.34
d, Delay for Lane Group [s/veh]	45.13	33.13	35.01	43.39	33.83	24.35	21.47	32.67	19.00	20.09
Lane Group LOS	D	C	D	D	C	C	C	C	B	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.31	4.89	5.14	2.28	5.41	1.29	5.59	3.00	3.51	3.67
50th-Percentile Queue Length [ft/ln]	57.80	122.32	128.48	57.06	135.23	32.30	139.69	74.96	87.64	91.81
95th-Percentile Queue Length [veh/ln]	4.16	8.52	8.86	4.11	9.22	2.33	9.46	5.40	6.31	6.61
95th-Percentile Queue Length [ft/ln]	104.04	213.01	221.43	102.70	230.58	58.14	236.61	134.94	157.75	165.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.13	33.13	35.01	43.39	33.83	33.83	24.35	21.47	21.47	32.67	19.00	20.09
Movement LOS	D	C	D	D	C	C	C	C	C	C	B	C
d_A, Approach Delay [s/veh]	35.92			36.43			21.98			22.58		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.92											
Intersection LOS	C											
Intersection V/C	0.350											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	50	350	0	29	340	130	66	90	0	120	230	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	350	0	29	340	130	66	90	0	120	230	180
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	94	0	8	91	35	20	27	0	32	61	48
Total Analysis Volume [veh/h]	54	376	0	31	365	140	79	108	0	127	244	191
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	32	32	32	32		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.20	0.20	0.10		0.16	0.17
s, saturation flow rate [veh/h]	1013	1863	1863	1397		1861	1487
c, Capacity [veh/h]	130	500	500	375		908	725
d1, Uniform Delay [s]	54.91	40.18	39.89	35.65		18.85	19.02
k, delay calibration	0.04	0.17	0.34	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.79	3.50	6.20	0.23		1.01	1.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.75	0.73	0.37		0.34	0.35
d, Delay for Lane Group [s/veh]	55.70	43.69	46.09	35.87		19.85	20.37
Lane Group LOS	E	D	D	D		B	C
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.63	10.60	10.50	3.33		5.54	4.73
50th-Percentile Queue Length [ft/ln]	40.81	264.97	262.57	83.21		138.60	118.22
95th-Percentile Queue Length [veh/ln]	2.94	15.94	15.82	5.99		9.41	8.30
95th-Percentile Queue Length [ft/ln]	73.46	398.45	395.44	149.78		235.13	207.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.70	43.69	0.00	0.00	46.09	35.87	0.00	0.00	0.00	19.85	19.99	20.37
Movement LOS	E	D			D	D				B	B	C
d_A, Approach Delay [s/veh]	45.19			43.26			0.00			20.09		
Approach LOS	D			D			A			C		
d_I, Intersection Delay [s/veh]	35.11											
Intersection LOS	D											
Intersection V/C	0.374											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.290

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	14	552	0	60	40	0	670	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	552	0	60	40	0	670	110
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	146	0	20	13	0	185	30
Total Analysis Volume [veh/h]	0	15	584	0	80	53	0	741	122
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.04	0.03	0.24	0.25
s, saturation flow rate [veh/h]	651	3618	1810	1580	1900	1628
c, Capacity [veh/h]	334	2058	124	109	1117	926
d1, Uniform Delay [s]	18.27	11.08	45.35	44.85	12.29	12.32
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.35	2.06	1.26	1.14	1.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.28	0.64	0.49	0.41	0.43
d, Delay for Lane Group [s/veh]	18.52	11.43	47.41	46.11	13.42	13.79
Lane Group LOS	B	B	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	3.26	1.98	1.29	5.91	5.19
50th-Percentile Queue Length [ft/ln]	5.85	81.50	49.41	32.15	147.73	129.82
95th-Percentile Queue Length [veh/ln]	0.42	5.87	3.56	2.32	9.90	8.93
95th-Percentile Queue Length [ft/ln]	10.52	146.70	88.93	57.88	247.40	223.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.52	18.52	11.43	47.41	47.41	46.11	13.42	13.56	13.79
Movement LOS	B	B	B	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	11.60			46.89			13.59		
Approach LOS	B			D			B		
d_I, Intersection Delay [s/veh]	15.62								
Intersection LOS	B								
Intersection V/C	0.290								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	90	50	50	120	30	30	240	20	60	210	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	90	50	50	120	30	30	240	20	60	210	70
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	24	13	14	34	8	9	74	6	16	57	19
Total Analysis Volume [veh/h]	21	94	52	57	136	34	37	297	25	65	227	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	14	14
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.29	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.05	0.04	0.05	0.07	0.02	0.20	0.22
s, saturation flow rate [veh/h]	1239	1900	1405	1237	1900	1481	1785	1645
c, Capacity [veh/h]	448	558	413	470	558	435	878	827
d1, Uniform Delay [s]	11.05	8.54	8.43	10.89	8.74	8.31	6.70	6.84
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.05	0.05	0.04	0.08	0.03	0.11	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

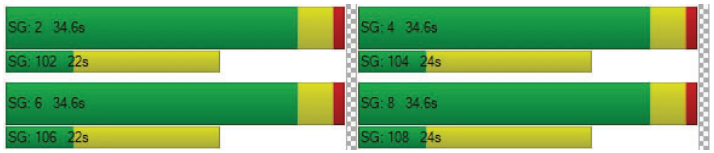
X, volume / capacity	0.05	0.17	0.13	0.12	0.24	0.08	0.41	0.44
d, Delay for Lane Group [s/veh]	11.07	8.59	8.48	10.93	8.83	8.33	6.81	6.98
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.09	0.33	0.18	0.26	0.52	0.12	1.15	1.11
50th-Percentile Queue Length [ft/ln]	2.32	8.23	4.53	6.58	13.04	3.11	28.85	27.65
95th-Percentile Queue Length [veh/ln]	0.17	0.59	0.33	0.47	0.94	0.22	2.08	1.99
95th-Percentile Queue Length [ft/ln]	4.17	14.81	8.15	11.84	23.47	5.59	51.92	49.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.07	8.59	8.48	10.93	8.83	8.33	6.81	6.81	6.81	6.98	6.98	6.98
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.87			9.28			6.81			6.98		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.68											
Intersection LOS	A											
Intersection V/C	0.295											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	130	40	20	210	20	20	180	80	10	190	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	130	40	20	210	20	20	180	80	10	190	30
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	39	12	5	57	5	6	53	24	3	52	8
Total Analysis Volume [veh/h]	47	154	47	22	226	22	24	212	94	11	210	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	31	31	31	31	31	31
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	10	10
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.02	0.13	0.19	0.14
s, saturation flow rate [veh/h]	1116	1759	1138	1852	1729	1797
c, Capacity [veh/h]	455	630	478	664	716	736
d1, Uniform Delay [s]	10.31	7.12	9.66	7.28	8.17	7.73
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.11	0.01	0.13	0.17	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

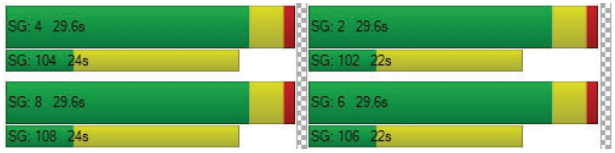
X, volume / capacity	0.10	0.32	0.05	0.37	0.46	0.35
d, Delay for Lane Group [s/veh]	10.35	7.23	9.67	7.41	8.34	7.83
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.19	0.55	0.08	0.69	1.68	0.76
50th-Percentile Queue Length [ft/ln]	4.66	13.70	2.05	17.30	42.10	18.96
95th-Percentile Queue Length [veh/ln]	0.34	0.99	0.15	1.25	3.03	1.36
95th-Percentile Queue Length [ft/ln]	8.39	24.67	3.68	31.13	75.78	34.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.35	7.23	7.23	9.67	7.41	7.41	8.34	8.34	8.34	7.83	7.83	7.83
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.82			7.60			8.34			7.83		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.92											
Intersection LOS	A											
Intersection V/C	0.325											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	90	130	110	110	140	40	30	470	110	150	640	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	130	110	110	140	40	30	470	110	150	640	120
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	42	36	30	38	11	8	125	29	41	177	33
Total Analysis Volume [veh/h]	116	168	142	118	151	43	32	500	117	165	706	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	32	32	32	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.32	0.32	0.32	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.09	0.10	0.08	0.03	0.05	0.14	0.07	0.15	0.23	0.23
s, saturation flow rate [veh/h]	1256	1900	1577	1237	1900	1581	666	3618	1579	1119	1900	1780
c, Capacity [veh/h]	203	369	306	190	369	307	162	1164	508	504	844	791
d1, Uniform Delay [s]	44.23	35.68	35.74	45.24	35.33	33.44	39.36	26.72	24.87	17.77	20.00	20.05
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	0.33	0.41	1.23	0.27	0.08	2.72	1.16	1.06	0.14	2.20	2.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

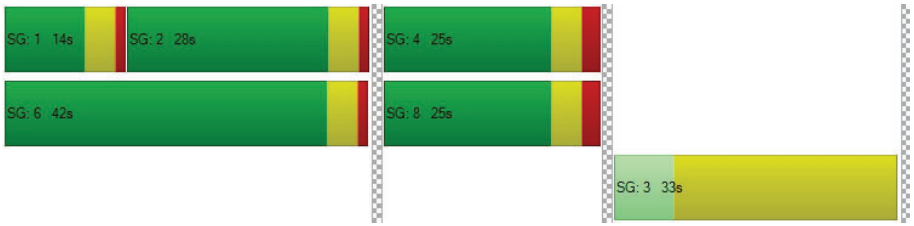
X, volume / capacity	0.57	0.46	0.46	0.62	0.41	0.14	0.20	0.43	0.23	0.33	0.51	0.52
d, Delay for Lane Group [s/veh]	45.17	36.01	36.15	46.47	35.61	33.51	42.08	27.88	25.93	17.91	22.20	22.45
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	No	No	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.84	3.59	3.05	2.94	3.19	0.86	0.83	4.82	2.17	2.30	7.51	7.16
50th-Percentile Queue Length [ft/ln]	70.92	89.73	76.13	73.44	79.81	21.48	20.84	120.40	54.13	57.53	187.84	179.10
95th-Percentile Queue Length [veh/ln]	5.11	6.46	5.48	5.29	5.75	1.55	1.50	8.41	3.90	4.14	12.01	11.55
95th-Percentile Queue Length [ft/ln]	127.66	161.51	137.04	132.19	143.67	38.67	37.50	210.37	97.44	103.55	300.23	288.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.17	36.01	36.15	46.47	35.61	33.51	42.08	27.88	25.93	17.91	22.29	22.45
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	38.55			39.43			28.23			21.59		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.75											
Intersection LOS	C											
Intersection V/C	0.324											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	30	160	60	50	280	60	30	140	90	80	150	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	160	60	50	280	60	30	140	90	80	150	70
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	45	17	16	90	19	9	40	26	22	42	19
Total Analysis Volume [veh/h]	34	181	68	64	359	77	34	159	102	89	166	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40	40	40	28	28
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.04	0.05	0.12	0.12	0.19	0.26
s, saturation flow rate [veh/h]	968	1900	1554	1222	1900	1762	1588	1280
c, Capacity [veh/h]	358	757	620	457	757	702	482	402
d1, Uniform Delay [s]	25.70	19.98	18.91	24.77	20.49	20.56	31.34	35.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.10	0.35
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.74	0.36	0.64	0.99	1.11	1.22	13.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

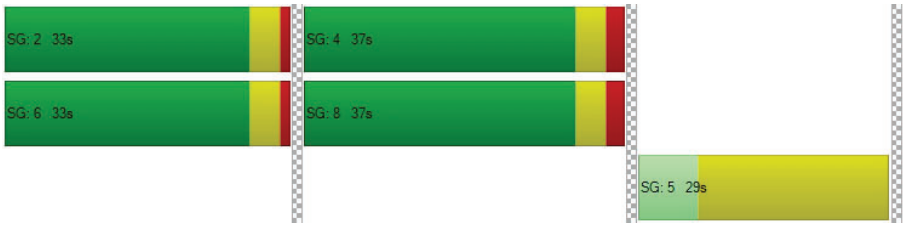
X, volume / capacity	0.09	0.24	0.11	0.14	0.29	0.30	0.61	0.83
d, Delay for Lane Group [s/veh]	26.23	20.73	19.26	25.41	21.48	21.67	32.56	48.60
Lane Group LOS	C	C	B	C	C	C	C	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	2.88	1.03	1.16	3.65	3.51	6.27	9.20
50th-Percentile Queue Length [ft/ln]	15.80	71.90	25.71	28.91	91.15	87.67	156.84	230.08
95th-Percentile Queue Length [veh/ln]	1.14	5.18	1.85	2.08	6.56	6.31	10.38	14.18
95th-Percentile Queue Length [ft/ln]	28.45	129.42	46.27	52.05	164.07	157.81	259.53	354.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.23	20.73	19.26	25.41	21.55	21.67	32.56	32.56	32.56	48.60	48.60	48.60
Movement LOS	C	C	B	C	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.04			22.06			32.56			48.60		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.32											
Intersection LOS	C											
Intersection V/C	0.381											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.304

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	200	80	70	360	60	0	310	180	0	360	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	200	80	70	360	60	0	310	180	0	360	70
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	61	24	19	97	16	0	84	49	0	102	20
Total Analysis Volume [veh/h]	36	242	97	76	388	65	0	335	195	0	410	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	50	50	50	50	50	50	20	20	20	20
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.20	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.06	0.07	0.12	0.12	0.18	0.12	0.13	0.14
s, saturation flow rate [veh/h]	953	1900	1583	1156	1900	1793	1900	1563	1900	1781
c, Capacity [veh/h]	454	951	792	533	951	898	373	307	373	350
d1, Uniform Delay [s]	18.62	14.29	13.28	19.34	14.20	14.23	39.19	36.89	37.06	37.43
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.64	0.32	0.56	0.61	0.66	5.85	0.82	0.74	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.25	0.12	0.14	0.24	0.25	0.90	0.64	0.66	0.70
d, Delay for Lane Group [s/veh]	18.96	14.94	13.60	19.90	14.80	14.89	45.05	37.70	37.80	38.39
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.55	3.15	1.18	1.19	2.99	2.88	8.51	4.40	5.54	5.62
50th-Percentile Queue Length [ft/ln]	13.70	78.72	29.49	29.66	74.63	72.11	212.83	110.03	138.61	140.40
95th-Percentile Queue Length [veh/ln]	0.99	5.67	2.12	2.14	5.37	5.19	13.30	7.84	9.41	9.50
95th-Percentile Queue Length [ft/ln]	24.65	141.69	53.08	53.39	134.33	129.80	332.45	196.04	235.16	237.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.96	14.94	13.60	19.90	14.84	14.89	0.00	45.05	37.70	0.00	38.04	38.39
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	14.98			15.57			42.34			38.10		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.57											
Intersection LOS	C											
Intersection V/C	0.304											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	160	290	130	80	340	70	0	220	210	110	380	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	290	130	80	340	70	0	220	210	110	380	90
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	84	38	26	109	22	0	61	58	31	109	26
Total Analysis Volume [veh/h]	185	335	150	103	437	90	0	245	234	126	435	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	16	47	47	58	37	37	18	39	30	30	30
g / C, Green / Cycle	0.14	0.39	0.39	0.48	0.31	0.31	0.15	0.32	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.10	0.09	0.14	0.14	0.13	0.15	0.09	0.23	0.07
s, saturation flow rate [veh/h]	1810	1900	1567	1183	1900	1770	1900	1562	1375	1900	1565
c, Capacity [veh/h]	246	740	610	520	589	549	279	502	286	469	387
d1, Uniform Delay [s]	49.91	27.17	24.75	18.12	33.31	33.42	50.16	32.53	37.63	44.14	36.43
k, delay calibration	0.13	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.16	0.21	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.36	2.00	0.96	0.85	2.56	2.84	3.50	0.55	1.53	14.33	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

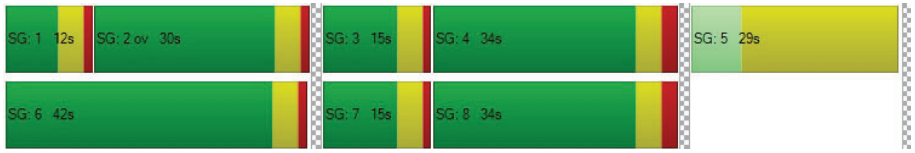
X, volume / capacity	0.75	0.45	0.25	0.20	0.46	0.47	0.88	0.47	0.44	0.93	0.27
d, Delay for Lane Group [s/veh]	55.27	29.16	25.70	18.98	35.88	36.26	53.66	33.08	39.16	58.47	36.57
Lane Group LOS	E	C	C	B	D	D	D	C	D	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.66	7.42	3.02	1.66	6.69	6.40	7.46	5.51	3.10	14.28	2.44
50th-Percentile Queue Length [ft/ln]	141.45	185.45	75.52	41.49	167.37	160.10	186.56	137.70	77.54	357.07	61.01
95th-Percentile Queue Length [veh/ln]	9.56	11.88	5.44	2.99	10.94	10.55	11.94	9.36	5.58	20.48	4.39
95th-Percentile Queue Length [ft/ln]	238.97	297.12	135.93	74.68	273.45	263.85	298.56	233.92	139.57	512.02	109.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.27	29.16	25.70	18.98	36.02	36.26	0.00	53.66	33.08	39.16	58.47	36.57
Movement LOS	E	C	C	B	D	D		D	C	D	E	D
d_A, Approach Delay [s/veh]	35.60			33.27			43.60			51.41		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.86											
Intersection LOS	D											
Intersection V/C	0.476											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	190	530	0	0	620	150	181	0	84	170	180	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	530	0	0	620	150	181	0	84	170	180	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	158	0	0	171	41	52	0	24	47	49	8
Total Analysis Volume [veh/h]	227	634	0	0	684	166	208	0	96	187	198	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	74	74	61	61		16	16
g / C, Green / Cycle	0.62	0.62	0.51	0.51		0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.27	0.18	0.22	0.24		0.12	0.12
s, saturation flow rate [veh/h]	836	3618	1900	1744		1822	1673
c, Capacity [veh/h]	500	2240	963	884		250	230
d1, Uniform Delay [s]	12.40	10.56	18.79	19.28		50.72	50.72
k, delay calibration	0.28	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.65	0.32	1.47	1.87		3.64	3.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

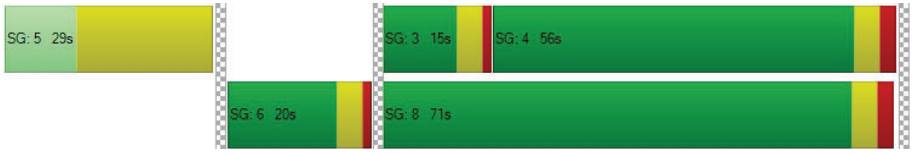
X, volume / capacity	0.45	0.28	0.44	0.48		0.87	0.87
d, Delay for Lane Group [s/veh]	14.06	10.87	20.25	21.15		54.36	54.66
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	3.87	7.68	7.94		6.71	6.18
50th-Percentile Queue Length [ft/ln]	69.38	96.71	191.93	198.41		167.83	154.60
95th-Percentile Queue Length [veh/ln]	5.00	6.96	12.22	12.56		10.96	10.26
95th-Percentile Queue Length [ft/ln]	124.88	174.07	305.53	313.91		274.06	256.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.06	10.87	0.00	0.00	20.59	21.15	0.00	0.00	0.00	54.36	54.61	54.66
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	11.71			20.70			0.00			54.50		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.70											
Intersection LOS	C											
Intersection V/C	0.423											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	360	0	0	740	650	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	0	0	740	650	340
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	0	0	209	178	93
Total Analysis Volume [veh/h]	411	0	0	837	714	373
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	80	80	31	31
g / C, Green / Cycle	0.67	0.67	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.11	0.23	0.20	0.24
s, saturation flow rate [veh/h]	3618	3618	3514	1584
c, Capacity [veh/h]	2413	2413	901	406
d1, Uniform Delay [s]	7.50	8.65	41.59	43.34
k, delay calibration	0.50	0.50	0.04	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.40	0.61	9.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.35	0.79	0.92
d, Delay for Lane Group [s/veh]	7.65	9.04	42.19	52.91
Lane Group LOS	A	A	D	D
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	4.61	9.37	11.19
50th-Percentile Queue Length [ft/ln]	48.95	115.26	234.15	279.87
95th-Percentile Queue Length [veh/ln]	3.52	8.13	14.39	16.68
95th-Percentile Queue Length [ft/ln]	88.11	203.30	359.63	417.05

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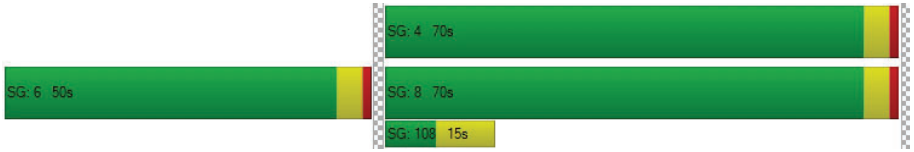
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.65	0.00	0.00	9.04	42.19	52.91
Movement LOS	A			A	D	D
d_A, Approach Delay [s/veh]	7.65		9.04		45.87	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	25.94					
Intersection LOS	C					
Intersection V/C	0.467					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	40	310	390	470	620	230	100	590	40	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	310	390	470	620	230	100	590	40	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	79	100	131	173	64	30	176	12	0	0	0
Total Analysis Volume [veh/h]	41	317	399	525	693	257	119	705	48	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	4	25	25	59	80	80	22	22	22
g / C, Green / Cycle	0.03	0.21	0.21	0.49	0.67	0.67	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.17	0.22	0.15	0.26	0.28	0.17	0.17	0.17
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1622	1864	1729	1670
c, Capacity [veh/h]	57	396	376	1733	1274	1087	341	316	305
d1, Uniform Delay [s]	57.47	45.01	47.38	18.08	8.78	9.07	47.90	47.87	47.96
k, delay calibration	0.04	0.25	0.46	0.04	0.50	0.50	0.14	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.22	8.18	62.28	0.04	0.89	1.20	11.10	11.44	12.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

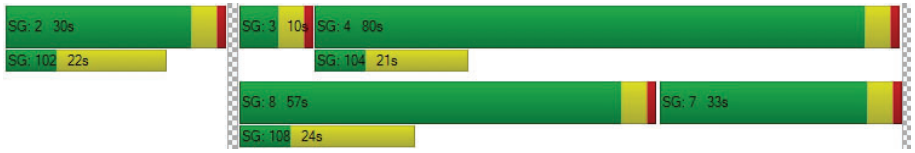
X, volume / capacity	0.72	0.80	1.06	0.30	0.39	0.42	0.90	0.90	0.91
d, Delay for Lane Group [s/veh]	63.69	53.18	109.66	18.12	9.66	10.27	59.00	59.31	60.96
Lane Group LOS	E	D	F	B	A	B	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	9.83	17.64	4.33	5.68	5.54	9.96	9.23	9.14
50th-Percentile Queue Length [ft/ln]	33.27	245.78	440.93	108.21	142.06	138.38	248.88	230.85	228.54
95th-Percentile Queue Length [veh/ln]	2.40	14.97	25.36	7.74	9.59	9.39	15.13	14.22	14.10
95th-Percentile Queue Length [ft/ln]	59.88	374.34	633.94	193.51	239.80	234.84	378.24	355.44	352.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.69	53.18	109.66	18.12	9.84	10.27	59.00	59.77	60.96	0.00	0.00	0.00
Movement LOS	E	D	F	B	A	B	E	E	E			
d_A, Approach Delay [s/veh]	83.52			12.86			59.73			0.00		
Approach LOS	F			B			E			A		
d_I, Intersection Delay [s/veh]	43.26											
Intersection LOS	D											
Intersection V/C	0.538											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	100	140	130	40	90	10	20	620	80	100	870	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	140	130	40	90	10	20	620	80	100	870	100
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	39	36	11	24	3	5	162	21	27	233	27
Total Analysis Volume [veh/h]	111	155	144	42	95	11	21	647	83	107	931	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.10	0.08	0.10	0.04	0.06	0.04	0.18	0.06	0.14	0.28	0.29
s, saturation flow rate [veh/h]	1153	1900	1449	1182	1819	552	3618	1425	782	1900	1739
c, Capacity [veh/h]	282	472	360	263	452	313	2241	883	472	1177	1077
d1, Uniform Delay [s]	36.96	30.69	31.29	36.35	29.93	16.45	8.80	7.67	13.80	10.01	10.22
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.15	0.27	0.10	0.10	0.41	0.33	0.21	1.11	1.24	1.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

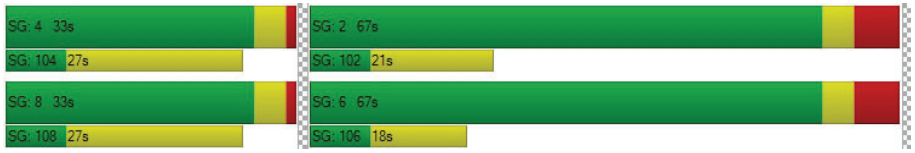
X, volume / capacity	0.39	0.33	0.40	0.16	0.23	0.07	0.29	0.09	0.23	0.45	0.47
d, Delay for Lane Group [s/veh]	37.29	30.84	31.56	36.45	30.02	16.87	9.13	7.88	14.91	11.25	11.72
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.43	3.01	2.86	0.88	2.01	0.31	3.13	0.73	1.47	6.02	5.99
50th-Percentile Queue Length [ft/ln]	60.78	75.32	71.56	22.11	50.21	7.85	78.18	18.22	36.73	150.58	149.70
95th-Percentile Queue Length [veh/ln]	4.38	5.42	5.15	1.59	3.62	0.57	5.63	1.31	2.64	10.05	10.00
95th-Percentile Queue Length [ft/ln]	109.40	135.57	128.81	39.80	90.38	14.13	140.73	32.80	66.12	251.21	250.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.29	30.84	31.56	36.45	30.02	30.02	16.87	9.13	7.88	14.91	11.45	11.72
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	32.84			31.85			9.20			11.80		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	15.73											
Intersection LOS	B											
Intersection V/C	0.393											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	120	240	50	40	220	30	30	320	60	50	230	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	240	50	40	220	30	30	320	60	50	230	70
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	65	14	12	65	9	9	93	17	15	69	21
Total Analysis Volume [veh/h]	131	261	54	47	260	35	35	371	70	60	277	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	54	54	54	54	54	36	36
g / C, Green / Cycle	0.54	0.54	0.54	0.54	0.54	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.09	0.04	0.16	0.31	0.34
s, saturation flow rate [veh/h]	1061	1900	1709	1049	1821	1548	1247
c, Capacity [veh/h]	552	1033	929	589	989	603	496
d1, Uniform Delay [s]	17.11	11.38	11.45	13.47	12.43	28.03	29.11
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.17	0.22
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.32	0.39	0.27	0.77	3.68	7.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.16	0.17	0.08	0.30	0.79	0.85
d, Delay for Lane Group [s/veh]	18.13	11.70	11.83	13.74	13.20	31.71	36.99
Lane Group LOS	B	B	B	B	B	C	D
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	1.77	1.72	0.58	3.58	10.34	10.35
50th-Percentile Queue Length [ft/ln]	49.12	44.36	43.02	14.60	89.54	258.50	258.85
95th-Percentile Queue Length [veh/ln]	3.54	3.19	3.10	1.05	6.45	15.61	15.63
95th-Percentile Queue Length [ft/ln]	88.42	79.85	77.44	26.28	161.17	390.34	390.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.13	11.75	11.83	13.74	13.20	13.20	31.71	31.71	31.71	36.99	36.99	36.99
Movement LOS	B	B	B	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	13.63			13.27			31.71			36.99		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	24.50											
Intersection LOS	C											
Intersection V/C	0.500											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	180	320	120	70	230	60	60	420	70	70	270	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	320	120	70	230	60	60	420	70	70	270	60
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	91	34	20	65	17	18	123	20	22	84	19
Total Analysis Volume [veh/h]	205	365	137	79	260	68	70	491	82	87	337	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.19	0.14	0.15	0.09	0.19	0.07	0.15	0.16	0.10	0.18	0.05
s, saturation flow rate [veh/h]	1068	1900	1568	894	1753	1033	1900	1712	833	1900	1400
c, Capacity [veh/h]	193	559	462	205	516	545	1090	982	461	1090	803
d1, Uniform Delay [s]	46.39	28.85	29.36	39.74	30.60	15.72	10.74	10.86	15.85	11.04	9.60
k, delay calibration	0.12	0.04	0.04	0.04	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	49.00	0.23	0.34	0.44	1.30	0.49	0.61	0.73	0.91	0.74	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

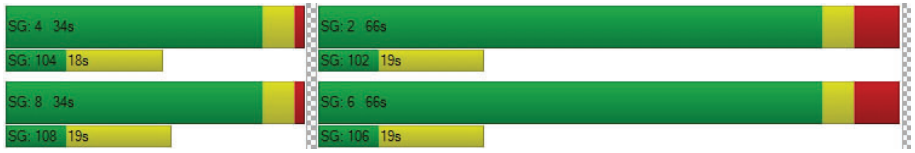
X, volume / capacity	1.06	0.47	0.52	0.39	0.64	0.13	0.27	0.29	0.19	0.31	0.09
d, Delay for Lane Group [s/veh]	95.39	29.08	29.70	40.18	31.90	16.21	11.35	11.59	16.76	11.78	9.83
Lane Group LOS	F	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.40	5.05	4.71	1.80	6.84	0.99	3.28	3.20	1.27	3.89	0.76
50th-Percentile Queue Length [ft/ln]	184.99	126.24	117.76	45.12	170.96	24.64	82.06	79.91	31.82	97.24	19.02
95th-Percentile Queue Length [veh/ln]	12.24	8.73	8.27	3.25	11.13	1.77	5.91	5.75	2.29	7.00	1.37
95th-Percentile Queue Length [ft/ln]	305.97	218.37	206.75	81.21	278.18	44.35	147.71	143.84	57.28	175.03	34.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	95.39	29.26	29.70	40.18	31.90	31.90	16.21	11.45	11.59	16.76	11.78	9.83
Movement LOS	F	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	48.52			33.51			11.98			12.36		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	27.40											
Intersection LOS	C											
Intersection V/C	0.369											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	120	470	130	60	170	130	100	340	80	80	370	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	470	130	60	170	130	100	340	80	80	370	80
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	123	34	17	47	36	27	90	21	22	102	22
Total Analysis Volume [veh/h]	126	493	136	67	189	145	106	362	85	88	409	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	31	31	59	59	59	59	59
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.12	0.17	0.18	0.08	0.20	0.11	0.25	0.09	0.22	0.06
s, saturation flow rate [veh/h]	1063	1900	1664	808	1682	976	1784	949	1900	1426
c, Capacity [veh/h]	199	594	520	182	526	526	1062	491	1131	848
d1, Uniform Delay [s]	43.93	28.47	28.84	40.60	29.43	16.00	10.92	17.16	10.43	8.72
k, delay calibration	0.04	0.04	0.07	0.04	0.12	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	0.32	0.70	0.46	1.38	0.86	1.23	0.80	0.90	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.55	0.58	0.37	0.63	0.20	0.42	0.18	0.36	0.10
d, Delay for Lane Group [s/veh]	45.17	28.79	29.54	41.06	30.81	16.86	12.15	17.95	11.33	8.97
Lane Group LOS	D	C	C	D	C	B	B	B	B	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.12	6.33	6.01	1.55	6.85	1.52	5.22	1.31	4.53	0.82
50th-Percentile Queue Length [ft/ln]	77.89	158.19	150.31	38.65	171.22	38.05	130.48	32.79	113.18	20.54
95th-Percentile Queue Length [veh/ln]	5.61	10.45	10.03	2.78	11.14	2.74	8.97	2.36	8.02	1.48
95th-Percentile Queue Length [ft/ln]	140.20	261.32	250.84	69.56	278.52	68.48	224.15	59.03	200.42	36.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.17	29.04	29.54	41.06	30.81	30.81	16.86	12.15	12.15	17.95	11.33	8.97
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	31.82			32.52			13.05			11.97		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.36											
Intersection LOS	C											
Intersection V/C	0.449											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	610	80	60	30	210	0	0	0	6	180	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	610	80	60	30	210	0	0	0	6	180	80
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	168	22	18	9	62	0	0	0	2	59	26
Total Analysis Volume [veh/h]	15	671	88	71	35	248	0	0	0	6	238	106
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.07	0.04	0.18		0.19
s, saturation flow rate [veh/h]	3618	1338	1810	1581		1789
c, Capacity [veh/h]	1398	517	109	780		724
d1, Uniform Delay [s]	23.09	20.13	45.92	15.65		21.91
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.18	0.71	2.42	1.31		2.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

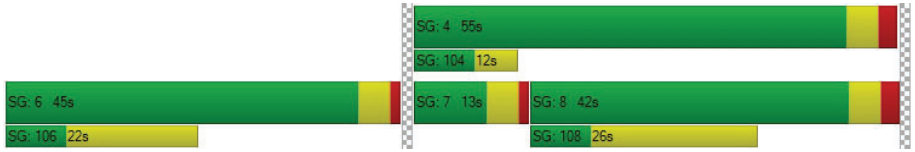
X, volume / capacity	0.48	0.17	0.65	0.36		0.47
d, Delay for Lane Group [s/veh]	24.27	20.84	48.34	16.96		24.13
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.05	1.43	1.77	4.06		6.26
50th-Percentile Queue Length [ft/ln]	151.30	35.84	44.30	101.51		156.56
95th-Percentile Queue Length [veh/ln]	10.09	2.58	3.19	7.31		10.37
95th-Percentile Queue Length [ft/ln]	252.16	64.52	79.73	182.71		259.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.27	20.84	48.34	16.96	16.96	0.00	0.00	0.00	0.00	24.13	24.13
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	23.87			23.25			0.00			24.13		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.78											
Intersection LOS	C											
Intersection V/C	0.417											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.803

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	140	60	120	170	40	60	350	40	40	280	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	60	120	170	40	60	350	40	40	280	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	40	17	34	48	11	18	106	12	11	76	33
Total Analysis Volume [veh/h]	23	162	69	135	192	45	73	423	48	44	306	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.31	0.12	0.55	0.08	0.07	0.26	0.05	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1022	1823	919	1900	1325
c, Capacity [veh/h]	277	219	292	219	486	918	375	957	667
d1, Uniform Delay [s]	20.39	15.94	25.40	15.25	14.73	11.63	18.18	10.28	9.57
k, delay calibration	0.19	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.79	0.30	89.30	0.17	0.65	2.05	0.64	0.88	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

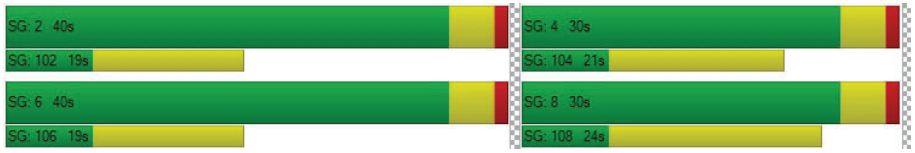
X, volume / capacity	0.67	0.32	1.12	0.21	0.15	0.51	0.12	0.32	0.20
d, Delay for Lane Group [s/veh]	25.19	16.24	114.69	15.42	15.38	13.68	18.82	11.16	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.90	0.76	12.07	0.47	0.82	4.81	0.56	2.70	1.10
50th-Percentile Queue Length [ft/ln]	72.62	18.94	301.64	11.79	20.38	120.19	14.10	67.38	27.57
95th-Percentile Queue Length [veh/ln]	5.23	1.36	19.02	0.85	1.47	8.40	1.02	4.85	1.99
95th-Percentile Queue Length [ft/ln]	130.71	34.09	475.43	21.22	36.69	210.09	25.38	121.29	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.19	25.19	16.24	114.69	114.69	15.42	15.38	13.68	13.68	18.82	11.16	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	22.76			102.68			13.91			11.61		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	34.60											
Intersection LOS	C											
Intersection V/C	0.803											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	100	130	80	20	60	20	30	410	80	60	350	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	130	80	20	60	20	30	410	80	60	350	20
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	36	22	7	22	7	9	129	25	16	96	5
Total Analysis Volume [veh/h]	112	145	89	29	88	29	38	514	100	66	382	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	37	37	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	17	17	17	17
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.03	0.07	0.04	0.35	0.08	0.22
s, saturation flow rate [veh/h]	1245	1689	1121	1776	880	1779	789	1837
c, Capacity [veh/h]	421	484	321	508	441	829	311	855
d1, Uniform Delay [s]	13.64	10.97	14.96	10.12	10.03	8.08	14.67	6.79
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.28	0.04	0.08	0.03	0.50	0.12	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.48	0.09	0.23	0.09	0.74	0.21	0.47
d, Delay for Lane Group [s/veh]	13.76	11.25	15.00	10.20	10.06	8.58	14.79	6.94
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.67	1.19	0.18	0.54	0.18	2.57	0.43	1.39
50th-Percentile Queue Length [ft/ln]	16.68	29.65	4.57	13.54	4.59	64.27	10.87	34.82
95th-Percentile Queue Length [veh/ln]	1.20	2.13	0.33	0.97	0.33	4.63	0.78	2.51
95th-Percentile Queue Length [ft/ln]	30.02	53.36	8.22	24.37	8.26	115.69	19.56	62.68

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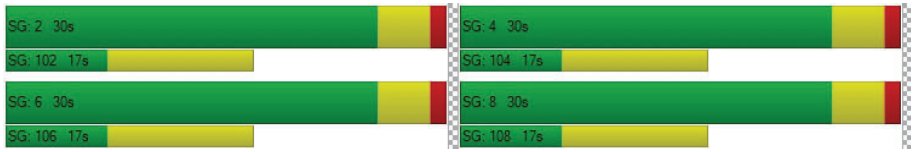
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.76	11.25	11.25	15.00	10.20	10.20	10.06	8.58	8.58	14.79	6.94	6.94
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.06			11.16			8.67			8.04		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.44											
Intersection LOS	A											
Intersection V/C	0.484											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	260	350	170	60	290	30	20	710	200	150	960	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	350	170	60	290	30	20	710	200	150	960	70
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	93	45	19	90	9	5	186	52	40	256	19
Total Analysis Volume [veh/h]	275	370	180	75	361	37	21	744	210	160	1023	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.22	0.19	0.12	0.07	0.11	0.11	0.04	0.21	0.14	0.18	0.28	0.05
s, saturation flow rate [veh/h]	1231	1900	1525	1011	1900	1819	556	3618	1487	913	3618	1443
c, Capacity [veh/h]	447	670	538	127	442	423	209	1591	654	511	2008	801
d1, Uniform Delay [s]	26.55	26.01	23.74	48.05	32.93	33.01	29.52	19.76	18.27	12.18	13.80	10.44
k, delay calibration	0.50	0.05	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.20	0.34	0.13	1.65	0.27	0.30	0.96	0.99	1.30	1.59	0.93	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.55	0.33	0.59	0.46	0.46	0.10	0.47	0.32	0.31	0.51	0.09
d, Delay for Lane Group [s/veh]	32.75	26.35	23.88	49.69	33.20	33.30	30.48	20.75	19.57	13.77	14.73	10.67
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.66	6.99	3.10	1.91	4.13	4.04	0.45	6.16	3.34	1.85	6.86	0.78
50th-Percentile Queue Length [ft/ln]	141.50	174.80	77.44	47.70	103.27	101.09	11.25	154.03	83.46	46.27	171.59	19.61
95th-Percentile Queue Length [veh/ln]	9.56	11.33	5.58	3.43	7.44	7.28	0.81	10.23	6.01	3.33	11.16	1.41
95th-Percentile Queue Length [ft/ln]	239.04	283.22	139.39	85.86	185.89	181.97	20.25	255.81	150.23	83.28	279.00	35.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.75	26.35	23.88	49.69	33.25	33.30	30.48	20.75	19.57	13.77	14.73	10.67
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	27.94			35.86			20.70			14.36		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.17											
Intersection LOS	C											
Intersection V/C	0.504											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	180	730	70	20	520	30	20	190	220	40	150	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	730	70	20	520	30	20	190	220	40	150	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	192	18	6	154	9	5	50	58	11	41	11
Total Analysis Volume [veh/h]	190	769	74	24	616	36	21	202	234	44	164	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	55	55	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.20	0.23	0.23	0.03	0.17	0.17	0.25	0.16	0.41	0.03
s, saturation flow rate [veh/h]	946	1900	1817	772	1900	1850	892	1461	502	1508
c, Capacity [veh/h]	631	1054	1008	513	987	961	283	399	181	412
d1, Uniform Delay [s]	8.08	12.78	12.83	7.60	13.97	13.99	30.99	31.47	32.14	27.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.29	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.22	1.16	1.24	0.17	0.91	0.95	11.98	0.51	113.46	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

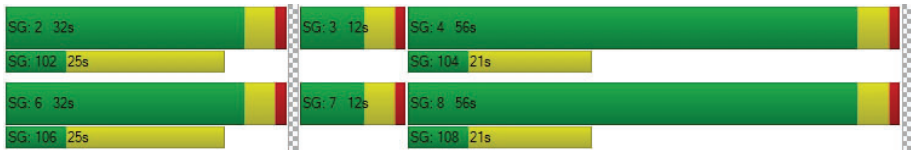
X, volume / capacity	0.30	0.41	0.41	0.05	0.33	0.34	0.79	0.59	1.15	0.11
d, Delay for Lane Group [s/veh]	9.30	13.94	14.08	7.77	14.88	14.94	42.98	31.98	145.60	27.26
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.76	5.58	5.45	0.20	4.42	4.36	5.25	4.81	9.10	0.78
50th-Percentile Queue Length [ft/ln]	43.94	139.60	136.33	5.03	110.44	108.90	131.37	120.32	227.60	19.46
95th-Percentile Queue Length [veh/ln]	3.16	9.46	9.28	0.36	7.86	7.78	9.01	8.41	15.10	1.40
95th-Percentile Queue Length [ft/ln]	79.09	236.49	232.07	9.06	196.61	194.47	225.35	210.27	377.45	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.30	14.00	14.08	7.77	14.91	14.94	42.98	42.98	31.98	145.60	145.60	27.26
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	13.14			14.66			37.35			124.94		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	29.79											
Intersection LOS	C											
Intersection V/C	0.648											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	140	810	100	160	590	40	40	500	220	120	340	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	810	100	160	590	40	40	500	220	120	340	150
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	208	26	42	156	11	11	139	61	33	94	41
Total Analysis Volume [veh/h]	144	833	103	169	624	42	44	556	245	132	375	165
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_MD_LOS.pdf

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.15	0.25	0.25	0.21	0.18	0.18	0.04	0.22	0.24	0.13	0.20	0.11
s, saturation flow rate [veh/h]	960	1900	1802	818	1900	1840	993	1900	1578	984	1900	1452
c, Capacity [veh/h]	537	817	775	437	819	793	139	470	390	299	688	526
d1, Uniform Delay [s]	12.12	21.68	21.79	13.97	19.68	19.72	45.49	36.42	37.30	25.32	25.33	22.94
k, delay calibration	0.36	0.50	0.50	0.50	0.50	0.50	0.04	0.21	0.26	0.28	0.05	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.89	3.04	3.31	2.57	1.53	1.60	0.48	11.18	26.57	2.66	0.29	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

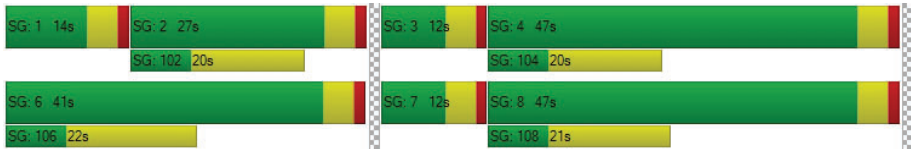
X, volume / capacity	0.27	0.58	0.59	0.39	0.41	0.42	0.32	0.90	0.97	0.44	0.54	0.31
d, Delay for Lane Group [s/veh]	13.01	24.72	25.10	16.54	21.20	21.32	45.97	47.59	63.87	27.98	25.62	23.07
Lane Group LOS	B	C	C	B	C	C	D	D	E	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.66	8.94	8.70	2.13	5.64	5.54	1.08	11.22	11.87	2.33	6.98	2.78
50th-Percentile Queue Length [ft/ln]	41.47	223.59	217.41	53.26	141.02	138.60	26.93	280.44	296.71	58.25	174.39	69.39
95th-Percentile Queue Length [veh/ln]	2.99	13.85	13.53	3.83	9.54	9.41	1.94	16.71	17.52	4.19	11.31	5.00
95th-Percentile Queue Length [ft/ln]	74.65	346.21	338.31	95.87	238.40	235.14	48.48	417.76	437.96	104.84	282.67	124.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.01	24.88	25.10	16.54	21.26	21.32	45.97	51.52	63.87	27.98	25.62	23.07
Movement LOS	B	C	C	B	C	C	D	D	E	C	C	C
d_A, Approach Delay [s/veh]	23.32			20.30			54.81			25.46		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	30.76											
Intersection LOS	C											
Intersection V/C	0.600											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	200	980	100	60	860	60	60	240	240	130	240	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	980	100	60	860	60	60	240	240	130	240	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	266	27	16	234	16	16	62	62	35	65	22
Total Analysis Volume [veh/h]	217	1063	108	65	936	65	62	249	249	140	259	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.12	0.31	0.32	0.13	0.27	0.27	0.05	0.13	0.18	0.30	0.06
s, saturation flow rate [veh/h]	1810	1900	1780	487	1900	1811	1138	1900	1352	1314	1366
c, Capacity [veh/h]	194	978	917	125	688	656	73	488	347	460	482
d1, Uniform Delay [s]	44.65	17.10	17.41	45.51	27.74	28.00	50.00	31.78	33.85	29.57	22.33
k, delay calibration	0.21	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.18	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	78.97	2.79	3.28	14.52	6.90	7.88	10.17	0.31	4.51	19.32	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

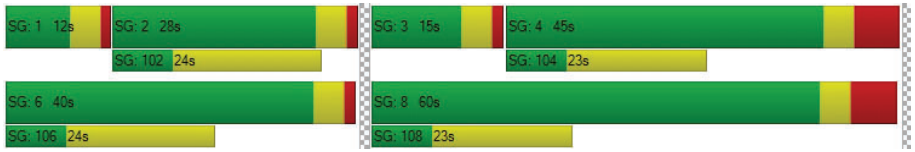
X, volume / capacity	1.12	0.61	0.63	0.52	0.74	0.75	0.86	0.51	0.72	0.87	0.18
d, Delay for Lane Group [s/veh]	123.61	19.89	20.70	60.03	34.64	35.89	60.17	32.08	38.35	48.89	22.40
Lane Group LOS	F	B	C	E	C	D	E	C	D	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.00	9.90	9.90	2.12	11.54	11.53	1.73	5.06	5.78	10.00	1.37
50th-Percentile Queue Length [ft/ln]	225.12	247.56	247.54	53.08	288.61	288.17	43.36	126.54	144.54	250.09	34.29
95th-Percentile Queue Length [veh/ln]	14.55	15.06	15.06	3.82	17.12	17.09	3.12	8.75	9.73	15.19	2.47
95th-Percentile Queue Length [ft/ln]	363.73	376.58	376.56	95.55	427.92	427.37	78.04	218.78	243.13	379.77	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.61	20.25	20.70	60.03	35.21	35.89	60.17	32.08	38.35	48.89	48.89	22.40
Movement LOS	F	C	C	E	D	D	E	C	D	D	D	C
d_A, Approach Delay [s/veh]	36.44			36.77			37.98			44.19		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	37.86											
Intersection LOS	D											
Intersection V/C	0.673											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	52.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.623

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	180	1130	60	20	1170	30	6	90	170	66	180	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	1130	60	20	1170	30	6	90	170	66	180	90
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	298	16	5	305	8	2	27	50	18	51	25
Total Analysis Volume [veh/h]	190	1192	63	21	1219	31	7	106	201	70	202	101
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	96	96	96	96	96	96	96	96
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	12	39	39	3	30	30	40	40
g / C, Green / Cycle	0.12	0.41	0.41	0.03	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.11	0.33	0.34	0.01	0.33	0.33	0.19	0.17
s, saturation flow rate [veh/h]	1810	1900	1850	1810	1900	1872	1654	1778
c, Capacity [veh/h]	225	768	748	60	596	587	692	743
d1, Uniform Delay [s]	41.00	25.43	25.59	45.23	32.84	32.84	19.89	19.53
k, delay calibration	0.11	0.48	0.49	0.04	0.47	0.48	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.26	9.28	10.32	1.27	50.66	53.38	2.06	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.82	0.83	0.35	1.05	1.06	0.44	0.41
d, Delay for Lane Group [s/veh]	49.26	34.71	35.91	46.50	83.50	86.22	21.95	21.19
Lane Group LOS	D	C	D	D	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.84	14.21	14.29	0.51	21.70	21.83	5.14	4.93
50th-Percentile Queue Length [ft/ln]	121.12	355.19	357.15	12.66	542.62	545.83	128.39	123.36
95th-Percentile Queue Length [veh/ln]	8.45	20.39	20.48	0.91	30.36	30.64	8.85	8.58
95th-Percentile Queue Length [ft/ln]	211.36	509.73	512.11	22.78	758.92	766.04	221.30	214.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.26	35.27	35.91	46.50	84.82	86.22	0.00	21.95	21.95	0.00	21.19	21.19
Movement LOS	D	D	D	D	F	F		C	C		C	C
d_A, Approach Delay [s/veh]	37.14			84.22			21.95			21.19		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	52.28											
Intersection LOS	D											
Intersection V/C	0.623											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	54.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.840

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	320	700	0	0	1370	50	0	0	0	700	560	720
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	700	0	0	1370	50	0	0	0	700	560	720
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	201	0	0	361	13	0	0	0	193	154	198
Total Analysis Volume [veh/h]	368	804	0	0	1443	53	0	0	0	770	616	792
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.20	0.22	0.28	0.27		0.31	0.30	0.32	0.36
s, saturation flow rate [veh/h]	1810	3618	3618	1861		1810	1864	1563	1545
c, Capacity [veh/h]	337	2123	1310	674		609	627	526	520
d1, Uniform Delay [s]	48.76	13.16	33.68	33.33		38.13	37.64	39.06	39.77
k, delay calibration	0.48	0.50	0.50	0.50		0.37	0.35	0.41	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	74.46	0.52	4.22	7.17		16.45	12.61	27.83	59.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.09	0.38	0.76	0.74		0.91	0.89	0.96	1.07
d, Delay for Lane Group [s/veh]	123.22	13.67	37.91	40.50		54.58	50.25	66.89	99.74
Lane Group LOS	F	B	D	D		D	D	E	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	17.02	5.78	13.42	13.86		17.70	16.92	17.97	23.19
50th-Percentile Queue Length [ft/ln]	425.47	144.44	335.50	346.54		442.5	423.1	449.3	579.6
95th-Percentile Queue Length [veh/ln]	24.88	9.72	19.43	19.97		24.60	23.67	24.93	32.54
95th-Percentile Queue Length [ft/ln]	622.06	243.00	485.70	499.18		615.0	591.7	623.1	813.4

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.22	13.67	0.00	0.00	38.71	40.50	0.00	0.00	0.00	53.31	57.60	90.13
Movement LOS	F	B			D	D				D	E	F
d_A, Approach Delay [s/veh]	48.07			38.77			0.00			67.89		
Approach LOS	D			D			A			E		
d_I, Intersection Delay [s/veh]	54.11											
Intersection LOS	D											
Intersection V/C	0.840											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	870	720	770	1280	0	120	110	320	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	870	720	770	1280	0	120	110	320	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	241	200	207	344	0	34	32	92	0	0	0
Total Analysis Volume [veh/h]	0	965	799	827	1374	0	138	126	367	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	38	38	38	43	85	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.35	0.71	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.24	0.38	0.08	0.07	0.23
s, saturation flow rate [veh/h]	3618	1503	1503	3514	3618	1810	1729	1579
c, Capacity [veh/h]	1152	479	479	1246	2574	383	366	334
d1, Uniform Delay [s]	36.84	39.43	39.43	32.67	8.05	40.34	40.20	47.28
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	3.23	3.23	2.80	0.80	0.21	0.21	71.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.92	0.92	0.66	0.53	0.36	0.34	1.10
d, Delay for Lane Group [s/veh]	37.25	42.65	42.65	35.46	8.85	40.55	40.40	118.59
Lane Group LOS	D	D	D	D	A	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.50	12.66	12.66	10.55	7.74	3.48	3.17	16.45
50th-Percentile Queue Length [ft/ln]	287.41	316.53	316.53	263.86	193.45	87.07	79.22	411.20
95th-Percentile Queue Length [veh/ln]	17.06	18.50	18.50	15.88	12.30	6.27	5.70	24.28
95th-Percentile Queue Length [ft/ln]	426.43	462.42	462.42	397.06	307.50	156.72	142.59	607.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.25	42.65	35.46	8.85	0.00	40.55	40.40	118.59	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	D	F			
d_A, Approach Delay [s/veh]	39.95			18.85			85.91			0.00		
Approach LOS	D			B			F			A		
d_I, Intersection Delay [s/veh]	36.15											
Intersection LOS	D											
Intersection V/C	0.761											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	46.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	590	270	100	820	140	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	590	270	100	820	140	190
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	165	75	31	257	40	55
Total Analysis Volume [veh/h]	659	301	125	1028	161	218
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.22	0.16	0.28	0.19	0.30
s, saturation flow rate [veh/h]	3618	1353	768	3618	832	734
c, Capacity [veh/h]	2509	938	535	2509	145	128
d1, Uniform Delay [s]	5.74	6.04	9.42	6.56	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.90	1.02	0.50	70.75	341.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.32	0.23	0.41	1.11	1.70
d, Delay for Lane Group [s/veh]	6.00	6.95	10.45	7.06	112.02	383.01
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.35	2.41	1.37	4.21	6.34	15.24
50th-Percentile Queue Length [ft/ln]	58.86	60.31	34.19	105.26	158.59	381.09
95th-Percentile Queue Length [veh/ln]	4.24	4.34	2.46	7.58	10.94	26.01
95th-Percentile Queue Length [ft/ln]	105.94	108.55	61.54	189.39	273.58	650.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.00	6.95	10.45	7.06	112.02	383.01
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.30		7.43		267.90	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	46.60					
Intersection LOS	D					
Intersection V/C	0.581					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.428

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	50	70	0	10	40	20	0	20	220	40	0	20	200	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	50	70	0	10	40	20	0	20	220	40	0	20	200	20
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	10	17	24	0	3	12	6	0	6	62	11	0	6	56	6
Total Analysis Volume [veh/h]	0	40	67	94	0	12	50	25	0	23	248	45	0	22	222	22
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	567	659	559	639	633	728	627	721
Degree of Utilization, x	0.19	0.14	0.11	0.04	0.43	0.06	0.39	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.69	0.50	0.37	0.12	2.14	0.20	1.84	0.09
95th-Percentile Queue Length [ft]	17.25	12.39	9.30	3.05	53.62	4.93	46.03	2.36
Approach Delay [s/veh]	9.85		9.55		11.92		11.71	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	11.14							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	380	120	0	90	530	0	90	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	380	120	0	90	530	0	90	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	31	0	24	139	0	29	26
Total Analysis Volume [veh/h]	0	399	126	0	94	555	0	115	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.21	0.08	0.09	0.29	0.07	0.09
s, saturation flow rate [veh/h]	1900	1581	1001	1900	1538	1208
c, Capacity [veh/h]	1108	867	520	1042	436	342
d1, Uniform Delay [s]	7.06	6.06	11.30	7.87	15.18	15.36
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.91	0.35	0.76	1.95	0.12	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

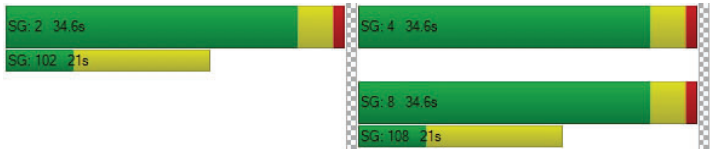
X, volume / capacity	0.36	0.15	0.18	0.53	0.26	0.30
d, Delay for Lane Group [s/veh]	7.97	6.41	12.06	9.82	15.30	15.54
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.28	0.63	0.77	3.67	1.04	0.94
50th-Percentile Queue Length [ft/ln]	56.99	15.67	19.34	91.70	25.94	23.60
95th-Percentile Queue Length [veh/ln]	4.10	1.13	1.39	6.60	1.87	1.70
95th-Percentile Queue Length [ft/ln]	102.59	28.21	34.81	165.05	46.68	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.97	7.97	6.41	12.06	12.06	9.82	15.30	15.30	15.54
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	7.59			10.15			15.41		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	10.01								
Intersection LOS	B								
Intersection V/C	0.377								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	100	40	20	70	10	20	190	40	20	140	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	100	40	20	70	10	20	190	40	20	140	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	30	12	5	19	3	6	58	12	6	42	6
Total Analysis Volume [veh/h]	36	119	47	21	75	11	24	232	49	24	169	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	674	644	717	696
Degree of Utilization, x	0.30	0.17	0.43	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.26	0.59	2.13	1.33
95th-Percentile Queue Length [ft]	31.42	14.82	53.28	33.28
Approach Delay [s/veh]	10.61	9.71	11.68	10.51
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.86			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	160	50	40	210	20	20	170	60	20	140	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	160	50	40	210	20	20	170	60	20	140	70
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	48	15	11	58	5	6	48	17	5	38	19
Total Analysis Volume [veh/h]	36	190	59	44	231	22	23	192	68	21	150	75
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	587	582	584	580
Degree of Utilization, x	0.49	0.51	0.48	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.65	2.89	2.63	2.10
95th-Percentile Queue Length [ft]	66.16	72.27	65.76	52.60
Approach Delay [s/veh]	14.79	15.45	14.79	13.70
Approach LOS	B	C	B	B
Intersection Delay [s/veh]	14.72			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	30.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.931

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	100	310	40	20	250	50	30	140	110	30	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	310	40	20	250	50	30	140	110	30	100	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	86	11	6	70	14	8	39	30	9	29	9
Total Analysis Volume [veh/h]	111	345	45	22	278	56	33	155	122	35	117	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	489	554	473	526	507	467
Degree of Utilization, x	0.93	0.08	0.63	0.11	0.61	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.13	0.26	4.34	0.36	4.06	1.90
95th-Percentile Queue Length [ft]	278.37	6.61	108.39	8.89	101.62	47.47
Approach Delay [s/veh]	48.35		20.68		20.70	15.75
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	30.24					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	80.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.614

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	30	250	160	240	190	30	80	260	60	50	230	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	250	160	240	190	30	80	260	60	50	230	120
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	70	45	67	53	8	21	68	16	15	67	35
Total Analysis Volume [veh/h]	34	281	180	270	214	34	84	272	63	59	269	141
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	49	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.27	0.25	0.14	0.08	0.19	0.06	0.27
s, saturation flow rate [veh/h]	1214	1690	1066	1816	991	1780	1062	1504
c, Capacity [veh/h]	796	875	619	987	80	325	80	274
d1, Uniform Delay [s]	6.65	14.42	9.39	10.88	45.02	36.81	45.02	36.81
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	2.27	2.23	0.61	42.16	23.17	4.84	230.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

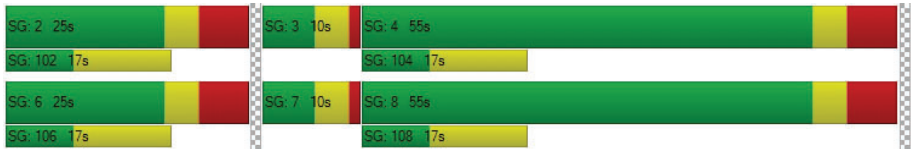
X, volume / capacity	0.04	0.53	0.44	0.25	1.05	1.03	0.74	1.49
d, Delay for Lane Group [s/veh]	6.66	16.69	11.62	11.49	87.18	59.98	49.87	267.01
Lane Group LOS	A	B	B	B	F	F	D	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.22	6.24	2.43	2.62	2.71	9.07	1.40	23.36
50th-Percentile Queue Length [ft/ln]	5.44	156.04	60.79	65.44	67.74	226.63	34.99	583.90
95th-Percentile Queue Length [veh/ln]	0.39	10.34	4.38	4.71	4.88	14.22	2.52	36.94
95th-Percentile Queue Length [ft/ln]	9.79	258.48	109.42	117.80	121.93	355.44	62.98	923.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.66	16.69	16.69	11.62	11.49	11.49	87.18	59.98	59.98	49.87	267.01	267.01
Movement LOS	A	B	B	B	B	B	F	E	E	D	F	F
d_A, Approach Delay [s/veh]	16.00			11.56			65.43			239.70		
Approach LOS	B			B			E			F		
d_I, Intersection Delay [s/veh]	80.87											
Intersection LOS	F											
Intersection V/C	0.614											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	110	40	20	60	20	20	180	40	20	170	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	110	40	20	60	20	20	180	40	20	170	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	31	11	6	18	6	6	55	12	5	46	5
Total Analysis Volume [veh/h]	79	124	45	24	72	24	24	219	49	21	183	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	634	687	668
Degree of Utilization, x	0.38	0.19	0.42	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.75	0.69	2.13	1.48
95th-Percentile Queue Length [ft]	43.85	17.32	53.14	37.08
Approach Delay [s/veh]	11.74	10.00	12.06	11.10
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.44			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	10	140	30	30	170	20	20	70	40	50	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	140	30	30	170	20	20	70	40	50	100	30
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	40	9	8	43	5	6	22	13	15	29	9
Total Analysis Volume [veh/h]	11	159	34	31	173	20	25	88	50	58	116	35
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	692	688	685
Degree of Utilization, x	0.29	0.32	0.24	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.22	1.40	0.92	1.29
95th-Percentile Queue Length [ft]	30.50	35.06	22.97	32.29
Approach Delay [s/veh]	10.31	10.67	9.85	10.56
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	10.38			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2140	140	0	2470	110	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2140	140	0	2470	110	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	582	38	0	632	30	8
Total Analysis Volume [veh/h]	2326	152	0	2528	121	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	39	39	39	39
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	24	24	24	5
g / C, Green / Cycle	0.61	0.61	0.61	0.13
(v / s)_i Volume / Saturation Flow Rate	0.52	0.51	0.42	0.10
s, saturation flow rate [veh/h]	3192	1624	6089	1556
c, Capacity [veh/h]	1937	986	3696	195
d1, Uniform Delay [s]	6.28	6.17	5.18	16.66
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.75	0.08	2.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.84	0.68	0.79
d, Delay for Lane Group [s/veh]	6.71	6.92	5.27	19.34
Lane Group LOS	A	A	A	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.50	2.55	1.53	1.28
50th-Percentile Queue Length [ft/ln]	62.56	63.74	38.21	31.95
95th-Percentile Queue Length [veh/ln]	4.50	4.59	2.75	2.30
95th-Percentile Queue Length [ft/ln]	112.61	114.74	68.78	57.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.77	6.92	0.00	5.27	19.34	19.34
Movement LOS	A	A		A	B	B
d_A, Approach Delay [s/veh]	6.78		5.27		19.34	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.41					
Intersection LOS	A					
Intersection V/C	0.616					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	79.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1900	200	60	210	460	90	568	340	0	0	470	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1900	200	60	210	460	90	568	340	0	0	470	170
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	521	55	16	62	135	26	142	89	0	0	137	50
Total Analysis Volume [veh/h]	2086	220	66	246	540	106	568	354	0	0	548	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	67	67	67	30	30	33	33
g / C, Green / Cycle	0.47	0.47	0.47	0.21	0.21	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.44	0.44	0.20	0.28	0.29	0.22	0.20
s, saturation flow rate [veh/h]	3192	1576	1425	1597	1552	1597	3783
c, Capacity [veh/h]	1515	748	676	341	331	380	901
d1, Uniform Delay [s]	34.40	34.74	24.29	55.31	55.31	52.43	50.83
k, delay calibration	0.04	0.13	0.04	0.50	0.50	0.32	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	6.96	0.16	161.23	172.40	23.50	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.93	0.42	1.32	1.34	0.93	0.83
d, Delay for Lane Group [s/veh]	35.44	41.70	24.44	216.53	227.70	75.94	51.59
Lane Group LOS	D	D	C	F	F	E	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	21.94	23.38	6.34	27.30	27.56	14.70	8.38
50th-Percentile Queue Length [ft/ln]	548.46	584.54	158.42	682.45	689.06	367.39	209.52
95th-Percentile Queue Length [veh/ln]	29.62	31.31	10.47	41.05	41.70	20.98	13.13
95th-Percentile Queue Length [ft/ln]	740.50	782.80	261.63	1026.20	1042.54	524.56	328.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.95	24.44	24.44	216.53	227.70	227.70	0.00	75.94	0.00	0.00	51.59	51.59
Movement LOS	D	C	C	F	F	F		E			D	D
d_A, Approach Delay [s/veh]	35.95			222.09			75.94			51.59		
Approach LOS	D			F			E			D		
d_I, Intersection Delay [s/veh]	79.91											
Intersection LOS	E											
Intersection V/C	0.949											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	50	100	60	0	20	90	30	0	30	200	50	0	40	180	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	100	60	0	20	90	30	0	30	200	50	0	40	180	30
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	15	29	17	0	6	27	9	0	9	58	14	0	12	53	9
Total Analysis Volume [veh/h]	0	58	117	70	0	24	106	35	0	35	231	58	0	47	211	35
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	612	592	643	632
Degree of Utilization, x	0.40	0.28	0.50	0.46

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.92	1.14	2.85	2.45
95th-Percentile Queue Length [ft]	48.03	28.39	71.18	61.32
Approach Delay [s/veh]	12.75	11.42	14.16	13.53
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	13.20			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.236

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	90	30	20	70	20	10	80	40	30	70	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	90	30	20	70	20	10	80	40	30	70	30
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	5	19	5	4	28	14	9	21	9
Total Analysis Volume [veh/h]	38	113	38	22	76	22	14	113	56	36	84	36
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	639	749	632	737	648	751	635	747
Degree of Utilization, x	0.24	0.05	0.16	0.03	0.20	0.07	0.19	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.91	0.16	0.55	0.09	0.72	0.24	0.69	0.15
95th-Percentile Queue Length [ft]	22.86	4.00	13.66	2.31	18.06	6.03	17.29	3.79
Approach Delay [s/veh]	9.60		9.13		9.07		9.24	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.28							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	35.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	900	110	270	960	0	32	1085	209	80	0	200
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	900	110	270	960	0	32	1085	209	80	0	200
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	241	30	74	265	0	8	271	52	25	0	62
Total Analysis Volume [veh/h]	36	0	966	118	298	1058	0	32	1085	209	100	0	250
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.07	0.42	0.29		0.08	0.22
s, saturation flow rate [veh/h]	1810	3618	1584	708	3618		1231	1132
c, Capacity [veh/h]	47	2509	1099	558	2625		192	177
d1, Uniform Delay [s]	72.54	9.60	7.60	6.28	7.97		58.07	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.45	0.20	3.64	0.46		0.81	216.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.38	0.11	0.53	0.40		0.52	1.41
d, Delay for Lane Group [s/veh]	81.74	10.05	7.80	9.92	8.43		58.88	279.36
Lane Group LOS	F	B	A	A	A		E	F
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.66	1.32	2.77	6.55		3.55	17.38
50th-Percentile Queue Length [ft/ln]	37.61	166.43	32.95	69.14	163.68		88.87	434.46
95th-Percentile Queue Length [veh/ln]	2.71	10.89	2.37	4.98	10.74		6.40	27.80
95th-Percentile Queue Length [ft/ln]	67.70	272.22	59.31	124.46	268.59		159.97	694.89

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.05	7.80	9.92	8.43	0.00	0.00	0.00	0.00	58.88	0.00	279.36
Movement LOS	F		B	A	A	A					E		F
d_A, Approach Delay [s/veh]	12.11				8.76			0.00			216.37		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	35.80												
Intersection LOS	D												
Intersection V/C	0.536												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 1: 1 Approval Year Report File: \...\AY_MD_LOS.pdf

APPROVAL YEAR (2020) PLUS PROJECT CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	70.6
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.205

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	10	2570	2	310	3460	30	10	10	10	256	20	253
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	2570	2	310	3460	30	10	10	10	256	20	253
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	732	1	83	922	8	3	3	3	70	5	69
Total Analysis Volume [veh/h]	11	2927	2	330	3687	32	12	12	12	279	22	276
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	3	144	46	186	186	36	35	86
g / C, Green / Cycle	0.01	0.60	0.19	0.78	0.78	0.15	0.15	0.36
(v / s)_i Volume / Saturation Flow Rate	0.01	0.57	0.18	0.67	0.68	0.18	0.46	0.17
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1892	196	658	1594
c, Capacity [veh/h]	24	3095	347	2808	1468	49	124	571
d1, Uniform Delay [s]	117.59	44.66	95.96	18.45	18.62	92.54	106.80	59.80
k, delay calibration	0.04	0.50	0.23	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.12	7.71	22.78	3.96	7.41	64.51	662.90	2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.95	0.95	0.87	0.87	0.73	2.42	0.48
d, Delay for Lane Group [s/veh]	122.72	52.37	118.73	22.41	26.03	157.05	769.70	62.71
Lane Group LOS	F	D	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.72	54.38	22.52	43.98	48.01	3.18	30.86	13.86
50th-Percentile Queue Length [ft/ln]	18.07	1359.43	562.92	1099.55	1200.22	79.51	771.58	346.59
95th-Percentile Queue Length [veh/ln]	1.30	66.47	30.30	54.86	59.37	5.72	50.36	19.97
95th-Percentile Queue Length [ft/ln]	32.52	1661.77	757.47	1371.46	1484.31	143.11	1258.91	499.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	122.72	52.37	0.00	118.73	23.64	26.03	157.05	157.05	157.05	769.70	769.70	62.71
Movement LOS	F	D		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	52.63			31.41			157.05			431.52		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	70.59											
Intersection LOS	E											
Intersection V/C	1.205											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	79.6
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	148	357	83	0	13	477	189	0	50	110	250	0	41	161	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	357	83	0	13	477	189	0	50	110	250	0	41	161	50
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	44	105	24	0	4	130	52	0	15	33	75	0	11	43	13
Total Analysis Volume [veh/h]	174	420	98	0	14	521	206	0	60	132	300	0	44	171	53
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	62	62	2	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.62	0.62	0.02	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.10	0.22	0.07	0.01	0.27	0.14	0.51	0.19	0.42	0.04
s, saturation flow rate [veh/h]	1810	1900	1424	1810	1900	1441	378	1542	515	1212
c, Capacity [veh/h]	189	1180	884	30	1013	768	117	578	138	224
d1, Uniform Delay [s]	44.38	9.22	7.71	48.73	15.00	12.71	40.17	24.26	39.12	34.76
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.50	0.13	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.52	0.84	0.25	4.25	1.86	0.86	323.13	0.86	281.80	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

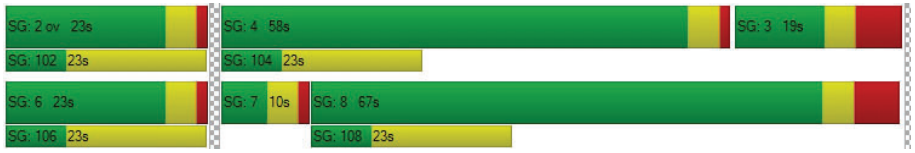
X, volume / capacity	0.92	0.36	0.11	0.47	0.51	0.27	1.64	0.52	1.55	0.24
d, Delay for Lane Group [s/veh]	51.90	10.06	7.96	52.99	16.87	13.56	363.30	25.12	320.91	34.96
Lane Group LOS	D	B	A	D	B	B	F	C	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.63	4.39	0.87	0.38	7.75	2.60	13.45	5.62	14.24	1.10
50th-Percentile Queue Length [ft/ln]	115.72	109.73	21.63	9.50	193.82	65.08	336.21	140.51	355.95	27.39
95th-Percentile Queue Length [veh/ln]	8.16	7.83	1.56	0.68	12.32	4.69	23.22	9.51	24.11	1.97
95th-Percentile Queue Length [ft/ln]	203.93	195.63	38.94	17.10	307.98	117.14	580.41	237.71	602.87	49.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.90	10.06	7.96	52.99	52.99	16.87	13.56	363.3	363.3	363.3	25.12	320.9	320.9	320.9	34.96
Movement LOS	D	B	A	D	D	B	B	F	F	F	C	F	F	F	C
d_A, Approach Delay [s/veh]	20.28			16.63				157.09				264.36			
Approach LOS	C			B				F				F			
d_I, Intersection Delay [s/veh]	79.57														
Intersection LOS	E														
Intersection V/C	0.936														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.297

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	461	250	0	228	572	0	165	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	461	250	0	228	572	0	165	104
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	127	69	0	65	164	0	46	29
Total Analysis Volume [veh/h]	0	507	275	0	261	655	0	185	117
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	61	61	61	73	73	14	14	14
g / C, Green / Cycle	0.61	0.61	0.61	0.73	0.73	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.18	0.25	0.18	0.06	0.06	0.07
s, saturation flow rate [veh/h]	1900	1729	1548	1026	3618	1690	1764	1428
c, Capacity [veh/h]	1197	1056	946	794	2631	238	248	201
d1, Uniform Delay [s]	8.79	8.79	9.20	4.66	4.54	39.35	39.19	39.54
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.50	0.78	1.11	0.23	0.48	0.41	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

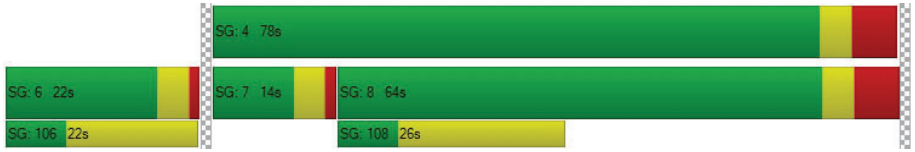
X, volume / capacity	0.22	0.23	0.29	0.33	0.25	0.44	0.41	0.47
d, Delay for Lane Group [s/veh]	9.22	9.30	9.98	5.76	4.77	39.83	39.60	40.18
Lane Group LOS	A	A	A	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.58	2.37	2.85	1.67	1.96	2.37	2.31	2.17
50th-Percentile Queue Length [ft/ln]	64.60	59.25	71.27	41.84	48.93	59.35	57.75	54.21
95th-Percentile Queue Length [veh/ln]	4.65	4.27	5.13	3.01	3.52	4.27	4.16	3.90
95th-Percentile Queue Length [ft/ln]	116.27	106.64	128.29	75.31	88.08	106.84	103.95	97.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.22	9.26	9.98	5.76	5.76	4.77	39.83	39.72	40.09
Movement LOS	A	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	9.51			5.05			39.86		
Approach LOS	A			A			D		
d_I, Intersection Delay [s/veh]	12.05								
Intersection LOS	B								
Intersection V/C	0.297								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	670	130	90	607	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	670	130	90	607	30	40
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	35	25	166	10	13
Total Analysis Volume [veh/h]	729	141	98	664	39	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	73	73	73	73	14
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.14
(v / s)_i Volume / Saturation Flow Rate	0.20	0.09	0.13	0.18	0.05
s, saturation flow rate [veh/h]	3618	1496	733	3618	1692
c, Capacity [veh/h]	2627	1086	535	2627	240
d1, Uniform Delay [s]	4.69	4.14	7.83	4.59	38.89
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.25	0.75	0.23	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

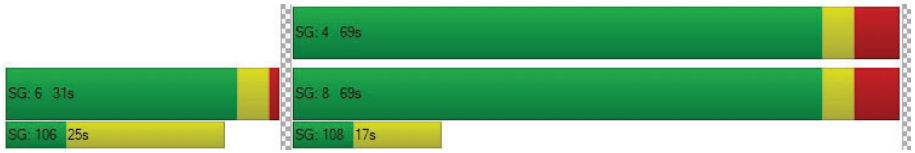
X, volume / capacity	0.28	0.13	0.18	0.25	0.38
d, Delay for Lane Group [s/veh]	4.96	4.38	8.58	4.82	39.27
Lane Group LOS	A	A	A	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.25	0.81	0.94	2.00	2.04
50th-Percentile Queue Length [ft/ln]	56.25	20.23	23.56	50.08	51.00
95th-Percentile Queue Length [veh/ln]	4.05	1.46	1.70	3.61	3.67
95th-Percentile Queue Length [ft/ln]	101.25	36.41	42.42	90.15	91.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.96	4.38	8.58	4.82	39.27	39.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.86		5.31		39.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	6.90					
Intersection LOS	A					
Intersection V/C	0.256					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	740	150	90	557	70	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	740	150	90	557	70	70
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	200	41	24	149	22	22
Total Analysis Volume [veh/h]	801	162	97	598	89	89
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	67	67	78	78	8	20
g / C, Green / Cycle	0.67	0.67	0.78	0.78	0.08	0.20
(v / s)_i Volume / Saturation Flow Rate	0.22	0.11	0.12	0.17	0.06	0.06
s, saturation flow rate [veh/h]	3618	1487	826	3618	1378	1418
c, Capacity [veh/h]	2419	994	689	2836	116	283
d1, Uniform Delay [s]	7.05	6.16	3.02	2.79	44.83	34.18
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.35	0.43	0.17	4.01	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

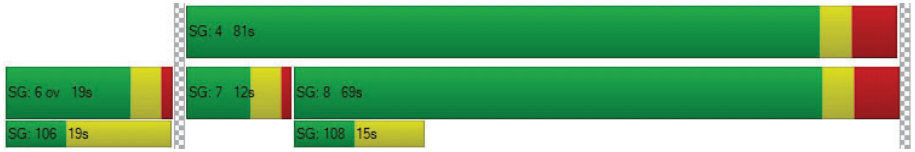
X, volume / capacity	0.33	0.16	0.14	0.21	0.77	0.31
d, Delay for Lane Group [s/veh]	7.42	6.51	3.44	2.96	48.84	34.42
Lane Group LOS	A	A	A	A	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.37	1.25	0.40	1.18	2.28	1.86
50th-Percentile Queue Length [ft/ln]	84.37	31.16	10.02	29.53	56.88	46.40
95th-Percentile Queue Length [veh/ln]	6.07	2.24	0.72	2.13	4.10	3.34
95th-Percentile Queue Length [ft/ln]	151.86	56.08	18.03	53.16	102.38	83.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.42	6.51	3.44	2.96	48.84	34.42
Movement LOS	A	A	A	A	D	C
d_A, Approach Delay [s/veh]	7.27		3.03		41.63	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.99					
Intersection LOS	A					
Intersection V/C	0.303					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	823	142	67	597	10	20	13	10	100	20	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	823	142	67	597	10	20	13	10	100	20	130
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	216	41	18	165	3	7	6	4	29	6	38
Total Analysis Volume [veh/h]	21	862	165	71	662	11	30	24	15	118	24	153
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	65	65	58	58	5	15	15
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.05	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.18	0.18	0.03	0.08	0.10
s, saturation flow rate [veh/h]	859	3618	1900	1886	1740	1824	1458
c, Capacity [veh/h]	464	1960	916	909	79	224	179
d1, Uniform Delay [s]	13.61	16.55	19.57	19.60	56.12	50.12	51.64
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.72	1.14	1.16	2.35	1.12	4.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

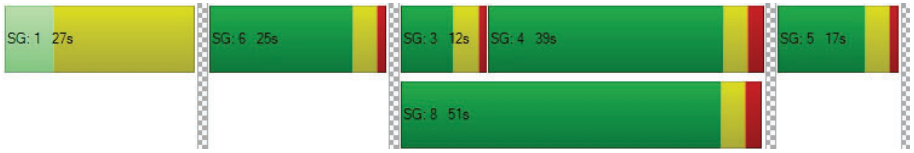
X, volume / capacity	0.05	0.44	0.37	0.37	0.57	0.64	0.86
d, Delay for Lane Group [s/veh]	13.63	17.27	20.71	20.76	58.47	51.24	56.15
Lane Group LOS	B	B	C	C	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	7.20	6.16	6.18	1.38	4.17	4.77
50th-Percentile Queue Length [ft/ln]	6.63	180.07	154.11	154.42	34.46	104.15	119.28
95th-Percentile Queue Length [veh/ln]	0.48	11.60	10.24	10.25	2.48	7.50	8.35
95th-Percentile Queue Length [ft/ln]	11.93	290.11	255.90	256.32	62.02	187.47	208.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.63	17.27	0.00	0.00	20.73	20.76	58.47	0.00	58.47	51.24	51.24	56.15
Movement LOS	B	B			C	C	E		E	D	D	E
d_A, Approach Delay [s/veh]	17.18			20.73			58.47			53.79		
Approach LOS	B			C			E			D		
d_I, Intersection Delay [s/veh]	25.12											
Intersection LOS	C											
Intersection V/C	0.369											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	470	783	697	30	60	460
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	783	697	30	60	460
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	215	187	8	18	135
Total Analysis Volume [veh/h]	517	861	749	32	70	539
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	80	80	80	6	30
g / C, Green / Cycle	0.16	0.67	0.67	0.67	0.05	0.25
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.21	0.02	0.04	0.20
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2668
c, Capacity [veh/h]	569	2423	2423	1082	96	677
d1, Uniform Delay [s]	49.37	8.59	8.25	6.68	55.90	41.86
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.41	0.33	0.05	3.86	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

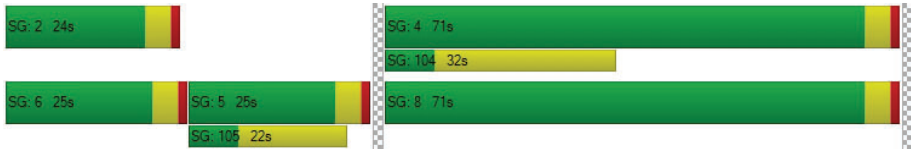
X, volume / capacity	0.91	0.36	0.31	0.03	0.73	0.80
d, Delay for Lane Group [s/veh]	51.74	9.00	8.58	6.73	59.76	42.69
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.78	4.72	3.94	0.28	2.29	7.96
50th-Percentile Queue Length [ft/ln]	194.39	118.07	98.62	7.00	57.22	198.98
95th-Percentile Queue Length [veh/ln]	12.35	8.29	7.10	0.50	4.12	12.59
95th-Percentile Queue Length [ft/ln]	308.72	207.17	177.51	12.61	103.00	314.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.74	9.00	8.58	6.73	59.76	42.69
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	25.03		8.51		44.65	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.69					
Intersection LOS	C					
Intersection V/C	0.440					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	40	110	20	0	180	0	120	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	40	110	20	0	180	0	120	180
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	11	30	5	0	47	0	32	48
Total Analysis Volume [veh/h]	0	0	0	0	43	119	22	0	190	0	127	190
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		19	19	19	31	31	31
g / C, Green / Cycle		0.21	0.21	0.21	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate		0.03	0.04	0.04	0.13	0.07	0.13
s, saturation flow rate [veh/h]		1256	1900	1758	1440	1900	1518
c, Capacity [veh/h]		265	409	378	583	662	529
d1, Uniform Delay [s]		33.92	28.83	28.90	21.43	20.50	21.87
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.28	0.20	0.23	1.48	0.14	0.41
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.16	0.17	0.18	0.33	0.19	0.36
d, Delay for Lane Group [s/veh]		34.20	29.03	29.13	22.91	20.64	22.28
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.83	1.25	1.23	3.04	1.82	2.93
50th-Percentile Queue Length [ft/ln]		20.82	31.13	30.67	76.06	45.55	73.18
95th-Percentile Queue Length [veh/ln]		1.50	2.24	2.21	5.48	3.28	5.27
95th-Percentile Queue Length [ft/ln]		37.47	56.03	55.21	136.92	81.99	131.73

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	34.20	29.07	29.13	0.00	22.91	0.00	20.64	22.28
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.28				22.11			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.42											
Intersection LOS	C											
Intersection V/C	0.492											

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	1143	180	110	687	0	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	1143	180	110	687	0	20
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	300	47	29	184	0	5
Total Analysis Volume [veh/h]	0	52	1200	189	118	735	0	21
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	50	50	50
g / C, Green / Cycle	0.45	0.45	0.45	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.07	0.33	0.12	0.18	0.20	0.20
s, saturation flow rate [veh/h]	717	3618	1537	674	1900	1875
c, Capacity [veh/h]	298	1610	684	356	1044	1030
d1, Uniform Delay [s]	23.53	20.77	15.82	14.59	11.42	11.43
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.27	3.19	1.00	2.48	0.98	1.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

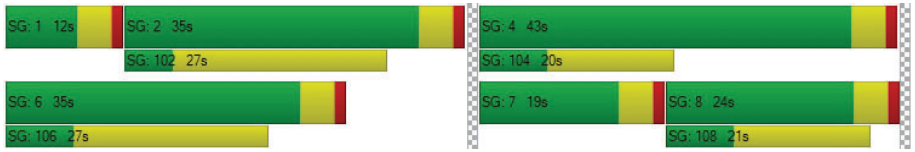
X, volume / capacity	0.17	0.75	0.28	0.33	0.36	0.37
d, Delay for Lane Group [s/veh]	24.80	23.95	16.83	17.07	12.40	12.43
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.92	10.57	2.56	1.30	4.26	4.23
50th-Percentile Queue Length [ft/ln]	22.97	264.26	63.91	32.56	106.49	105.66
95th-Percentile Queue Length [veh/ln]	1.65	15.90	4.60	2.34	7.64	7.60
95th-Percentile Queue Length [ft/ln]	41.34	397.55	115.04	58.60	191.10	189.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.80	23.95	16.83	17.07	12.41	0.00	12.43
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	23.05				13.04			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.42							
Intersection LOS	C							
Intersection V/C	0.492							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	170.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.564

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	36	86	130	74	79	26	35	273	56	81	224	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	86	130	74	79	26	35	273	56	81	224	102
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	23	35	23	25	8	13	103	21	21	58	27
Total Analysis Volume [veh/h]	39	93	141	92	98	32	53	412	84	84	233	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	1.45	0.05	0.11	0.05	0.08	0.09	0.10
s, saturation flow rate [veh/h]	1280	1703	153	1058	3618	1589	989	1900	1652
c, Capacity [veh/h]	73	264	73	484	1709	751	447	898	781
d1, Uniform Delay [s]	50.02	41.39	46.22	19.61	15.71	14.70	21.04	15.34	15.44
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.24	3.95	951.75	0.46	0.33	0.30	0.93	0.49	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.53	0.89	3.04	0.11	0.24	0.11	0.19	0.20	0.21
d, Delay for Lane Group [s/veh]	52.26	45.35	997.98	20.06	16.04	15.00	21.97	15.83	16.05
Lane Group LOS	D	D	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	1.01	5.82	21.13	0.85	2.81	1.11	1.43	2.40	2.26
50th-Percentile Queue Length [ft/ln]	25.19	145.46	528.32	21.13	70.27	27.63	35.77	59.97	56.47
95th-Percentile Queue Length [veh/ln]	1.81	9.77	36.09	1.52	5.06	1.99	2.58	4.32	4.07
95th-Percentile Queue Length [ft/ln]	45.35	244.36	902.13	38.03	126.49	49.73	64.39	107.95	101.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.26	45.35	45.35	997.98	997.98	997.98	20.06	16.04	15.00	21.97	15.88	16.05
Movement LOS	D	D	D	F	F	F	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	46.34			997.98			16.27			17.13		
Approach LOS	D			F			B			B		
d_I, Intersection Delay [s/veh]	170.68											
Intersection LOS	F											
Intersection V/C	1.564											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.331

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	30	172	60	30	106	60	80	80	30	30	60	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	172	60	30	106	60	80	80	30	30	60	120
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	52	18	9	32	18	23	23	8	9	17	34
Total Analysis Volume [veh/h]	36	207	72	36	127	72	90	90	34	34	69	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	52	52
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.03	0.11	0.05	0.03	0.11	0.16	0.22
s, saturation flow rate [veh/h]	1202	1900	1546	1194	1764	1342	1100
c, Capacity [veh/h]	133	345	281	138	321	744	609
d1, Uniform Delay [s]	46.42	37.57	35.11	46.04	37.73	14.12	14.97
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.62	0.18	0.37	0.73	0.97	1.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.60	0.26	0.26	0.62	0.29	0.39
d, Delay for Lane Group [s/veh]	46.82	38.19	35.29	46.41	38.47	15.10	16.88
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	4.61	1.49	0.87	4.46	2.93	3.57
50th-Percentile Queue Length [ft/ln]	21.93	115.36	37.36	21.81	111.57	73.26	89.18
95th-Percentile Queue Length [veh/ln]	1.58	8.14	2.69	1.57	7.93	5.27	6.42
95th-Percentile Queue Length [ft/ln]	39.47	203.43	67.24	39.27	198.18	131.87	160.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.82	38.19	35.29	46.41	38.47	38.47	15.10	15.10	15.10	16.88	16.88	16.88
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	38.51			39.68			15.10			16.88		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	28.63											
Intersection LOS	C											
Intersection V/C	0.331											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.337

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	50	212	90	40	96	30	70	130	40	30	110	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	212	90	40	96	30	70	130	40	30	110	140
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	60	25	13	31	10	18	34	10	8	30	38
Total Analysis Volume [veh/h]	56	239	101	52	125	39	73	135	41	33	121	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.11	0.04	0.09	0.21	0.03	0.14	0.10
s, saturation flow rate [veh/h]	1241	1900	900	1159	1808	984	1566	1100	1584
c, Capacity [veh/h]	191	368	174	142	350	543	787	597	796
d1, Uniform Delay [s]	42.76	37.13	36.56	46.16	35.70	20.94	12.68	15.39	13.68
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.72	1.13	0.59	0.36	2.04	0.13	1.05	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

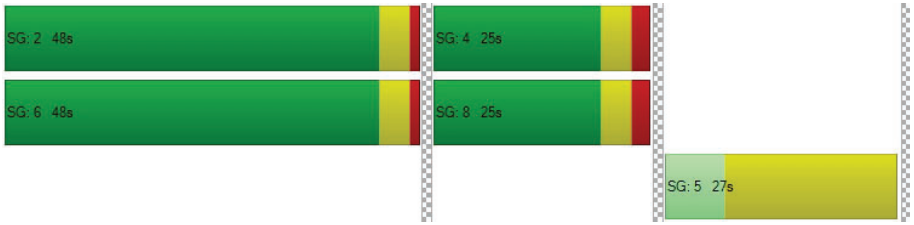
X, volume / capacity	0.29	0.65	0.58	0.37	0.47	0.38	0.05	0.26	0.19
d, Delay for Lane Group [s/veh]	43.08	37.86	37.70	46.75	36.06	22.98	12.80	16.43	14.22
Lane Group LOS	D	D	D	D	D	C	B	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.31	5.34	2.25	1.27	3.51	4.23	0.49	2.00	1.98
50th-Percentile Queue Length [ft/ln]	32.65	133.54	56.17	31.84	87.76	105.65	12.16	50.01	49.48
95th-Percentile Queue Length [veh/ln]	2.35	9.13	4.04	2.29	6.32	7.60	0.88	3.60	3.56
95th-Percentile Queue Length [ft/ln]	58.77	228.30	101.11	57.31	157.97	189.93	21.89	90.01	89.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.08	37.86	37.70	46.75	36.06	36.06	22.98	22.98	12.80	16.43	16.43	14.22
Movement LOS	D	D	D	D	D	D	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	38.55			38.64			21.30			15.33		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	28.77											
Intersection LOS	C											
Intersection V/C	0.337											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.284

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	30	261	80	44	102	10	80	110	50	60	108	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	261	80	44	102	10	80	110	50	60	108	151
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	76	23	13	30	3	22	31	14	19	35	49
Total Analysis Volume [veh/h]	35	302	93	51	119	12	90	124	56	77	139	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23	23	45	45	45	45	45
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.06	0.05	0.07	0.07	0.10	0.06	0.07	0.13
s, saturation flow rate [veh/h]	1279	1900	1546	1094	1860	1270	1777	1223	1900	1553
c, Capacity [veh/h]	266	439	358	142	430	560	793	519	849	694
d1, Uniform Delay [s]	37.02	35.13	31.44	45.95	31.79	20.40	17.04	21.47	16.52	17.51
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.72	0.14	0.57	0.15	0.61	0.66	0.60	0.41	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

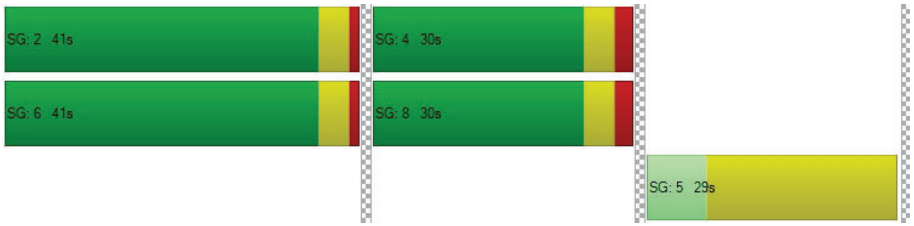
X, volume / capacity	0.13	0.69	0.26	0.36	0.30	0.16	0.23	0.15	0.16	0.28
d, Delay for Lane Group [s/veh]	37.11	35.85	31.58	46.51	31.93	21.02	17.70	22.08	16.93	18.52
Lane Group LOS	D	D	C	D	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.74	6.64	1.82	1.25	2.59	1.45	2.60	1.28	1.94	2.93
50th-Percentile Queue Length [ft/ln]	18.55	165.89	45.46	31.16	64.69	36.29	65.08	32.00	48.43	73.25
95th-Percentile Queue Length [veh/ln]	1.34	10.86	3.27	2.24	4.66	2.61	4.69	2.30	3.49	5.27
95th-Percentile Queue Length [ft/ln]	33.40	271.51	81.83	56.09	116.43	65.33	117.15	57.59	87.18	131.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.11	35.85	31.58	46.51	31.93	31.93	21.02	17.70	17.70	22.08	16.93	18.52
Movement LOS	D	D	C	D	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.03			36.02			18.81			18.65		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.57											
Intersection LOS	C											
Intersection V/C	0.284											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	20	291	0	29	122	50	66	90	0	20	170	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	291	0	29	122	50	66	90	0	20	170	150
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	82	0	8	31	13	20	27	0	6	47	42
Total Analysis Volume [veh/h]	23	330	0	31	125	51	79	108	0	22	189	166
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23		68	68
g / C, Green / Cycle	0.19	0.19	0.19	0.19		0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.07	0.03		0.11	0.12
s, saturation flow rate [veh/h]	1261	1863	1863	1545		1890	1449
c, Capacity [veh/h]	209	358	358	297		1065	817
d1, Uniform Delay [s]	47.49	47.53	41.92	40.45		12.81	12.93
k, delay calibration	0.04	0.09	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.09	8.95	0.22	0.10		0.41	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.92	0.35	0.17		0.19	0.21
d, Delay for Lane Group [s/veh]	47.58	56.48	42.14	40.55		13.22	13.51
Lane Group LOS	D	E	D	D		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	10.52	3.21	1.26		2.87	2.42
50th-Percentile Queue Length [ft/ln]	15.64	263.04	80.23	31.58		71.87	60.59
95th-Percentile Queue Length [veh/ln]	1.13	15.84	5.78	2.27		5.17	4.36
95th-Percentile Queue Length [ft/ln]	28.15	396.03	144.42	56.84		129.36	109.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.58	56.48	0.00	0.00	42.14	40.55	0.00	0.00	0.00	13.22	13.23	13.51
Movement LOS	D	E			D	D				B	B	B
d_A, Approach Delay [s/veh]	55.90			41.68			0.00			13.35		
Approach LOS	E			D			A			B		
d_I, Intersection Delay [s/veh]	35.43											
Intersection LOS	D											
Intersection V/C	0.295											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	40	30	0	20	463	0	367	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	30	0	20	463	0	367	100
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	9	0	5	124	0	97	26
Total Analysis Volume [veh/h]	0	46	34	0	21	495	0	387	105
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	6	58	58	58	58
g / C, Green / Cycle	0.06	0.06	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.14	0.14	0.14
s, saturation flow rate [veh/h]	1810	1544	919	3618	1900	1581
c, Capacity [veh/h]	114	97	512	2079	1128	908
d1, Uniform Delay [s]	45.04	44.88	13.92	10.48	10.51	10.56
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	0.80	0.15	0.27	0.49	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.35	0.04	0.24	0.23	0.25
d, Delay for Lane Group [s/veh]	45.89	45.68	14.07	10.75	11.00	11.22
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.11	0.82	0.27	2.63	2.90	2.53
50th-Percentile Queue Length [ft/ln]	27.73	20.46	6.76	65.86	72.45	63.26
95th-Percentile Queue Length [veh/ln]	2.00	1.47	0.49	4.74	5.22	4.55
95th-Percentile Queue Length [ft/ln]	49.91	36.83	12.17	118.55	130.41	113.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.89	45.89	45.68	14.07	14.07	10.75	11.00	11.07	11.22
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	45.80			10.88			11.10		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	13.55								
Intersection LOS	B								
Intersection V/C	0.169								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	101	40	70	141	50	30	213	30	50	200	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	101	40	70	141	50	30	213	30	50	200	60
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	28	11	19	37	13	8	58	8	14	57	17
Total Analysis Volume [veh/h]	22	113	45	74	150	53	33	232	33	57	228	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	11	11
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.26	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.06	0.03	0.06	0.08	0.03	0.17	0.21
s, saturation flow rate [veh/h]	1237	1900	1480	1264	1900	1517	1783	1694
c, Capacity [veh/h]	434	505	393	459	505	403	851	822
d1, Uniform Delay [s]	10.29	7.76	7.52	10.32	7.92	7.56	5.92	6.19
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.08	0.05	0.06	0.12	0.05	0.09	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

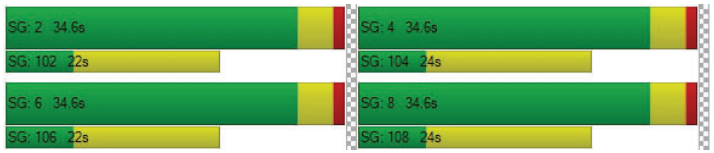
X, volume / capacity	0.05	0.22	0.11	0.16	0.30	0.13	0.35	0.43
d, Delay for Lane Group [s/veh]	10.31	7.84	7.57	10.38	8.04	7.61	6.01	6.32
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.30	0.12	0.28	0.44	0.15	0.69	0.76
50th-Percentile Queue Length [ft/ln]	1.93	7.44	2.89	6.98	11.03	3.73	17.21	18.91
95th-Percentile Queue Length [veh/ln]	0.14	0.54	0.21	0.50	0.79	0.27	1.24	1.36
95th-Percentile Queue Length [ft/ln]	3.48	13.39	5.20	12.57	19.86	6.71	30.97	34.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.31	7.84	7.57	10.38	8.04	7.61	6.01	6.01	6.01	6.32	6.32	6.32
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.07			8.58			6.01			6.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.09											
Intersection LOS	A											
Intersection V/C	0.287											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	120	20	20	250	41	22	138	70	40	148	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	120	20	20	250	41	22	138	70	40	148	30
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	33	6	6	76	12	7	42	22	12	43	9
Total Analysis Volume [veh/h]	22	132	22	24	302	50	27	170	86	47	173	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	8	8
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.02	0.19	0.16	0.14
s, saturation flow rate [veh/h]	1014	1828	1215	1819	1749	1762
c, Capacity [veh/h]	392	635	535	632	685	701
d1, Uniform Delay [s]	10.54	6.19	8.30	7.02	7.60	7.44
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.07	0.01	0.29	0.15	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

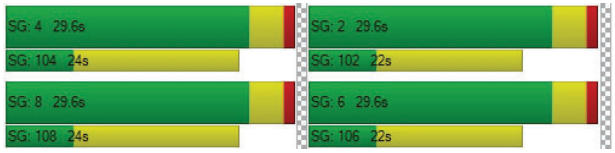
X, volume / capacity	0.06	0.24	0.04	0.56	0.41	0.36
d, Delay for Lane Group [s/veh]	10.56	6.26	8.31	7.31	7.75	7.56
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.08	0.30	0.07	0.79	1.23	0.61
50th-Percentile Queue Length [ft/ln]	1.96	7.43	1.67	19.70	30.66	15.33
95th-Percentile Queue Length [veh/ln]	0.14	0.53	0.12	1.42	2.21	1.10
95th-Percentile Queue Length [ft/ln]	3.52	13.37	3.00	35.46	55.18	27.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.56	6.26	6.26	8.31	7.31	7.31	7.75	7.75	7.75	7.56	7.56	7.56
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.80			7.37			7.75			7.56		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.42											
Intersection LOS	A											
Intersection V/C	0.355											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.288

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	54	130	60	60	210	30	39	387	66	120	423	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	130	60	60	210	30	39	387	66	120	423	151
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	42	19	16	56	8	11	105	18	31	111	40
Total Analysis Volume [veh/h]	70	169	78	65	226	32	42	419	72	126	443	158
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.05	0.05	0.12	0.02	0.05	0.12	0.05	0.11	0.17	0.17
s, saturation flow rate [veh/h]	1173	1900	1579	1236	1900	1586	831	3618	1588	1161	1900	1704
c, Capacity [veh/h]	148	368	306	190	368	308	233	1190	522	534	844	757
d1, Uniform Delay [s]	46.62	35.75	34.26	43.30	36.97	33.24	34.32	25.53	23.65	17.11	18.53	18.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.87	0.33	0.16	0.40	0.62	0.05	1.69	0.82	0.55	0.08	1.25	1.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

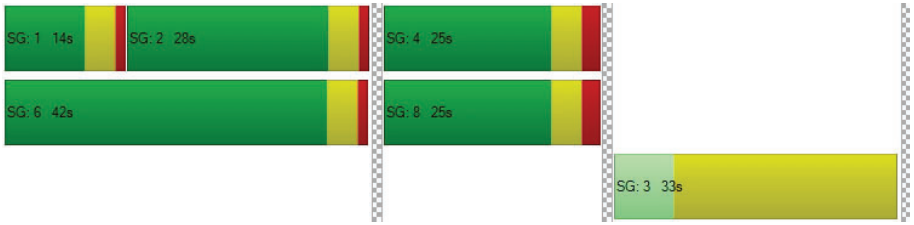
X, volume / capacity	0.47	0.46	0.25	0.34	0.61	0.10	0.18	0.35	0.14	0.24	0.37	0.38
d, Delay for Lane Group [s/veh]	47.50	36.08	34.42	43.70	37.59	33.29	36.01	26.35	24.20	17.19	19.78	20.06
Lane Group LOS	D	D	C	D	D	C	D	C	C	B	B	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.74	3.62	1.60	1.53	5.02	0.64	0.97	3.87	1.27	1.72	5.02	4.65
50th-Percentile Queue Length [ft/ln]	43.52	90.39	39.95	38.35	125.40	15.88	24.34	96.77	31.72	42.88	125.39	116.31
95th-Percentile Queue Length [veh/ln]	3.13	6.51	2.88	2.76	8.69	1.14	1.75	6.97	2.28	3.09	8.69	8.19
95th-Percentile Queue Length [ft/ln]	78.34	162.70	71.91	69.03	217.23	28.58	43.80	174.18	57.09	77.19	217.22	204.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.50	36.08	34.42	43.70	37.59	33.29	36.01	26.35	24.20	17.19	19.86	20.06
Movement LOS	D	D	C	D	D	C	D	C	C	B	B	C
d_A, Approach Delay [s/veh]	38.19			38.39			26.82			19.44		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	27.86											
Intersection LOS	C											
Intersection V/C	0.288											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.313

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	50	224	50	20	287	40	10	90	50	40	150	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	224	50	20	287	40	10	90	50	40	150	60
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	63	14	5	78	11	3	27	15	12	45	18
Total Analysis Volume [veh/h]	56	251	56	22	314	44	12	109	60	48	179	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	48	48	48	48	48	48	20	20
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.48	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.04	0.02	0.10	0.10	0.11	0.18
s, saturation flow rate [veh/h]	1040	1900	1558	1147	1900	1806	1720	1647
c, Capacity [veh/h]	489	911	747	505	911	866	378	367
d1, Uniform Delay [s]	18.96	15.59	14.04	19.72	14.96	15.00	35.83	39.19
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.75	0.20	0.16	0.49	0.53	0.35	6.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

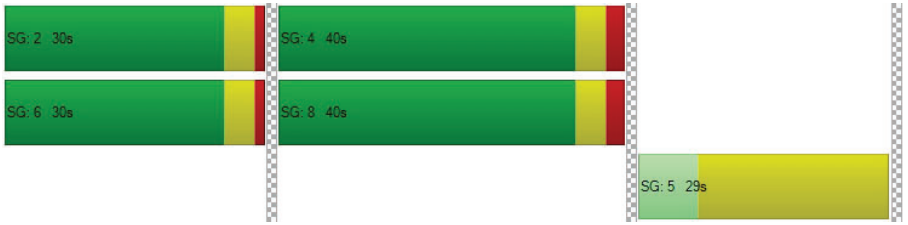
X, volume / capacity	0.11	0.28	0.07	0.04	0.20	0.20	0.48	0.81
d, Delay for Lane Group [s/veh]	19.44	16.34	14.23	19.88	15.45	15.53	36.18	45.99
Lane Group LOS	B	B	B	B	B	B	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	3.47	0.70	0.34	2.40	2.35	3.94	7.67
50th-Percentile Queue Length [ft/ln]	21.65	86.83	17.50	8.52	60.04	58.74	98.56	191.75
95th-Percentile Queue Length [veh/ln]	1.56	6.25	1.26	0.61	4.32	4.23	7.10	12.21
95th-Percentile Queue Length [ft/ln]	38.97	156.29	31.50	15.34	108.07	105.74	177.40	305.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.44	16.34	14.23	19.88	15.49	15.53	36.18	36.18	36.18	45.99	45.99	45.99
Movement LOS	B	B	B	B	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	16.49			15.75			36.18			45.99		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	26.37											
Intersection LOS	C											
Intersection V/C	0.313											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	50	304	80	40	337	10	0	180	70	0	210	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	304	80	40	337	10	0	180	70	0	210	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	90	24	11	94	3	0	50	19	0	55	13
Total Analysis Volume [veh/h]	60	362	95	44	374	11	0	201	78	0	222	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	57	57	57	57	13	13	13	13
g / C, Green / Cycle	0.57	0.57	0.57	0.57	0.57	0.57	0.13	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.06	0.04	0.10	0.10	0.11	0.05	0.07	0.08
s, saturation flow rate [veh/h]	1014	1900	1587	1036	1900	1879	1900	1564	1900	1759
c, Capacity [veh/h]	574	1085	907	530	1085	1073	240	197	240	222
d1, Uniform Delay [s]	13.53	11.36	9.78	16.26	10.23	10.24	42.68	40.17	41.14	41.40
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.83	0.23	0.31	0.36	0.36	2.99	0.48	0.81	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.33	0.10	0.08	0.18	0.18	0.84	0.40	0.57	0.62
d, Delay for Lane Group [s/veh]	13.90	12.18	10.01	16.57	10.59	10.60	45.68	40.65	41.95	42.45
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.75	4.18	0.95	0.61	2.00	1.99	5.01	1.78	3.22	3.26
50th-Percentile Queue Length [ft/ln]	18.82	104.44	23.65	15.35	49.92	49.63	125.20	44.56	80.62	81.40
95th-Percentile Queue Length [veh/ln]	1.35	7.52	1.70	1.10	3.59	3.57	8.68	3.21	5.80	5.86
95th-Percentile Queue Length [ft/ln]	33.87	187.99	42.57	27.62	89.86	89.34	216.96	80.21	145.11	146.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.90	12.18	10.01	16.57	10.60	10.60	0.00	45.68	40.65	0.00	42.14	42.45
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	11.98			11.21			44.27			42.20		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.31											
Intersection LOS	C											
Intersection V/C	0.296											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	128	414	170	20	297	50	0	163	51	110	221	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	414	170	20	297	50	0	163	51	110	221	50
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	113	46	5	76	13	0	45	14	31	62	14
Total Analysis Volume [veh/h]	140	453	186	21	306	51	0	179	56	124	249	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	54	54	62	47	47	13	29	25	25	25
g / C, Green / Cycle	0.09	0.45	0.45	0.52	0.39	0.39	0.11	0.24	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.08	0.24	0.12	0.02	0.10	0.10	0.09	0.04	0.09	0.13	0.04
s, saturation flow rate [veh/h]	1810	1900	1573	1037	1900	1785	1900	1588	1456	1900	1591
c, Capacity [veh/h]	168	859	711	460	739	694	211	385	287	401	336
d1, Uniform Delay [s]	53.54	23.66	20.43	15.92	24.78	24.86	52.37	35.72	40.64	42.98	38.71
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.11	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.05	2.31	0.89	0.19	0.79	0.88	3.62	0.06	1.09	0.59	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

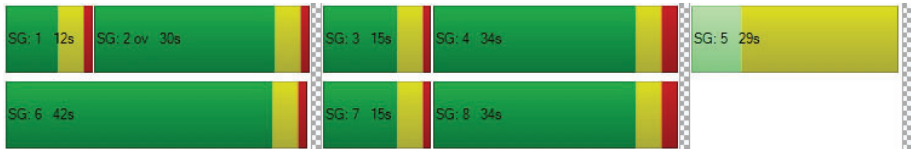
X, volume / capacity	0.83	0.53	0.26	0.05	0.25	0.25	0.85	0.15	0.43	0.62	0.17
d, Delay for Lane Group [s/veh]	57.58	25.97	21.33	16.11	25.56	25.73	55.99	35.78	41.73	43.56	38.79
Lane Group LOS	E	C	C	B	C	C	E	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.31	9.56	3.37	0.30	3.62	3.53	5.50	1.31	3.18	6.71	1.35
50th-Percentile Queue Length [ft/ln]	107.64	238.88	84.24	7.43	90.51	88.27	137.52	32.65	79.38	167.82	33.86
95th-Percentile Queue Length [veh/ln]	7.71	14.62	6.07	0.54	6.52	6.36	9.35	2.35	5.72	10.96	2.44
95th-Percentile Queue Length [ft/ln]	192.72	365.62	151.64	13.38	162.92	158.88	233.68	58.77	142.88	274.04	60.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.58	25.97	21.33	16.11	25.63	25.73	0.00	55.99	35.78	41.73	43.56	38.79
Movement LOS	E	C	C	B	C	C		E	D	D	D	D
d_A, Approach Delay [s/veh]	30.54			25.12			51.17			42.41		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	34.87											
Intersection LOS	C											
Intersection V/C	0.399											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	270	722	0	0	409	30	181	0	84	100	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	722	0	0	409	30	181	0	84	100	80	40
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	210	0	0	114	8	52	0	24	27	22	11
Total Analysis Volume [veh/h]	314	838	0	0	454	33	208	0	96	110	88	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	80	80	65	65		11	11
g / C, Green / Cycle	0.67	0.67	0.54	0.54		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.29	0.23	0.13	0.13		0.07	0.07
s, saturation flow rate [veh/h]	1072	3618	1900	1845		1821	1604
c, Capacity [veh/h]	736	2415	1024	995		162	143
d1, Uniform Delay [s]	8.54	8.64	14.63	14.69		53.54	53.63
k, delay calibration	0.23	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.83	0.40	0.55	0.59		3.14	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

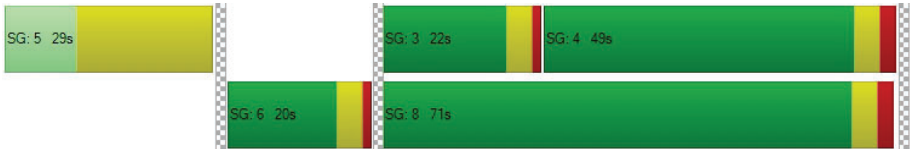
X, volume / capacity	0.43	0.35	0.24	0.24		0.78	0.80
d, Delay for Lane Group [s/veh]	9.37	9.03	15.17	15.28		56.68	57.56
Lane Group LOS	A	A	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	3.28	4.60	3.57	3.59		3.94	3.58
50th-Percentile Queue Length [ft/ln]	82.05	115.03	89.30	89.82		98.40	89.47
95th-Percentile Queue Length [veh/ln]	5.91	8.12	6.43	6.47		7.08	6.44
95th-Percentile Queue Length [ft/ln]	147.68	202.97	160.73	161.68		177.11	161.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.37	9.03	0.00	0.00	15.22	15.28	0.00	0.00	0.00	56.68	57.39	57.56
Movement LOS	A	A			B	B				E	E	E
d_A, Approach Delay [s/veh]	9.12			15.22			0.00			57.10		
Approach LOS	A			B			A			E		
d_I, Intersection Delay [s/veh]	16.88											
Intersection LOS	B											
Intersection V/C	0.303											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	38.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	432	0	0	589	850	540
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	432	0	0	589	850	540
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	0	0	177	221	141
Total Analysis Volume [veh/h]	477	0	0	708	885	562
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.13	0.20	0.35	0.51
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	492
d1, Uniform Delay [s]	15.66	16.91	21.22	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	0.85	0.48	85.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.43	0.79	1.14
d, Delay for Lane Group [s/veh]	16.12	17.75	21.70	110.30
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.09	4.98	6.76	20.40
50th-Percentile Queue Length [ft/ln]	77.25	124.42	169.06	509.96
95th-Percentile Queue Length [veh/ln]	5.56	8.64	11.03	30.41
95th-Percentile Queue Length [ft/ln]	139.05	215.88	275.68	760.17

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Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.12	0.00	0.00	17.75	21.70	110.30
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.12		17.75		56.11	
Approach LOS	B		B		E	
d_I, Intersection Delay [s/veh]	38.55					
Intersection LOS	D					
Intersection V/C	0.707					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	392	440	285	834	210	50	540	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	392	440	285	834	210	50	540	70	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	110	123	78	228	57	16	174	23	0	0	0
Total Analysis Volume [veh/h]	34	439	493	312	912	230	64	697	90	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	34	56	56	17	17	17
g / C, Green / Cycle	0.03	0.28	0.28	0.38	0.62	0.62	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.32	0.09	0.31	0.33	0.16	0.16	0.17
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1680	1880	1729	1615
c, Capacity [veh/h]	59	528	426	1331	1185	1048	357	329	307
d1, Uniform Delay [s]	42.90	30.52	32.50	19.06	9.21	9.52	35.22	35.21	35.35
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	14.19	94.27	0.03	1.48	1.92	2.26	2.42	2.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

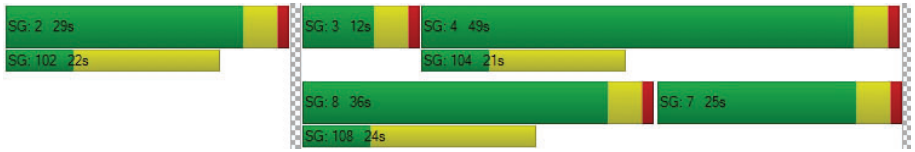
X, volume / capacity	0.57	0.83	1.16	0.23	0.49	0.53	0.85	0.85	0.87
d, Delay for Lane Group [s/veh]	46.12	44.71	126.76	19.09	10.69	11.44	37.48	37.63	38.31
Lane Group LOS	D	D	F	B	B	B	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.79	10.74	20.10	2.17	6.00	5.96	6.46	5.94	5.72
50th-Percentile Queue Length [ft/ln]	19.78	268.54	502.45	54.26	150.08	149.03	161.42	148.50	143.11
95th-Percentile Queue Length [veh/ln]	1.42	16.12	29.86	3.91	10.02	9.97	10.62	9.94	9.65
95th-Percentile Queue Length [ft/ln]	35.61	402.92	746.40	97.67	250.53	249.14	265.61	248.43	241.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	44.71	126.76	19.09	10.96	11.44	37.48	37.75	38.31	0.00	0.00	0.00
Movement LOS	D	D	F	B	B	B	D	D	D			
d_A, Approach Delay [s/veh]	86.64			12.78			37.79			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	41.10											
Intersection LOS	D											
Intersection V/C	0.575											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	145	116	120	60	80	10	20	467	20	70	559	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	116	120	60	80	10	20	467	20	70	559	40
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	30	31	19	25	3	5	125	5	19	149	11
Total Analysis Volume [veh/h]	150	120	124	75	100	12	21	502	21	75	596	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	23	23	23	23	23	64	64	64	64	64	64
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.12	0.06	0.08	0.06	0.06	0.03	0.14	0.01	0.08	0.17	0.17
s, saturation flow rate [veh/h]	1253	1900	1537	1264	1847	793	3618	1537	901	1900	1827
c, Capacity [veh/h]	266	432	350	265	420	505	2317	985	580	1217	1170
d1, Uniform Delay [s]	40.53	31.83	32.44	38.13	31.75	10.55	7.50	6.55	10.38	7.78	7.81
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.13	0.23	0.21	0.12	0.15	0.21	0.04	0.46	0.53	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

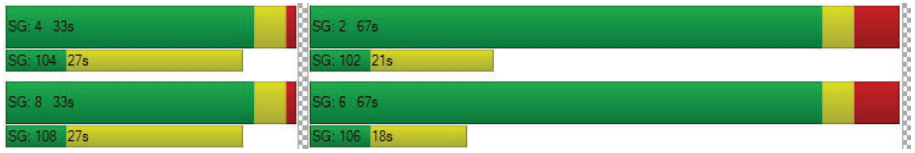
X, volume / capacity	0.56	0.28	0.35	0.28	0.27	0.04	0.22	0.02	0.13	0.27	0.27
d, Delay for Lane Group [s/veh]	41.23	31.96	32.67	38.34	31.87	10.70	7.71	6.59	10.84	8.32	8.38
Lane Group LOS	D	C	C	D	C	B	A	A	B	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.52	2.37	2.50	1.64	2.20	0.23	2.14	0.16	0.83	2.94	2.89
50th-Percentile Queue Length [ft/ln]	88.01	59.14	62.42	41.10	55.05	5.77	53.41	4.05	20.72	73.52	72.36
95th-Percentile Queue Length [veh/ln]	6.34	4.26	4.49	2.96	3.96	0.42	3.85	0.29	1.49	5.29	5.21
95th-Percentile Queue Length [ft/ln]	158.43	106.45	112.36	73.98	99.10	10.39	96.13	7.29	37.30	132.34	130.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.23	31.96	32.67	38.34	31.87	31.87	10.70	7.71	6.59	10.84	8.34	8.38
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	35.71			34.47			7.79			8.61		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	16.80											
Intersection LOS	B											
Intersection V/C	0.293											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	302	50	20	120	30	10	140	20	30	160	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	302	50	20	120	30	10	140	20	30	160	70
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	84	14	6	35	9	3	43	6	9	47	21
Total Analysis Volume [veh/h]	101	338	56	23	140	35	12	173	25	35	189	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	69	22	22
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.69	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.10	0.12	0.18
s, saturation flow rate [veh/h]	1216	1900	1779	1001	1815	1796	1679
c, Capacity [veh/h]	832	1305	1222	693	1247	435	411
d1, Uniform Delay [s]	7.66	5.46	5.48	7.37	5.41	34.18	36.89
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.25	0.28	0.09	0.24	0.83	2.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.15	0.16	0.03	0.14	0.48	0.75
d, Delay for Lane Group [s/veh]	7.95	5.71	5.76	7.46	5.64	35.01	39.63
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	1.34	1.30	0.19	1.16	4.49	7.24
50th-Percentile Queue Length [ft/ln]	21.82	33.54	32.55	4.80	29.02	112.14	181.08
95th-Percentile Queue Length [veh/ln]	1.57	2.41	2.34	0.35	2.09	7.96	11.66
95th-Percentile Queue Length [ft/ln]	39.27	60.37	58.59	8.64	52.23	198.98	291.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.95	5.73	5.76	7.46	5.64	5.64	35.01	35.01	35.01	39.63	39.63	39.63
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.19			5.85			35.01			39.63		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	19.62											
Intersection LOS	B											
Intersection V/C	0.292											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.290

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	80	492	110	30	90	20	30	250	20	40	200	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	492	110	30	90	20	30	250	20	40	200	60
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	129	29	9	27	6	8	69	5	11	54	16
Total Analysis Volume [veh/h]	84	515	115	35	106	24	33	275	22	43	214	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.18	0.04	0.07	0.03	0.08	0.08	0.04	0.11	0.04
s, saturation flow rate [veh/h]	1217	1900	1721	809	1791	1150	1900	1822	1061	1900	1490
c, Capacity [veh/h]	273	477	432	121	450	710	1172	1124	676	1172	919
d1, Uniform Delay [s]	37.43	33.80	34.08	46.12	30.22	10.20	7.97	7.98	9.67	8.27	7.67
k, delay calibration	0.04	0.06	0.08	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.98	1.61	0.49	0.13	0.12	0.22	0.24	0.18	0.34	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.68	0.71	0.29	0.29	0.05	0.13	0.13	0.06	0.18	0.07
d, Delay for Lane Group [s/veh]	37.66	34.78	35.69	46.61	30.35	10.32	8.19	8.23	9.85	8.61	7.81
Lane Group LOS	D	C	D	D	C	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.83	7.04	6.76	0.86	2.49	0.35	1.34	1.32	0.44	1.99	0.56
50th-Percentile Queue Length [ft/ln]	45.69	176.03	168.91	21.41	62.31	8.68	33.40	33.07	11.05	49.68	13.94
95th-Percentile Queue Length [veh/ln]	3.29	11.39	11.02	1.54	4.49	0.62	2.40	2.38	0.80	3.58	1.00
95th-Percentile Queue Length [ft/ln]	82.24	284.83	275.48	38.54	112.16	15.62	60.12	59.53	19.88	89.43	25.09

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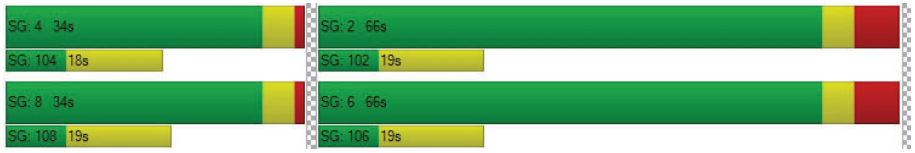
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.66	35.12	35.69	46.61	30.35	30.35	10.32	8.21	8.23	9.85	8.61	7.81
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	35.51			33.80			8.42			8.62		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	23.84											
Intersection LOS	C											
Intersection V/C	0.290											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	90	582	100	30	60	50	70	223	50	40	241	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	582	100	30	60	50	70	223	50	40	241	40
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	171	29	9	17	14	19	59	13	11	68	11
Total Analysis Volume [veh/h]	106	684	118	34	69	57	74	236	53	45	273	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	30	61	61	61	61	61
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.08	0.22	0.22	0.05	0.08	0.07	0.16	0.04	0.14	0.03
s, saturation flow rate [veh/h]	1262	1900	1747	689	1675	1103	1818	1091	1900	1513
c, Capacity [veh/h]	343	566	521	119	499	657	1109	642	1159	923
d1, Uniform Delay [s]	33.66	31.43	31.72	45.71	26.63	11.80	9.05	11.88	8.88	7.84
k, delay calibration	0.04	0.17	0.19	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.19	2.74	3.72	0.49	0.10	0.35	0.57	0.21	0.48	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.73	0.75	0.29	0.25	0.11	0.26	0.07	0.24	0.05
d, Delay for Lane Group [s/veh]	33.85	34.17	35.44	46.20	26.73	12.15	9.62	12.09	9.36	7.94
Lane Group LOS	C	C	D	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.18	9.04	8.79	0.83	2.25	0.85	2.82	0.51	2.61	0.38
50th-Percentile Queue Length [ft/ln]	54.61	226.09	219.81	20.79	56.22	21.22	70.57	12.82	65.24	9.57
95th-Percentile Queue Length [veh/ln]	3.93	13.98	13.66	1.50	4.05	1.53	5.08	0.92	4.70	0.69
95th-Percentile Queue Length [ft/ln]	98.30	349.39	341.38	37.43	101.19	38.20	127.03	23.08	117.43	17.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.85	34.67	35.44	46.20	26.73	26.73	12.15	9.62	9.62	12.09	9.36	7.94
Movement LOS	C	C	D	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	34.68			30.87			10.13			9.52		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	24.28											
Intersection LOS	C											
Intersection V/C	0.383											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	672	30	20	20	70	0	0	0	6	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	672	30	20	20	70	0	0	0	6	130	30
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	189	8	6	6	22	0	0	0	2	39	9
Total Analysis Volume [veh/h]	15	755	34	26	26	89	0	0	0	6	155	36
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	41	41	4	49		40
g / C, Green / Cycle	0.41	0.41	0.04	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.21	0.03	0.01	0.07		0.10
s, saturation flow rate [veh/h]	3618	1342	1810	1610		1830
c, Capacity [veh/h]	1485	551	65	793		742
d1, Uniform Delay [s]	21.95	17.82	47.10	13.86		19.73
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.25	0.22	1.45	0.38		0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

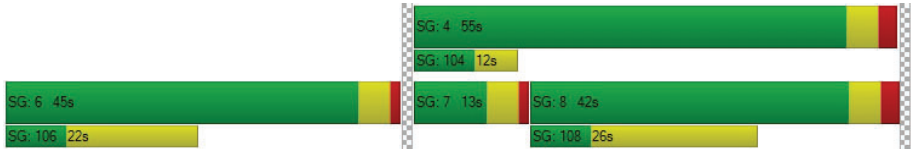
X, volume / capacity	0.51	0.06	0.40	0.15		0.26
d, Delay for Lane Group [s/veh]	23.20	18.04	48.55	14.24		20.57
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.68	0.50	0.65	1.44		3.08
50th-Percentile Queue Length [ft/ln]	167.05	12.57	16.26	36.06		77.07
95th-Percentile Queue Length [veh/ln]	10.92	0.90	1.17	2.60		5.55
95th-Percentile Queue Length [ft/ln]	273.04	22.62	29.27	64.91		138.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.20	18.04	48.55	14.24	14.24	0.00	0.00	0.00	0.00	20.57	20.57
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.98			20.57			0.00			20.57		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	22.26											
Intersection LOS	C											
Intersection V/C	0.327											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	111	40	100	190	49	70	343	30	40	290	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	111	40	100	190	49	70	343	30	40	290	110
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	11	28	53	14	20	99	9	11	81	31
Total Analysis Volume [veh/h]	21	119	43	112	212	55	81	395	35	45	324	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.54	0.09	0.08	0.23	0.05	0.17	0.09
s, saturation flow rate [veh/h]	600	600	600	600	1009	1835	945	1900	1296
c, Capacity [veh/h]	278	219	288	219	474	924	403	957	652
d1, Uniform Delay [s]	18.40	15.19	25.28	15.53	15.20	11.27	17.10	10.40	9.53
k, delay calibration	0.04	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.16	90.65	0.22	0.78	1.68	0.56	0.96	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

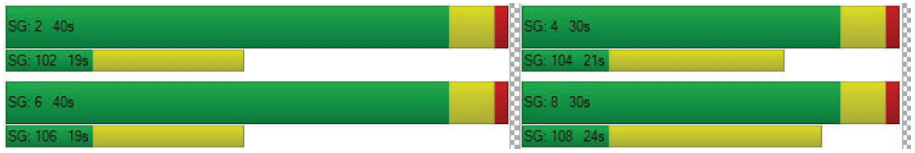
X, volume / capacity	0.50	0.20	1.12	0.25	0.17	0.47	0.11	0.34	0.19
d, Delay for Lane Group [s/veh]	18.93	15.36	115.93	15.75	15.98	12.95	17.66	11.36	10.17
Lane Group LOS	B	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.77	0.45	12.03	0.59	0.93	4.22	0.55	2.89	1.03
50th-Percentile Queue Length [ft/ln]	44.32	11.22	300.77	14.69	23.22	105.53	13.80	72.27	25.82
95th-Percentile Queue Length [veh/ln]	3.19	0.81	19.00	1.06	1.67	7.59	0.99	5.20	1.86
95th-Percentile Queue Length [ft/ln]	79.77	20.20	474.95	26.44	41.80	189.77	24.84	130.08	46.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.93	18.93	15.36	115.93	115.93	15.75	15.98	12.95	12.95	17.66	11.36	10.17
Movement LOS	B	B	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	18.09			101.39			13.43			11.64		
Approach LOS	B			F			B			B		
d_I, Intersection Delay [s/veh]	34.71											
Intersection LOS	C											
Intersection V/C	0.774											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	170	70	30	90	20	60	373	60	60	310	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	170	70	30	90	20	60	373	60	60	310	40
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	54	22	11	34	7	16	101	16	17	90	12
Total Analysis Volume [veh/h]	77	217	89	45	134	30	65	405	65	70	359	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	42	42	42	42	42	42	42	42
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	17	17	17	17
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.41	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.07	0.18	0.04	0.09	0.07	0.28	0.08	0.23
s, saturation flow rate [veh/h]	1071	1721	1036	1740	891	1707	828	1777
c, Capacity [veh/h]	456	646	371	653	343	692	288	721
d1, Uniform Delay [s]	12.20	9.96	14.31	9.04	14.77	10.24	16.91	9.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.20	0.05	0.07	0.10	0.44	0.16	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

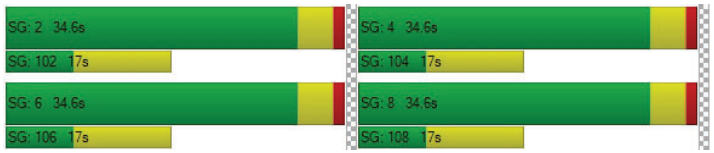
X, volume / capacity	0.17	0.47	0.12	0.25	0.19	0.68	0.24	0.56
d, Delay for Lane Group [s/veh]	12.26	10.17	14.37	9.12	14.87	10.68	17.07	9.86
Lane Group LOS	B	B	B	A	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.46	1.59	0.30	0.77	0.47	2.69	0.56	2.16
50th-Percentile Queue Length [ft/ln]	11.50	39.70	7.55	19.21	11.65	67.34	13.90	54.03
95th-Percentile Queue Length [veh/ln]	0.83	2.86	0.54	1.38	0.84	4.85	1.00	3.89
95th-Percentile Queue Length [ft/ln]	20.71	71.46	13.59	34.58	20.96	121.20	25.03	97.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.26	10.17	10.17	14.37	9.12	9.12	14.87	10.68	10.68	17.07	9.86	9.86
Movement LOS	B	B	B	B	A	A	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	10.59			10.25			11.19			10.93		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.84											
Intersection LOS	B											
Intersection V/C	0.453											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	145	360	270	65	392	20	20	545	172	220	550	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	360	270	65	392	20	20	545	172	220	550	43
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	99	75	18	107	5	6	156	49	59	147	11
Total Analysis Volume [veh/h]	160	398	298	71	426	22	23	624	197	235	587	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.19	0.07	0.12	0.12	0.03	0.17	0.13	0.24	0.16	0.03
s, saturation flow rate [veh/h]	1199	1900	1560	994	1900	1858	835	3618	1551	993	3618	1542
c, Capacity [veh/h]	429	670	551	111	442	432	348	1574	675	565	2008	856
d1, Uniform Delay [s]	23.65	26.49	25.89	48.95	33.40	33.44	23.06	19.29	18.29	12.33	11.81	10.20
k, delay calibration	0.28	0.09	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.38	0.68	0.33	2.30	0.34	0.35	0.37	0.75	1.10	2.25	0.37	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.59	0.54	0.64	0.51	0.51	0.07	0.40	0.29	0.42	0.29	0.05
d, Delay for Lane Group [s/veh]	25.03	27.17	26.21	51.25	33.74	33.80	23.43	20.04	19.38	14.58	12.18	10.32
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.81	7.72	5.60	1.82	4.70	4.64	0.41	5.00	3.10	2.85	3.35	0.47
50th-Percentile Queue Length [ft/ln]	70.27	192.97	140.12	45.56	117.40	115.99	10.19	124.97	77.48	71.36	83.70	11.69
95th-Percentile Queue Length [veh/ln]	5.06	12.28	9.49	3.28	8.25	8.17	0.73	8.67	5.58	5.14	6.03	0.84
95th-Percentile Queue Length [ft/ln]	126.49	306.88	237.19	82.01	206.24	204.30	18.34	216.63	139.47	128.46	150.65	21.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.03	27.17	26.21	51.25	33.77	33.80	23.43	20.04	19.38	14.58	12.18	10.32
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	26.44			36.16			19.98			12.73		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.45											
Intersection LOS	C											
Intersection V/C	0.453											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	49.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	130	616	120	20	684	40	30	110	80	70	140	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	616	120	20	684	40	30	110	80	70	140	50
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	169	33	5	181	11	10	37	27	19	38	14
Total Analysis Volume [veh/h]	142	674	131	21	723	42	41	150	109	76	153	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	56	56	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.56	0.56	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.22	0.03	0.20	0.21	0.39	0.08	0.57	0.04
s, saturation flow rate [veh/h]	878	1900	1740	790	1900	1830	493	1325	400	1413
c, Capacity [veh/h]	572	1056	967	515	985	949	179	364	158	388
d1, Uniform Delay [s]	8.34	12.61	12.72	7.74	14.54	14.61	32.07	28.66	40.42	27.36
k, delay calibration	0.42	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.88	1.10	1.26	0.15	1.17	1.26	85.95	0.17	234.90	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

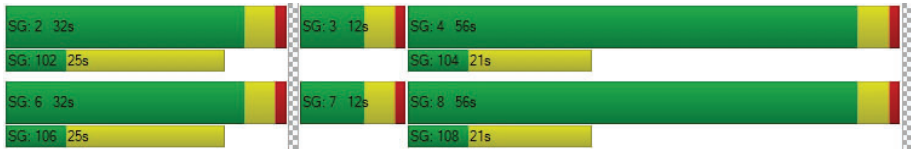
X, volume / capacity	0.25	0.39	0.40	0.04	0.39	0.40	1.07	0.30	1.45	0.14
d, Delay for Lane Group [s/veh]	9.22	13.71	13.98	7.89	15.71	15.87	118.02	28.82	275.32	27.43
Lane Group LOS	A	B	B	A	B	B	F	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.26	5.32	5.09	0.18	5.40	5.34	7.65	2.04	14.18	0.98
50th-Percentile Queue Length [ft/ln]	31.57	132.89	127.37	4.40	134.89	133.42	191.16	51.03	354.60	24.55
95th-Percentile Queue Length [veh/ln]	2.27	9.10	8.80	0.32	9.21	9.13	12.60	3.67	24.08	1.77
95th-Percentile Queue Length [ft/ln]	56.82	227.42	219.92	7.92	230.13	228.14	315.01	91.85	601.98	44.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.22	13.81	13.98	7.89	15.79	15.87	118.02	118.02	28.82	275.32	275.32	27.43
Movement LOS	A	B	B	A	B	B	F	F	C	F	F	C
d_A, Approach Delay [s/veh]	13.15			15.58			85.61			227.31		
Approach LOS	B			B			F			F		
d_I, Intersection Delay [s/veh]	49.61											
Intersection LOS	D											
Intersection V/C	0.816											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	746	190	70	734	30	30	330	120	110	322	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	746	190	70	734	30	30	330	120	110	322	120
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	198	51	20	207	8	8	90	33	29	84	31
Total Analysis Volume [veh/h]	117	794	202	79	829	34	33	358	130	115	338	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	58	47	47	58	46	46	22	22	22	33	33	33
g / C, Green / Cycle	0.58	0.47	0.47	0.58	0.46	0.46	0.22	0.22	0.22	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.14	0.27	0.28	0.10	0.23	0.23	0.03	0.13	0.14	0.10	0.18	0.08
s, saturation flow rate [veh/h]	838	1900	1740	764	1900	1866	1029	1900	1659	1172	1900	1514
c, Capacity [veh/h]	488	888	813	431	879	863	126	416	363	377	631	503
d1, Uniform Delay [s]	11.16	19.49	19.62	11.83	18.73	18.76	46.37	35.20	35.55	24.79	27.12	24.32
k, delay calibration	0.31	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.09	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.72	2.77	3.15	0.93	1.99	2.04	0.40	0.54	0.73	0.39	0.26	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

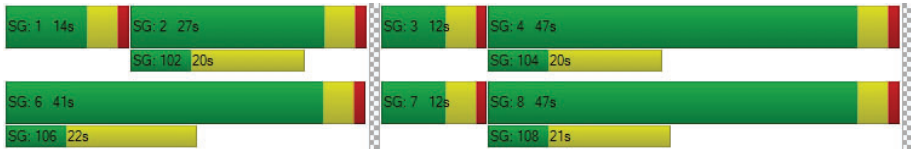
X, volume / capacity	0.24	0.58	0.59	0.18	0.49	0.50	0.26	0.61	0.65	0.31	0.54	0.25
d, Delay for Lane Group [s/veh]	11.88	22.26	22.77	12.76	20.72	20.79	46.78	35.74	36.28	25.18	27.38	24.42
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.21	9.12	8.63	0.85	7.28	7.20	0.81	5.55	5.22	1.96	6.48	2.16
50th-Percentile Queue Length [ft/ln]	30.34	228.06	215.81	21.22	182.05	180.02	20.31	138.70	130.48	49.07	162.00	54.11
95th-Percentile Queue Length [veh/ln]	2.18	14.08	13.45	1.53	11.71	11.60	1.46	9.41	8.97	3.53	10.65	3.90
95th-Percentile Queue Length [ft/ln]	54.60	351.89	336.28	38.20	292.69	290.04	36.56	235.27	224.15	88.32	266.37	97.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.88	22.44	22.77	12.76	20.75	20.79	46.78	35.90	36.28	25.18	27.38	24.42
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	21.39			20.09			36.68			26.30		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	24.43											
Intersection LOS	C											
Intersection V/C	0.489											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	100	966	180	30	884	40	50	193	140	140	221	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	966	180	30	884	40	50	193	140	140	221	50
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	247	46	8	233	11	15	57	41	40	63	14
Total Analysis Volume [veh/h]	102	990	184	32	933	42	59	227	165	160	252	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	7	51	51	40	40	40	26	26	26	35	35
g / C, Green / Cycle	0.07	0.51	0.51	0.40	0.40	0.40	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.32	0.33	0.07	0.26	0.26	0.05	0.12	0.11	0.31	0.04
s, saturation flow rate [veh/h]	1810	1900	1734	485	1900	1852	1146	1900	1481	1323	1486
c, Capacity [veh/h]	130	978	893	139	755	736	73	488	380	470	524
d1, Uniform Delay [s]	45.66	17.21	17.56	39.70	24.49	24.58	50.00	31.36	31.07	30.13	21.76
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.94	2.89	3.52	3.81	4.32	4.56	7.94	0.26	0.29	20.02	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

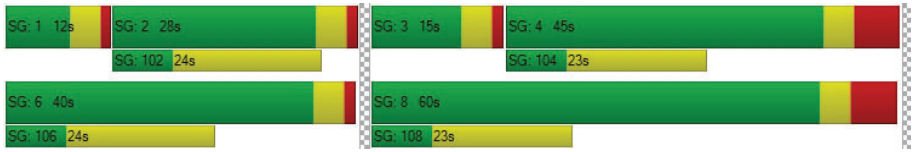
X, volume / capacity	0.79	0.61	0.64	0.23	0.65	0.66	0.81	0.47	0.43	0.88	0.11
d, Delay for Lane Group [s/veh]	49.61	20.10	21.07	43.51	28.82	29.14	57.94	31.62	31.36	50.15	21.80
Lane Group LOS	D	C	C	D	C	C	E	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.62	10.12	9.93	0.87	10.09	10.01	1.62	4.55	3.28	10.47	0.89
50th-Percentile Queue Length [ft/ln]	65.46	252.95	248.20	21.71	252.24	250.25	40.38	113.77	82.09	261.69	22.13
95th-Percentile Queue Length [veh/ln]	4.71	15.33	15.10	1.56	15.30	15.20	2.91	8.05	5.91	15.77	1.59
95th-Percentile Queue Length [ft/ln]	117.82	383.37	377.39	39.08	382.47	379.97	72.69	201.24	147.76	394.34	39.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.61	20.48	21.07	43.51	28.97	29.14	57.94	31.62	31.36	50.15	50.15	21.80
Movement LOS	D	C	C	D	C	C	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	22.90			29.44			34.97			46.71		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.14											
Intersection LOS	C											
Intersection V/C	0.546											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	71.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	80	1246	120	20	1154	20	6	70	70	66	110	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	1246	120	20	1154	20	6	70	70	66	110	40
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	339	33	5	316	5	2	23	23	18	33	12
Total Analysis Volume [veh/h]	87	1355	131	22	1266	22	7	92	92	70	133	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	33	33	3	30	30	40	40
g / C, Green / Cycle	0.07	0.37	0.37	0.03	0.33	0.33	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.05	0.39	0.40	0.01	0.34	0.34	0.11	0.10
s, saturation flow rate [veh/h]	1810	1900	1821	1810	1900	1883	1717	1795
c, Capacity [veh/h]	126	701	671	62	633	627	762	797
d1, Uniform Delay [s]	40.95	28.43	28.43	42.54	30.04	30.04	15.59	15.48
k, delay calibration	0.04	0.50	0.50	0.04	0.44	0.45	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	54.56	63.87	1.30	38.98	40.29	0.75	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

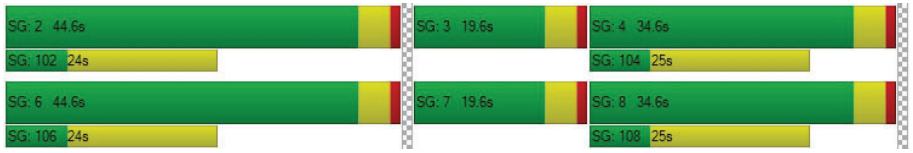
X, volume / capacity	0.69	1.07	1.10	0.36	1.02	1.02	0.24	0.23
d, Delay for Lane Group [s/veh]	43.44	82.99	92.30	43.84	69.02	70.33	16.34	16.15
Lane Group LOS	D	F	F	D	F	F	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	24.93	25.63	0.50	19.94	19.99	2.43	2.36
50th-Percentile Queue Length [ft/ln]	48.78	623.25	640.74	12.41	498.44	499.70	60.73	59.11
95th-Percentile Queue Length [veh/ln]	3.51	34.72	36.11	0.89	27.64	27.77	4.37	4.26
95th-Percentile Queue Length [ft/ln]	87.81	867.97	902.70	22.33	690.92	694.14	109.31	106.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.44	87.15	92.30	43.84	69.66	70.33	0.00	16.34	16.34	0.00	16.15	16.15
Movement LOS	D	F	F	D	F	E		B	B		B	B
d_A, Approach Delay [s/veh]	85.16			69.24			16.34			16.15		
Approach LOS	F			E			B			B		
d_I, Intersection Delay [s/veh]	70.99											
Intersection LOS	E											
Intersection V/C	0.523											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	90.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	260	679	0	0	1224	40	0	0	0	720	250	797
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	679	0	0	1224	40	0	0	0	720	250	797
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	195	0	0	343	11	0	0	0	190	66	211
Total Analysis Volume [veh/h]	299	781	0	0	1371	45	0	0	0	762	265	843
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	17	50	29	29		30	30	30	30
g / C, Green / Cycle	0.18	0.56	0.32	0.32		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.17	0.22	0.26	0.25		0.54	0.26	0.29	0.53
s, saturation flow rate [veh/h]	1810	3618	3618	1867		900	1846	1475	900
c, Capacity [veh/h]	334	2026	1174	606		304	624	498	304
d1, Uniform Delay [s]	35.86	11.11	27.78	27.47		29.80	26.73	27.90	29.80
k, delay calibration	0.23	0.50	0.50	0.50		0.50	0.24	0.31	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.09	0.56	5.89	9.56		278.3	4.51	12.27	265.6
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.39	0.80	0.78		1.58	0.77	0.87	1.56
d, Delay for Lane Group [s/veh]	51.95	11.67	33.67	37.03		308.1	31.23	40.17	295.4
Lane Group LOS	D	B	C	D		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	7.76	4.20	9.90	10.45		29.47	9.28	9.63	28.39
50th-Percentile Queue Length [ft/ln]	194.03	104.95	247.59	261.35		736.7	232.1	240.7	709.8
95th-Percentile Queue Length [veh/ln]	12.33	7.56	15.06	15.76		47.97	14.28	14.72	46.13
95th-Percentile Queue Length [ft/ln]	308.25	188.92	376.62	393.92		1199.	357.0	368.0	1153.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.95	11.67	0.00	0.00	34.72	37.03	0.00	0.00	0.00	200.94	33.32	187.41
Movement LOS	D	B			C	D				F	C	F
d_A, Approach Delay [s/veh]	22.82			34.79			0.00			171.47		
Approach LOS	C			C			A			F		
d_I, Intersection Delay [s/veh]	90.37											
Intersection LOS	F											
Intersection V/C	0.962											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	38.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	799	740	808	1096	0	200	480	270	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	799	740	808	1096	0	200	480	270	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	228	211	234	317	0	67	161	90	0	0	0
Total Analysis Volume [veh/h]	0	910	843	936	1270	0	268	643	362	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	29	29	29	22	55	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.24	0.62	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.27	0.35	0.26	0.25	0.23
s, saturation flow rate [veh/h]	3618	1522	1522	3514	3618	1847	1729	1585
c, Capacity [veh/h]	1165	490	490	853	2228	521	488	447
d1, Uniform Delay [s]	27.33	29.08	29.08	34.11	10.24	31.17	31.14	30.09
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.11	0.11	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	2.37	2.37	60.83	1.07	6.46	6.63	1.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

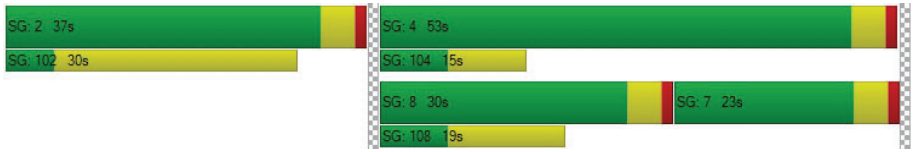
X, volume / capacity	0.75	0.89	0.89	1.10	0.57	0.90	0.90	0.81
d, Delay for Lane Group [s/veh]	27.70	31.45	31.45	94.94	11.31	37.63	37.77	32.03
Lane Group LOS	C	C	C	F	B	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.07	8.85	8.85	16.25	6.90	10.33	9.66	7.21
50th-Percentile Queue Length [ft/ln]	201.85	221.23	221.23	406.13	172.58	258.26	241.52	180.23
95th-Percentile Queue Length [veh/ln]	12.73	13.73	13.73	24.07	11.21	15.60	14.76	11.61
95th-Percentile Queue Length [ft/ln]	318.34	343.20	343.20	601.78	280.31	390.04	368.95	290.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	27.70	31.45	94.94	11.31	0.00	37.63	37.72	32.03	0.00	0.00	0.00
Movement LOS		C	C	F	B		D	D	C			
d_A, Approach Delay [s/veh]	29.58			46.79			36.08			0.00		
Approach LOS	C			D			D			A		
d_I, Intersection Delay [s/veh]	38.42											
Intersection LOS	D											
Intersection V/C	0.809											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	843	140	60	577	40	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	843	140	60	577	40	88
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	241	40	16	156	12	26
Total Analysis Volume [veh/h]	965	160	65	624	48	105
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	76	76	76	76	10	10
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.27	0.10	0.11	0.17	0.03	0.09
s, saturation flow rate [veh/h]	3618	1557	590	3618	1396	1166
c, Capacity [veh/h]	2765	1190	459	2765	145	121
d1, Uniform Delay [s]	3.79	3.10	6.65	3.36	41.59	44.13
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.23	0.65	0.19	0.49	7.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.13	0.14	0.23	0.33	0.87
d, Delay for Lane Group [s/veh]	4.14	3.33	7.29	3.55	42.08	51.17
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.55	0.73	0.57	1.45	1.10	2.75
50th-Percentile Queue Length [ft/ln]	63.63	18.28	14.24	36.36	27.57	68.75
95th-Percentile Queue Length [veh/ln]	4.58	1.32	1.03	2.62	1.98	4.95
95th-Percentile Queue Length [ft/ln]	114.53	32.90	25.63	65.45	49.62	123.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.14	3.33	7.29	3.55	42.08	51.17
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.02		3.90		48.32	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.43					
Intersection LOS	A					
Intersection V/C	0.357					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	50	30	0	20	40	50	0	30	170	30	0	20	170	40
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	50	30	0	20	40	50	0	30	170	30	0	20	170	40
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	15	9	0	7	14	18	0	10	57	10	0	5	46	11
Total Analysis Volume [veh/h]	0	35	59	35	0	29	58	72	0	40	229	40	0	22	184	43
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	565	656	570	660	632	732	627	721
Degree of Utilization, x	0.17	0.05	0.15	0.11	0.43	0.05	0.33	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.59	0.17	0.54	0.37	2.12	0.17	1.43	0.19
95th-Percentile Queue Length [ft]	14.83	4.22	13.40	9.13	53.08	4.33	35.78	4.75
Approach Delay [s/veh]	9.84		9.55		11.95		10.68	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.80							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	302	131	0	40	480	0	140	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	302	131	0	40	480	0	140	60
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	89	38	0	11	134	0	37	16
Total Analysis Volume [veh/h]	0	355	154	0	45	538	0	149	64
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.19	0.10	0.04	0.28	0.09	0.05
s, saturation flow rate [veh/h]	1900	1615	1043	1900	1711	1351
c, Capacity [veh/h]	1192	953	614	1122	391	309
d1, Uniform Delay [s]	5.25	4.72	7.96	5.95	16.56	15.87
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	0.36	0.23	1.47	0.23	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

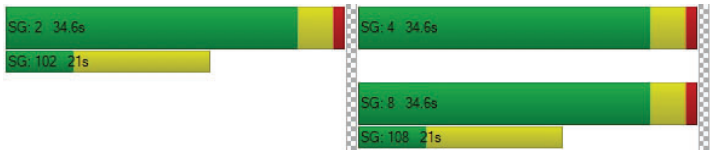
X, volume / capacity	0.30	0.16	0.07	0.48	0.38	0.21
d, Delay for Lane Group [s/veh]	5.88	5.08	8.19	7.42	16.79	15.99
Lane Group LOS	A	A	A	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.47	0.59	0.27	2.62	1.37	0.56
50th-Percentile Queue Length [ft/ln]	36.73	14.66	6.66	65.50	34.20	14.09
95th-Percentile Queue Length [veh/ln]	2.64	1.06	0.48	4.72	2.46	1.01
95th-Percentile Queue Length [ft/ln]	66.11	26.40	11.99	117.90	61.56	25.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.88	5.88	5.08	8.19	8.19	7.42	16.79	16.79	15.99
Movement LOS	A	A	A	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	5.64			7.48			16.55		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	8.24								
Intersection LOS	A								
Intersection V/C	0.370								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	60	20	20	130	10	20	158	20	20	113	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	60	20	20	130	10	20	158	20	20	113	20
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	17	6	6	36	3	7	54	7	6	33	6
Total Analysis Volume [veh/h]	34	69	23	22	144	11	27	215	27	23	132	23
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	681	687	727	710
Degree of Utilization, x	0.19	0.26	0.37	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.67	1.03	1.71	0.99
95th-Percentile Queue Length [ft]	16.86	25.64	42.73	24.69
Approach Delay [s/veh]	9.48	10.05	10.82	9.75
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	10.16			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	110	50	40	210	30	31	157	30	40	102	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	50	40	210	30	31	157	30	40	102	30
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	19	12	61	9	10	53	10	11	28	8
Total Analysis Volume [veh/h]	31	168	76	47	245	35	42	213	41	44	113	33
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	601	601	589	566
Degree of Utilization, x	0.46	0.54	0.50	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.39	3.26	2.82	1.47
95th-Percentile Queue Length [ft]	59.81	81.62	70.39	36.76
Approach Delay [s/veh]	13.95	15.89	15.13	12.54
Approach LOS	B	C	C	B
Intersection Delay [s/veh]	14.61			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	37.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.876

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	112	210	30	30	300	30	10	80	117	60	150	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	112	210	30	30	300	30	10	80	117	60	150	40
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	60	9	8	85	8	3	24	35	22	54	14
Total Analysis Volume [veh/h]	129	242	35	34	339	34	12	97	142	87	217	58
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	424	474	430	474	438	452
Degree of Utilization, x	0.88	0.07	0.87	0.07	0.57	0.80

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	8.95	0.24	8.80	0.23	3.50	7.33
95th-Percentile Queue Length [ft]	223.78	5.94	219.88	5.77	87.52	183.26
Approach Delay [s/veh]	44.32		42.86		21.67	36.13
Approach LOS	E		E		C	E
Intersection Delay [s/veh]	37.84					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	93.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.691

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	30	201	410	70	92	10	20	350	60	110	60	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	201	410	70	92	10	20	350	60	110	60	30
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	51	105	20	26	3	6	110	19	29	16	8
Total Analysis Volume [veh/h]	31	206	420	79	104	11	25	438	75	115	63	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	38	46	39	16	16	16	16
g / C, Green / Cycle	0.58	0.47	0.58	0.49	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.39	0.08	0.06	0.02	0.28	0.13	0.06
s, saturation flow rate [veh/h]	1355	1625	957	1848	1184	1810	901	1674
c, Capacity [veh/h]	875	765	418	905	251	372	90	344
d1, Uniform Delay [s]	7.25	18.28	12.39	11.15	30.57	31.87	40.12	26.82
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.15	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	9.49	1.00	0.29	0.06	175.14	131.11	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

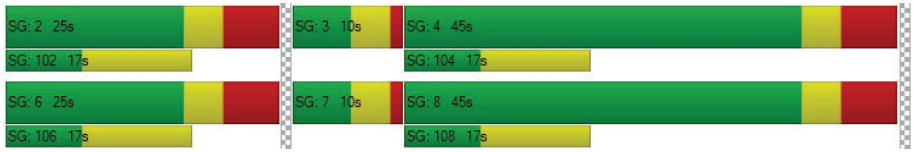
X, volume / capacity	0.04	0.82	0.19	0.13	0.10	1.38	1.28	0.27
d, Delay for Lane Group [s/veh]	7.26	27.77	13.39	11.44	30.63	207.01	171.23	26.98
Lane Group LOS	A	C	B	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	10.84	0.65	1.11	0.42	25.06	5.01	1.47
50th-Percentile Queue Length [ft/ln]	4.96	271.09	16.26	27.74	10.55	626.38	125.22	36.67
95th-Percentile Queue Length [veh/ln]	0.36	16.24	1.17	2.00	0.76	38.59	9.02	2.64
95th-Percentile Queue Length [ft/ln]	8.92	406.10	29.26	49.94	18.99	964.67	225.39	66.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.26	27.77	27.77	13.39	11.44	11.44	30.63	207.01	207.01	171.23	26.98	26.98
Movement LOS	A	C	C	B	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	26.80			12.23			198.82			106.35		
Approach LOS	C			B			F			F		
d_I, Intersection Delay [s/veh]	93.35											
Intersection LOS	F											
Intersection V/C	0.691											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	66	110	20	10	80	10	10	148	30	20	123	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	110	20	10	80	10	10	148	30	20	123	10
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	31	6	3	22	3	3	51	10	6	35	3
Total Analysis Volume [veh/h]	74	123	22	11	88	11	14	204	41	23	140	11
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	673	723	697
Degree of Utilization, x	0.32	0.16	0.36	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.36	0.58	1.63	0.98
95th-Percentile Queue Length [ft]	34.05	14.53	40.72	24.62
Approach Delay [s/veh]	10.62	9.39	10.73	9.88
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	10.31			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	31	121	10	20	211	30	20	90	40	40	90	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	121	10	20	211	30	20	90	40	40	90	30
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	34	3	6	60	8	6	26	12	13	28	9
Total Analysis Volume [veh/h]	34	134	11	23	239	34	23	104	46	50	113	38
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	664	695	666	664
Degree of Utilization, x	0.27	0.43	0.26	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09	2.14	1.04	1.27
95th-Percentile Queue Length [ft]	27.18	53.44	25.88	31.85
Approach Delay [s/veh]	10.41	11.98	10.29	10.76
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.01			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.839

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2623	110	0	3700	210	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2623	110	0	3700	210	10
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	755	32	0	949	69	3
Total Analysis Volume [veh/h]	3018	127	0	3795	276	13
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	87	87	87	87
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	67	67	67	10
g / C, Green / Cycle	0.76	0.76	0.76	0.11
(v / s)_i Volume / Saturation Flow Rate	0.66	0.64	0.62	0.18
s, saturation flow rate [veh/h]	3192	1641	6089	1588
c, Capacity [veh/h]	2441	1255	4656	182
d1, Uniform Delay [s]	7.03	6.68	6.40	38.54
k, delay calibration	0.04	0.15	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	2.12	0.14	287.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

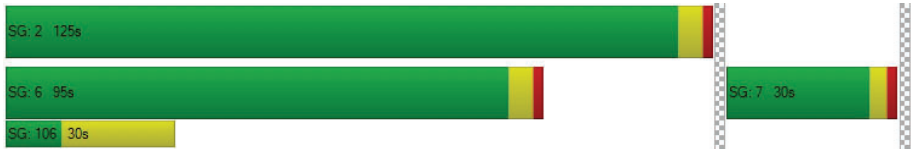
X, volume / capacity	0.86	0.84	0.82	1.58
d, Delay for Lane Group [s/veh]	7.39	8.80	6.54	326.18
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.71	8.89	7.12	18.38
50th-Percentile Queue Length [ft/ln]	217.68	222.33	178.03	459.56
95th-Percentile Queue Length [veh/ln]	13.55	13.78	11.50	29.61
95th-Percentile Queue Length [ft/ln]	338.66	344.60	287.44	740.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.82	8.80	0.00	6.54	326.18	326.18
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.86		6.54		326.18	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	19.89					
Intersection LOS	B					
Intersection V/C	0.839					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	104.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.025

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2153	480	30	170	560	10	568	280	0	0	380	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2153	480	30	170	560	10	568	280	0	0	380	230
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	633	141	9	49	163	3	142	72	0	0	118	71
Total Analysis Volume [veh/h]	2533	565	35	198	651	12	568	287	0	0	471	285
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	146	146	146	146	146	146	146
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	85	85	85	25	25	25	25
g / C, Green / Cycle	0.59	0.59	0.59	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.53	0.55	0.42	0.27	0.27	0.18	0.20
s, saturation flow rate [veh/h]	3192	1522	1425	1597	1591	1597	3783
c, Capacity [veh/h]	1869	891	835	274	273	274	649
d1, Uniform Delay [s]	26.57	28.10	21.61	60.38	60.38	60.38	60.38
k, delay calibration	0.04	0.41	0.21	0.50	0.50	0.45	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	17.33	2.31	274.88	276.26	64.93	75.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.95	0.72	1.57	1.58	1.05	1.17
d, Delay for Lane Group [s/veh]	27.28	45.44	23.92	335.26	336.65	125.31	136.21
Lane Group LOS	C	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	25.09	30.64	14.93	31.03	31.04	15.06	12.55
50th-Percentile Queue Length [ft/ln]	627.31	765.90	373.35	775.86	775.89	376.62	313.85
95th-Percentile Queue Length [veh/ln]	33.31	39.71	21.27	48.17	48.19	21.95	19.70
95th-Percentile Queue Length [ft/ln]	832.69	992.83	531.80	1204.18	1204.78	548.79	492.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.47	23.92	23.92	335.26	336.65	336.65	0.00	125.31	0.00	0.00	136.21	136.21
Movement LOS	C	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	31.53			335.95			125.31			136.21		
Approach LOS	C			F			F			F		
d_I, Intersection Delay [s/veh]	104.62											
Intersection LOS	F											
Intersection V/C	1.025											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	72	57	0	20	39	30	0	10	162	20	0	42	169	40
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	72	57	0	20	39	30	0	10	162	20	0	42	169	40
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	21	17	0	6	12	9	0	3	47	6	0	12	49	12
Total Analysis Volume [veh/h]	0	35	84	66	0	24	46	35	0	12	187	23	0	49	198	47
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	669	711	726
Degree of Utilization, x	0.27	0.16	0.31	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.08	0.55	1.33	1.97
95th-Percentile Queue Length [ft]	27.03	13.86	33.34	49.22
Approach Delay [s/veh]	10.12	9.38	10.35	11.29
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.51			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.196

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	62	30	10	19	10	10	60	20	40	71	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	62	30	10	19	10	10	60	20	40	71	20
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	19	9	3	5	3	4	21	7	12	21	6
Total Analysis Volume [veh/h]	25	78	38	11	21	11	14	85	28	48	86	24
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	670	791	652	773	693	814	683	820
Degree of Utilization, x	0.15	0.05	0.05	0.01	0.14	0.03	0.20	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.54	0.15	0.15	0.04	0.50	0.11	0.72	0.09
95th-Percentile Queue Length [ft]	13.52	3.78	3.87	1.08	12.42	2.67	18.12	2.26
Approach Delay [s/veh]	8.62		8.23		8.43		8.94	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.64							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	40	0	1093	210	190	887	0	32	1085	209	50	0	50
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	1093	210	190	887	0	32	1085	209	50	0	50
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	299	57	49	228	0	8	271	52	15	0	15
Total Analysis Volume [veh/h]	40	0	1197	230	195	911	0	32	1085	209	61	0	61
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	56	56	66	58		15	15
g / C, Green / Cycle	0.04	0.62	0.62	0.73	0.64		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.33	0.14	0.31	0.25		0.04	0.04
s, saturation flow rate [veh/h]	1810	3618	1615	632	3618		1729	1501
c, Capacity [veh/h]	64	2245	1002	488	2321		293	254
d1, Uniform Delay [s]	42.79	9.68	7.55	6.61	7.72		32.18	32.36
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.59	0.91	0.53	2.43	0.50		0.13	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.53	0.23	0.40	0.39		0.21	0.24
d, Delay for Lane Group [s/veh]	46.38	10.59	8.09	9.04	8.22		32.31	32.54
Lane Group LOS	D	B	A	A	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.93	6.17	1.91	1.18	3.85		1.14	1.15
50th-Percentile Queue Length [ft/ln]	23.32	154.33	47.86	29.55	96.28		28.54	28.75
95th-Percentile Queue Length [veh/ln]	1.68	10.25	3.45	2.13	6.93		2.05	2.07
95th-Percentile Queue Length [ft/ln]	41.97	256.19	86.15	53.19	173.30		51.37	51.75

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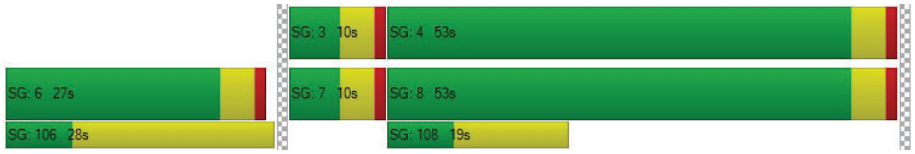
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.38	0.00	10.59	8.09	9.04	8.22	0.00	0.00	0.00	0.00	32.31	0.00	32.54
Movement LOS	D		B	A	A	A					C		C
d_A, Approach Delay [s/veh]	11.17				8.37			0.00			32.42		
Approach LOS	B				A			A			C		
d_I, Intersection Delay [s/veh]	10.98												
Intersection LOS	B												
Intersection V/C	0.410												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	47.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.008

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2510	2	291	2280	30	10	10	20	84	30	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2510	2	291	2280	30	10	10	20	84	30	300
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	728	1	74	583	8	4	4	8	25	9	90
Total Analysis Volume [veh/h]	35	2913	2	298	2332	31	16	16	32	101	36	361
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	242	242	242	242	242	242	242	242
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	137	45	176	176	45	45	95
g / C, Green / Cycle	0.03	0.57	0.19	0.73	0.73	0.19	0.19	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.56	0.16	0.43	0.43	0.28	0.23	0.22
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1887	228	596	1615
c, Capacity [veh/h]	46	2933	339	2633	1373	61	136	630
d1, Uniform Delay [s]	117.32	52.09	95.91	15.73	15.79	92.07	102.55	58.11
k, delay calibration	0.04	0.04	0.09	0.04	0.05	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	3.41	6.22	0.08	0.19	130.64	78.14	3.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

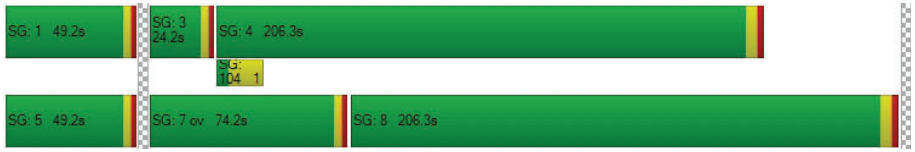
X, volume / capacity	0.75	0.99	0.88	0.59	0.59	1.05	1.00	0.57
d, Delay for Lane Group [s/veh]	126.20	55.50	102.13	15.81	15.98	222.71	180.69	61.87
Lane Group LOS	F	E	F	B	B	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.33	57.83	18.84	20.08	21.16	6.13	11.79	18.52
50th-Percentile Queue Length [ft/ln]	58.21	1445.77	471.06	501.98	529.01	153.22	294.68	462.98
95th-Percentile Queue Length [veh/ln]	4.19	70.30	25.96	27.43	28.70	10.42	17.45	25.58
95th-Percentile Queue Length [ft/ln]	104.79	1757.56	649.03	685.70	717.62	260.60	436.37	639.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	126.20	55.50	0.00	102.13	15.87	15.98	222.71	222.71	222.71	180.69	180.69	61.87
Movement LOS	F	E		F	B	B	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	56.34			25.53			222.71			94.56		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	47.86											
Intersection LOS	D											
Intersection V/C	1.008											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	150.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.264

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	243	515	118	33	429	78	60	130	191	0	62	124	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	515	118	33	429	78	60	130	191	0	62	124	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	65	137	31	9	123	22	16	36	52	0	19	39	22
Total Analysis Volume [veh/h]	259	549	126	38	491	89	66	142	209	0	78	156	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	60	60	3	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.60	0.60	0.03	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.14	0.29	0.10	0.02	0.26	0.07	0.61	0.14	0.86	0.10
s, saturation flow rate [veh/h]	1810	1900	1265	1810	1900	1352	341	1518	271	860
c, Capacity [veh/h]	189	1148	765	59	1012	720	110	570	98	159
d1, Uniform Delay [s]	44.75	11.00	8.69	47.78	14.73	11.69	40.53	22.60	41.42	36.93
k, delay calibration	0.19	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	179.26	1.43	0.46	4.37	1.67	0.35	429.39	0.15	652.05	1.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

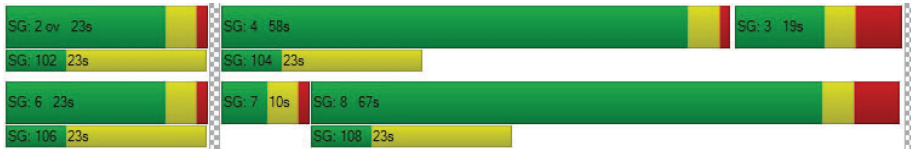
X, volume / capacity	1.37	0.48	0.16	0.65	0.49	0.12	1.88	0.37	2.38	0.55
d, Delay for Lane Group [s/veh]	224.01	12.43	9.15	52.15	16.40	12.05	469.92	22.75	693.47	38.02
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	14.05	6.70	1.23	1.00	7.14	1.03	15.95	3.59	20.22	1.94
50th-Percentile Queue Length [ft/ln]	351.20	167.49	30.76	25.06	178.52	25.77	398.78	89.68	505.38	48.48
95th-Percentile Queue Length [veh/ln]	22.55	10.94	2.21	1.80	11.52	1.86	27.62	6.46	34.92	3.49
95th-Percentile Queue Length [ft/ln]	563.78	273.61	55.36	45.10	288.08	46.38	690.39	161.42	872.88	87.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	224.01	12.43	9.15	52.15	16.40	12.05	469.92	469.92	22.75	693.4	693.4	693.4	38.02
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	70.66			17.97			245.80			515.82			
Approach LOS	E			B			F			F			
d_I, Intersection Delay [s/veh]	150.73												
Intersection LOS	F												
Intersection V/C	1.264												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	642	162	0	103	560	0	243	274
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	642	162	0	103	560	0	243	274
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	174	44	0	27	148	0	70	79
Total Analysis Volume [veh/h]	0	695	175	0	109	591	0	280	315
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.13	0.12	0.16	0.16	0.12	0.18
s, saturation flow rate [veh/h]	1900	1729	1371	902	3618	1299	1679	1064
c, Capacity [veh/h]	1139	1004	796	655	2509	226	293	186
d1, Uniform Delay [s]	10.87	10.87	10.07	5.61	5.61	40.66	38.58	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.12	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.74	0.88	0.64	0.55	0.22	16.46	0.99	42.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

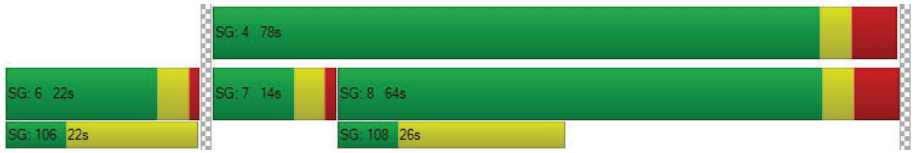
X, volume / capacity	0.32	0.33	0.22	0.17	0.24	0.93	0.67	1.02
d, Delay for Lane Group [s/veh]	11.61	11.75	10.71	6.16	5.83	57.12	39.57	84.26
Lane Group LOS	B	B	B	A	A	E	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.17	3.83	1.90	0.75	2.06	6.07	4.53	6.72
50th-Percentile Queue Length [ft/ln]	104.32	95.74	47.40	18.79	51.55	151.73	113.19	168.07
95th-Percentile Queue Length [veh/ln]	7.51	6.89	3.41	1.35	3.71	10.11	8.02	11.06
95th-Percentile Queue Length [ft/ln]	187.77	172.32	85.32	33.81	92.79	252.73	200.43	276.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.61	11.67	10.71	6.16	6.16	5.83	57.12	52.25	67.32
Movement LOS	B	B	B	A	A	A	E	D	E
d_A, Approach Delay [s/veh]	11.48			5.88			59.95		
Approach LOS	B			A			E		
d_I, Intersection Delay [s/veh]	22.99								
Intersection LOS	C								
Intersection V/C	0.393								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	643	100	70	733	110	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	643	100	70	733	110	110
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	27	19	195	32	32
Total Analysis Volume [veh/h]	707	110	74	779	130	130
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.20	0.08	0.10	0.22	0.15
s, saturation flow rate [veh/h]	3618	1339	743	3618	1707
c, Capacity [veh/h]	2235	827	444	2235	427
d1, Uniform Delay [s]	9.06	7.94	13.79	9.29	33.15
k, delay calibration	0.50	0.50	0.50	0.50	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.33	0.81	0.43	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

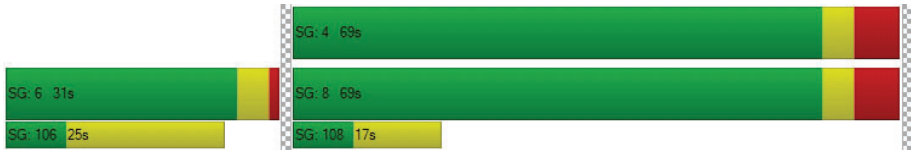
X, volume / capacity	0.32	0.13	0.17	0.35	0.61
d, Delay for Lane Group [s/veh]	9.43	8.28	14.60	9.72	33.97
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.51	1.00	1.00	3.96	5.53
50th-Percentile Queue Length [ft/ln]	87.64	25.04	24.99	99.09	138.29
95th-Percentile Queue Length [veh/ln]	6.31	1.80	1.80	7.13	9.39
95th-Percentile Queue Length [ft/ln]	157.76	45.06	44.99	178.37	234.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.43	8.28	14.60	9.72	33.97	33.97
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.28		10.14		33.97	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.99					
Intersection LOS	B					
Intersection V/C	0.368					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	663	210	110	703	160	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	663	210	110	703	160	130
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	187	59	31	201	44	36
Total Analysis Volume [veh/h]	747	237	126	803	176	143
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.21	0.18	0.14	0.22	0.21	0.12
s, saturation flow rate [veh/h]	3618	1296	873	3618	832	1238
c, Capacity [veh/h]	2190	785	666	2618	120	325
d1, Uniform Delay [s]	9.81	9.53	4.72	4.90	42.78	30.73
k, delay calibration	0.50	0.50	0.50	0.50	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.99	0.63	0.30	233.74	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.30	0.19	0.31	1.47	0.44
d, Delay for Lane Group [s/veh]	10.24	10.52	5.35	5.21	276.52	31.08
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.94	2.56	0.76	2.58	10.73	2.87
50th-Percentile Queue Length [ft/ln]	98.46	64.07	19.11	64.50	268.15	71.84
95th-Percentile Queue Length [veh/ln]	7.09	4.61	1.38	4.64	18.42	5.17
95th-Percentile Queue Length [ft/ln]	177.23	115.33	34.40	116.10	460.38	129.31

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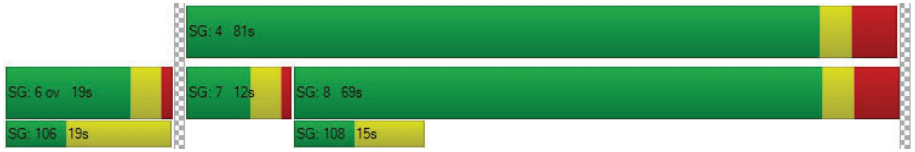
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.24	10.52	5.35	5.21	276.52	31.08
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.30		5.23		166.49	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	30.51					
Intersection LOS	C					
Intersection V/C	0.444					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	47.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	40	805	142	67	843	80	50	13	110	150	40	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	805	142	67	843	80	50	13	110	150	40	140
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	226	41	18	221	21	15	6	32	42	11	39
Total Analysis Volume [veh/h]	45	903	165	71	885	84	59	24	129	169	45	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	81	81	72	72	13	20	20
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.09	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.06	0.25	0.26	0.26	0.11	0.12	0.12
s, saturation flow rate [veh/h]	692	3618	1900	1832	1671	1828	1283
c, Capacity [veh/h]	335	1960	917	884	149	250	175
d1, Uniform Delay [s]	19.07	20.98	26.94	27.28	68.27	63.31	63.69
k, delay calibration	0.04	0.50	0.50	0.50	0.46	0.04	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.78	2.18	2.44	156.40	3.48	9.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

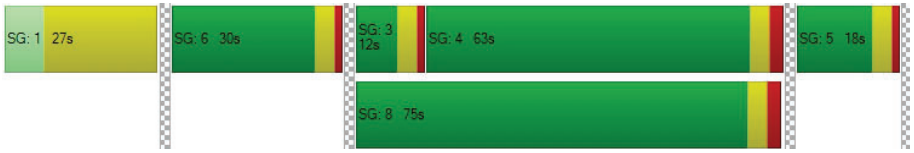
X, volume / capacity	0.13	0.46	0.53	0.55	1.26	0.86	0.90
d, Delay for Lane Group [s/veh]	19.14	21.76	29.11	29.72	224.67	66.79	73.04
Lane Group LOS	B	C	C	C	F	E	E
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	9.96	12.69	12.89	12.21	8.32	6.41
50th-Percentile Queue Length [ft/ln]	18.85	249.01	317.21	322.20	305.18	207.88	160.35
95th-Percentile Queue Length [veh/ln]	1.36	15.14	18.53	18.78	19.44	13.04	10.57
95th-Percentile Queue Length [ft/ln]	33.92	378.40	463.25	469.38	485.89	326.10	264.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.14	21.76	0.00	0.00	29.39	29.72	224.67	0.00	224.67	66.79	66.79	73.04
Movement LOS	B	C			C	C	F		F	E	E	E
d_A, Approach Delay [s/veh]	21.64			29.41			224.67			69.44		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	47.26											
Intersection LOS	D											
Intersection V/C	0.512											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	300	715	1013	70	110	660
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	715	1013	70	110	660
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	188	260	18	29	172
Total Analysis Volume [veh/h]	315	750	1040	72	115	688
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	80	80	80	13	31
g / C, Green / Cycle	0.11	0.66	0.66	0.66	0.11	0.26
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21	0.29	0.05	0.09	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1347	1221	2859
c, Capacity [veh/h]	398	2403	2403	895	131	740
d1, Uniform Delay [s]	51.79	8.53	9.48	7.14	52.74	43.36
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.36	0.34	0.57	0.18	6.98	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

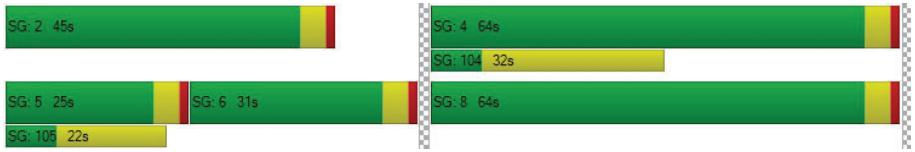
X, volume / capacity	0.79	0.31	0.43	0.08	0.88	0.93
d, Delay for Lane Group [s/veh]	53.15	8.87	10.05	7.32	59.72	45.74
Lane Group LOS	D	A	B	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.69	4.04	6.25	0.68	3.83	10.73
50th-Percentile Queue Length [ft/ln]	117.20	101.07	156.31	16.89	95.86	268.27
95th-Percentile Queue Length [veh/ln]	8.24	7.28	10.35	1.22	6.90	16.10
95th-Percentile Queue Length [ft/ln]	205.97	181.93	258.83	30.40	172.54	402.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.15	8.87	10.05	7.32	59.72	45.74
Movement LOS	D	A	B	A	E	D
d_A, Approach Delay [s/veh]	21.96		9.88		47.74	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.40					
Intersection LOS	C					
Intersection V/C	0.528					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	20	33	26	0	90	0	48	59
Total Analysis Volume [veh/h]	0	0	0	0	79	132	106	0	358	0	193	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.42	0.42	0.42	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate		0.07	0.07	0.08	0.28	0.10	0.16
s, saturation flow rate [veh/h]		1159	1900	1355	1264	1900	1460
c, Capacity [veh/h]		462	797	569	684	988	759
d1, Uniform Delay [s]		27.43	21.61	22.05	19.10	15.40	16.50
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.80	0.42	0.79	2.85	0.44	1.07
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.17	0.16	0.20	0.52	0.20	0.31
d, Delay for Lane Group [s/veh]		28.23	22.02	22.84	21.96	15.84	17.57
Lane Group LOS		C	C	C	C	B	B
Critical Lane Group		No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]		1.68	2.25	2.14	6.30	2.89	3.86
50th-Percentile Queue Length [ft/ln]		42.09	56.18	53.58	157.46	72.30	96.40
95th-Percentile Queue Length [veh/ln]		3.03	4.04	3.86	10.41	5.21	6.94
95th-Percentile Queue Length [ft/ln]		75.76	101.12	96.45	260.36	130.14	173.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	28.23	22.07	22.84	0.00	21.96	0.00	15.84	17.57
Movement LOS					C	C	C		C		B	B
d_A, Approach Delay [s/veh]	0.00				23.86				19.14			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.93											
Intersection LOS	D											
Intersection V/C	0.573											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	755	120	140	1273	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	755	120	140	1273	0	40
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	200	32	39	353	0	10
Total Analysis Volume [veh/h]	0	53	801	127	155	1412	0	42
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	48	48	48
g / C, Green / Cycle	0.29	0.29	0.29	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.10	0.16	0.38	0.39
s, saturation flow rate [veh/h]	372	3618	1278	953	1900	1863
c, Capacity [veh/h]	60	1056	373	334	767	752
d1, Uniform Delay [s]	59.98	38.63	33.39	26.55	34.63	34.93
k, delay calibration	0.04	0.04	0.04	0.04	0.29	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.43	0.20	0.37	15.55	21.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

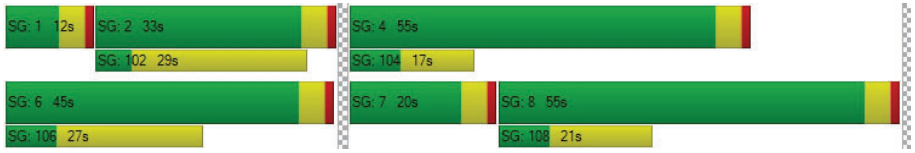
X, volume / capacity	0.88	0.76	0.34	0.46	0.95	0.96
d, Delay for Lane Group [s/veh]	74.28	39.06	33.59	26.92	50.18	56.48
Lane Group LOS	E	D	C	C	D	E
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	10.71	2.94	2.92	23.42	24.66
50th-Percentile Queue Length [ft/ln]	46.30	267.82	73.50	72.88	585.40	616.56
95th-Percentile Queue Length [veh/ln]	3.33	16.08	5.29	5.25	31.35	32.81
95th-Percentile Queue Length [ft/ln]	83.33	402.01	132.30	131.18	783.79	820.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	39.06	33.59	26.92	53.22	0.00	56.48
Movement LOS		E	D	C	C	D		E
d_A, Approach Delay [s/veh]	40.25				50.77			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.93							
Intersection LOS	D							
Intersection V/C	0.573							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	165.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.965

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	67	126	181	0	59	77	76	0	25	231	66	0	120	336	114
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	67	126	181	0	59	77	76	0	25	231	66	0	120	336	114
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	34	48	0	16	21	21	0	7	66	19	0	31	87	29
Total Analysis Volume [veh/h]	0	71	134	193	0	64	83	82	0	29	266	76	0	124	347	118
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.83	0.03	0.07	0.05	0.11	0.13	0.13
s, saturation flow rate [veh/h]	1240	1689	275	942	3618	1577	1131	1900	1706
c, Capacity [veh/h]	73	262	86	418	1709	745	531	898	806
d1, Uniform Delay [s]	50.02	42.26	43.90	20.64	15.02	14.62	19.83	15.94	16.02
k, delay calibration	0.04	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.77	118.98	782.13	0.32	0.19	0.27	1.03	0.74	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	1.25	2.67	0.07	0.16	0.10	0.23	0.27	0.28
d, Delay for Lane Group [s/veh]	73.79	161.24	826.03	20.96	15.22	14.90	20.85	16.68	16.87
Lane Group LOS	E	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.23	14.97	20.78	0.48	1.73	0.99	2.05	3.43	3.22
50th-Percentile Queue Length [ft/ln]	55.85	374.34	519.41	11.90	43.32	24.87	51.15	85.78	80.42
95th-Percentile Queue Length [veh/ln]	4.02	23.46	35.40	0.86	3.12	1.79	3.68	6.18	5.79
95th-Percentile Queue Length [ft/ln]	100.53	586.47	885.04	21.42	77.98	44.77	92.06	154.40	144.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.79	73.79	161.2	161.2	826.0	826.0	826.0	826.0	20.96	20.96	15.22	14.90	20.85	20.85	16.74	16.87
Movement LOS	E	E	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	145.64				826.03				15.60				17.63			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	165.91															
Intersection LOS	F															
Intersection V/C	0.965															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	90	223	130	30	163	40	60	80	60	70	100	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	223	130	30	163	40	60	80	60	70	100	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	59	34	9	48	12	18	25	18	20	28	26
Total Analysis Volume [veh/h]	95	235	137	35	193	47	74	99	74	79	113	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	46	46
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.09	0.03	0.13	0.18	0.27
s, saturation flow rate [veh/h]	1158	1900	1545	1163	1816	1388	1100
c, Capacity [veh/h]	195	455	370	205	435	683	550
d1, Uniform Delay [s]	43.51	32.98	31.71	40.41	33.30	17.44	20.02
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.34	0.23	0.14	0.41	1.49	3.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

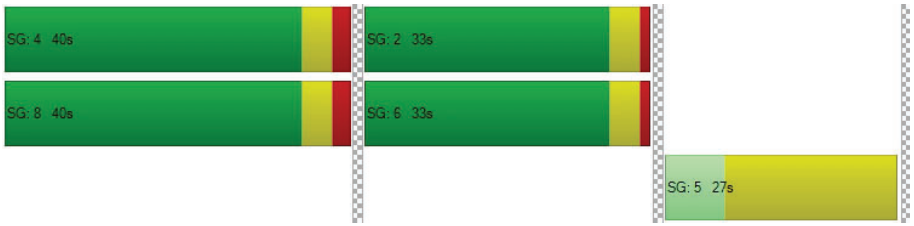
X, volume / capacity	0.49	0.52	0.37	0.17	0.55	0.36	0.53
d, Delay for Lane Group [s/veh]	44.21	33.32	31.94	40.55	33.71	18.93	23.72
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	4.88	2.73	0.78	5.04	3.82	5.43
50th-Percentile Queue Length [ft/ln]	57.20	121.97	68.36	19.61	125.91	95.51	135.87
95th-Percentile Queue Length [veh/ln]	4.12	8.50	4.92	1.41	8.72	6.88	9.26
95th-Percentile Queue Length [ft/ln]	102.96	212.53	123.06	35.30	217.92	171.92	231.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.21	33.32	31.94	40.55	33.71	33.71	18.93	18.93	18.93	23.72	23.72	23.72
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	35.13			34.58			18.93			23.72		
Approach LOS	D			C			B			C		
d_I, Intersection Delay [s/veh]	29.28											
Intersection LOS	C											
Intersection V/C	0.399											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	96.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.135

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	80	213	180	70	153	70	80	140	70	60	170	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	213	180	70	153	70	80	140	70	60	170	200
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	60	51	19	43	19	22	38	19	17	49	57
Total Analysis Volume [veh/h]	90	240	203	78	170	78	87	152	76	69	195	230
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.25	0.07	0.14	0.88	0.05	0.76	0.15
s, saturation flow rate [veh/h]	1150	1900	800	1158	1767	271	1570	347	1581
c, Capacity [veh/h]	124	370	156	141	344	185	789	220	795
d1, Uniform Delay [s]	48.66	37.10	40.25	47.30	37.71	31.76	12.99	26.19	14.46
k, delay calibration	0.04	0.04	0.40	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.00	0.72	168.75	1.25	1.08	164.30	0.24	125.74	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

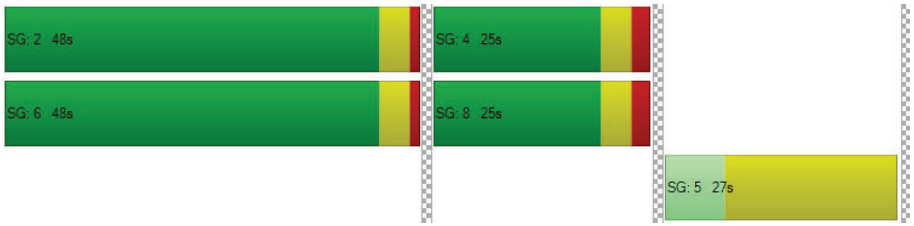
X, volume / capacity	0.73	0.65	1.30	0.55	0.72	1.29	0.10	1.20	0.29
d, Delay for Lane Group [s/veh]	51.67	37.82	209.00	48.55	38.79	196.06	13.23	151.93	15.38
Lane Group LOS	D	D	F	D	D	F	B	F	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.32	5.37	11.02	1.97	5.66	13.08	0.92	10.40	3.14
50th-Percentile Queue Length [ft/ln]	58.07	134.14	275.46	49.31	141.51	326.92	23.11	260.09	78.47
95th-Percentile Queue Length [veh/ln]	4.18	9.16	18.44	3.55	9.56	22.10	1.66	17.55	5.65
95th-Percentile Queue Length [ft/ln]	104.52	229.11	460.96	88.76	239.05	552.48	41.60	438.75	141.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.67	37.82	209.00	48.55	38.79	38.79	196.06	196.06	13.23	151.93	151.93	15.38
Movement LOS	D	D	F	D	D	D	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	105.36			41.12			151.95			88.35		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	96.57											
Intersection LOS	F											
Intersection V/C	1.135											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.281

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	50	211	100	71	171	40	70	150	100	70	158	202
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	211	100	71	171	40	70	150	100	70	158	202
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	63	30	19	46	11	18	39	26	20	46	58
Total Analysis Volume [veh/h]	59	250	119	76	183	43	73	157	105	81	182	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	22	22	22	22	45	45	45	45	45
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.08	0.07	0.12	0.06	0.15	0.07	0.10	0.15
s, saturation flow rate [veh/h]	1173	1900	1463	1148	1824	1221	1749	1135	1900	1560
c, Capacity [veh/h]	181	427	329	170	410	532	793	456	861	707
d1, Uniform Delay [s]	43.29	34.61	32.71	44.80	34.30	20.67	17.58	23.57	16.53	17.57
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.48	0.25	0.69	0.43	0.54	1.12	0.85	0.56	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

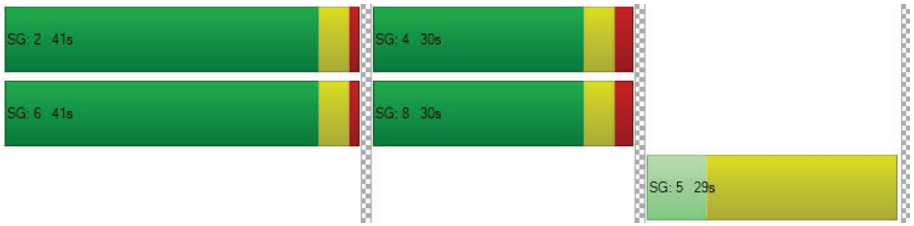
X, volume / capacity	0.33	0.59	0.36	0.45	0.55	0.14	0.33	0.18	0.21	0.33
d, Delay for Lane Group [s/veh]	43.68	35.08	32.96	45.48	34.74	21.20	18.70	24.42	17.09	18.82
Lane Group LOS	D	D	C	D	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.39	5.36	2.41	1.85	4.80	1.18	3.97	1.44	2.57	3.55
50th-Percentile Queue Length [ft/ln]	34.77	133.98	60.22	46.17	120.03	29.57	99.22	35.99	64.14	88.85
95th-Percentile Queue Length [veh/ln]	2.50	9.16	4.34	3.32	8.39	2.13	7.14	2.59	4.62	6.40
95th-Percentile Queue Length [ft/ln]	62.58	228.90	108.40	83.10	209.86	53.22	178.59	64.78	115.45	159.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.68	35.08	32.96	45.48	34.74	34.74	21.20	18.70	18.70	24.42	17.09	18.82
Movement LOS	D	D	C	D	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.68			37.44			19.24			19.10		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.22											
Intersection LOS	C											
Intersection V/C	0.281											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	20	251	0	29	321	60	66	90	0	90	210	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	251	0	29	321	60	66	90	0	90	210	120
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	67	0	8	86	16	20	27	0	24	56	32
Total Analysis Volume [veh/h]	21	269	0	31	345	64	79	108	0	96	223	127
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28		63	63
g / C, Green / Cycle	0.23	0.23	0.23	0.23		0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.02	0.14	0.19	0.05		0.13	0.13
s, saturation flow rate [veh/h]	1031	1863	1863	1368		1863	1525
c, Capacity [veh/h]	100	438	438	322		971	795
d1, Uniform Delay [s]	56.57	41.01	43.06	36.81		15.78	15.89
k, delay calibration	0.04	0.04	0.29	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.38	0.52	8.26	0.11		0.61	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.61	0.79	0.20		0.25	0.26
d, Delay for Lane Group [s/veh]	56.95	41.53	51.32	36.92		16.39	16.68
Lane Group LOS	E	D	D	D		B	B
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	7.17	10.49	1.51		3.83	3.33
50th-Percentile Queue Length [ft/ln]	15.89	179.37	262.16	37.83		95.65	83.35
95th-Percentile Queue Length [veh/ln]	1.14	11.57	15.80	2.72		6.89	6.00
95th-Percentile Queue Length [ft/ln]	28.61	289.19	394.93	68.10		172.18	150.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.95	41.53	0.00	0.00	51.32	36.92	0.00	0.00	0.00	16.39	16.49	16.68
Movement LOS	E	D			D	D				B	B	B
d_A, Approach Delay [s/veh]	42.65			49.07			0.00			16.53		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	34.77											
Intersection LOS	C											
Intersection V/C	0.320											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.247

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	70	60	0	516	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	60	0	516	100
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	20	0	143	28
Total Analysis Volume [veh/h]	0	0	0	0	93	80	0	571	111
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.05	0.05	0.19	0.20
s, saturation flow rate [veh/h]	771	3618	1810	1581	1900	1613
c, Capacity [veh/h]	404	2045	130	114	1110	912
d1, Uniform Delay [s]	0.00	0.00	45.38	45.34	11.70	11.74
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.72	2.95	0.80	1.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.71	0.70	0.33	0.35
d, Delay for Lane Group [s/veh]	0.00	0.00	48.10	48.29	12.49	12.78
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.32	2.00	4.41	3.86
50th-Percentile Queue Length [ft/ln]	0.00	0.00	58.03	50.09	110.16	96.49
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.18	3.61	7.85	6.95
95th-Percentile Queue Length [ft/ln]	0.00	0.00	104.46	90.17	196.23	173.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	48.10	48.10	48.29	12.49	12.59	12.78
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			48.19			12.62		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	19.82								
Intersection LOS	B								
Intersection V/C	0.247								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	30	160	60	80	141	40	30	230	20	50	231	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	160	60	80	141	40	30	230	20	50	231	80
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	16	23	40	11	9	71	6	14	63	22
Total Analysis Volume [veh/h]	31	168	63	90	159	45	37	285	25	54	250	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	10	10	14	14
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.04	0.08	0.08	0.03	0.19	0.24
s, saturation flow rate [veh/h]	1216	1900	1413	1171	1900	1485	1781	1650
c, Capacity [veh/h]	440	582	433	427	582	455	871	819
d1, Uniform Delay [s]	11.51	8.98	8.57	12.27	8.93	8.44	6.96	7.30
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.10	0.06	0.09	0.09	0.03	0.11	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

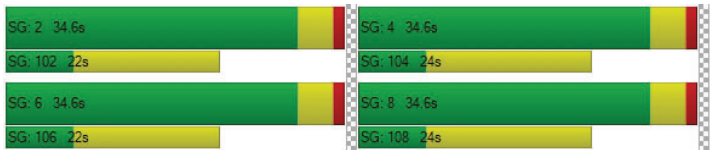
X, volume / capacity	0.07	0.29	0.15	0.21	0.27	0.10	0.40	0.48
d, Delay for Lane Group [s/veh]	11.53	9.08	8.62	12.36	9.03	8.48	7.07	7.46
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.15	0.65	0.23	0.48	0.65	0.17	1.21	1.32
50th-Percentile Queue Length [ft/ln]	3.69	16.17	5.81	11.98	16.20	4.34	30.30	33.09
95th-Percentile Queue Length [veh/ln]	0.27	1.16	0.42	0.86	1.17	0.31	2.18	2.38
95th-Percentile Queue Length [ft/ln]	6.64	29.11	10.46	21.56	29.17	7.82	54.55	59.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.53	9.08	8.62	12.36	9.03	8.48	7.07	7.07	7.07	7.46	7.46	7.46
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.26			9.96			7.07			7.46		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.29											
Intersection LOS	A											
Intersection V/C	0.325											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	200	60	20	180	21	31	175	52	30	141	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	200	60	20	180	21	31	175	52	30	141	60
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	59	18	5	48	6	9	51	15	8	39	17
Total Analysis Volume [veh/h]	83	237	71	22	194	23	36	206	61	33	156	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	12	12	12	12	11	11
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.02	0.12	0.17	0.15
s, saturation flow rate [veh/h]	1146	1763	1045	1844	1742	1693
c, Capacity [veh/h]	492	659	416	690	712	697
d1, Uniform Delay [s]	10.10	7.53	10.86	7.05	8.40	8.19
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.19	0.02	0.10	0.15	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

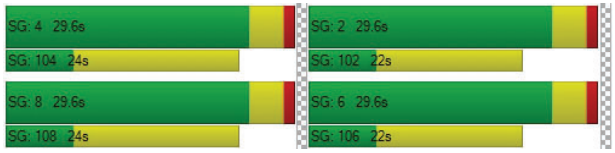
X, volume / capacity	0.17	0.47	0.05	0.31	0.43	0.37
d, Delay for Lane Group [s/veh]	10.16	7.72	10.88	7.14	8.55	8.31
Lane Group LOS	B	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.92	0.09	0.60	1.60	0.85
50th-Percentile Queue Length [ft/ln]	8.34	23.12	2.35	15.12	40.08	21.13
95th-Percentile Queue Length [veh/ln]	0.60	1.66	0.17	1.09	2.89	1.52
95th-Percentile Queue Length [ft/ln]	15.02	41.62	4.23	27.21	72.15	38.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.16	7.72	7.72	10.88	7.14	7.14	8.55	8.55	8.55	8.31	8.31	8.31
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.24			7.49			8.55			8.31		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.18											
Intersection LOS	A											
Intersection V/C	0.349											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.299

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	58	130	100	110	182	60	19	381	81	130	538	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	130	100	110	182	60	19	381	81	130	538	111
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	42	32	30	49	16	5	101	22	36	148	31
Total Analysis Volume [veh/h]	75	168	129	118	196	65	20	405	86	143	593	122
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.08	0.10	0.10	0.04	0.03	0.11	0.05	0.12	0.19	0.20
s, saturation flow rate [veh/h]	1206	1900	1577	1237	1900	1581	747	3618	1579	1172	1900	1771
c, Capacity [veh/h]	170	368	306	190	368	307	199	1187	518	541	844	787
d1, Uniform Delay [s]	45.13	35.73	35.47	45.30	36.32	33.97	35.49	25.49	23.94	17.26	19.19	19.24
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.67	0.33	0.34	1.23	0.44	0.13	1.01	0.78	0.69	0.10	1.64	1.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

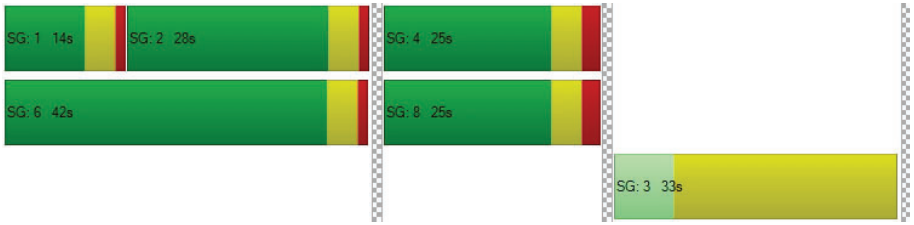
X, volume / capacity	0.44	0.46	0.42	0.62	0.53	0.21	0.10	0.34	0.17	0.26	0.44	0.44
d, Delay for Lane Group [s/veh]	45.80	36.06	35.82	46.53	36.76	34.09	36.51	26.27	24.63	17.35	20.83	21.03
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.83	3.59	2.74	2.94	4.27	1.32	0.47	3.73	1.54	1.97	6.12	5.82
50th-Percentile Queue Length [ft/ln]	45.68	89.80	68.54	73.50	106.63	32.99	11.77	93.23	38.38	49.17	153.12	145.39
95th-Percentile Queue Length [veh/ln]	3.29	6.47	4.94	5.29	7.65	2.38	0.85	6.71	2.76	3.54	10.18	9.77
95th-Percentile Queue Length [ft/ln]	82.22	161.64	123.38	132.29	191.30	59.38	21.18	167.81	69.09	88.50	254.59	244.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.80	36.06	35.82	46.53	36.76	34.09	36.51	26.27	24.63	17.35	20.90	21.03
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	37.94			39.34			26.39			20.33		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.28											
Intersection LOS	C											
Intersection V/C	0.299											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	40	168	60	50	294	60	30	150	100	60	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	168	60	50	294	60	30	150	100	60	190	50
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	47	17	16	94	19	9	43	28	17	53	14
Total Analysis Volume [veh/h]	45	190	68	64	377	77	34	170	114	66	211	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	41	41	41	41	41	41	27	27
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.05	0.10	0.04	0.05	0.12	0.13	0.21	0.25
s, saturation flow rate [veh/h]	952	1900	1555	1212	1900	1767	1542	1338
c, Capacity [veh/h]	362	776	635	464	776	722	454	403
d1, Uniform Delay [s]	25.36	19.43	18.28	24.14	19.92	19.99	32.87	35.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.16	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.75	0.34	0.62	0.99	1.10	2.93	11.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

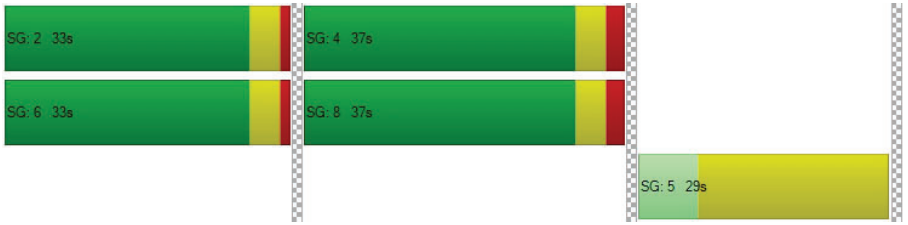
X, volume / capacity	0.12	0.24	0.11	0.14	0.30	0.31	0.70	0.82
d, Delay for Lane Group [s/veh]	26.07	20.18	18.62	24.75	20.91	21.09	35.81	46.81
Lane Group LOS	C	C	B	C	C	C	D	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.84	2.97	1.01	1.14	3.73	3.59	7.24	9.02
50th-Percentile Queue Length [ft/ln]	20.88	74.22	25.14	28.44	93.31	89.79	181.12	225.59
95th-Percentile Queue Length [veh/ln]	1.50	5.34	1.81	2.05	6.72	6.46	11.66	13.95
95th-Percentile Queue Length [ft/ln]	37.58	133.60	45.25	51.19	167.96	161.62	291.48	348.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.07	20.18	18.62	24.75	20.98	21.09	35.81	35.81	35.81	46.81	46.81	46.81
Movement LOS	C	C	B	C	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	20.70			21.46			35.81			46.81		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.13											
Intersection LOS	C											
Intersection V/C	0.374											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.279

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	60	188	80	70	314	30	0	280	130	0	360	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	188	80	70	314	30	0	280	130	0	360	70
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	57	24	19	85	8	0	76	35	0	102	20
Total Analysis Volume [veh/h]	73	228	97	76	339	32	0	303	141	0	410	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_PM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	52	52	52	52	52	52	18	18	18	18
g / C, Green / Cycle	0.52	0.52	0.52	0.52	0.52	0.52	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.06	0.06	0.10	0.10	0.16	0.09	0.13	0.14
s, saturation flow rate [veh/h]	1027	1900	1583	1171	1900	1835	1900	1560	1900	1780
c, Capacity [veh/h]	518	983	819	566	983	949	341	280	341	320
d1, Uniform Delay [s]	17.22	13.24	12.41	17.87	12.93	12.95	40.02	36.98	38.62	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.57	0.55	0.30	0.49	0.43	0.45	3.15	0.52	1.07	1.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.23	0.12	0.13	0.19	0.19	0.89	0.50	0.72	0.77
d, Delay for Lane Group [s/veh]	17.78	13.79	12.71	18.37	13.36	13.40	43.17	37.50	39.69	40.46
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.07	2.81	1.13	1.13	2.26	2.21	7.48	3.13	5.70	5.79
50th-Percentile Queue Length [ft/ln]	26.75	70.32	28.22	28.20	56.38	55.36	186.88	78.16	142.51	144.63
95th-Percentile Queue Length [veh/ln]	1.93	5.06	2.03	2.03	4.06	3.99	11.96	5.63	9.62	9.73
95th-Percentile Queue Length [ft/ln]	48.15	126.57	50.80	50.75	101.48	99.65	298.98	140.69	240.40	243.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.78	13.79	12.71	18.37	13.38	13.40	0.00	43.17	37.50	0.00	40.00	40.46
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	14.26			14.23			41.37			40.07		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.13											
Intersection LOS	C											
Intersection V/C	0.279											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	148	288	110	80	424	80	0	211	120	190	342	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	288	110	80	424	80	0	211	120	190	342	80
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	83	32	26	136	26	0	59	33	54	98	23
Total Analysis Volume [veh/h]	171	333	127	103	545	103	0	235	134	217	391	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	13	48	48	59	41	41	17	35	29	29	29
g / C, Green / Cycle	0.11	0.40	0.40	0.49	0.34	0.34	0.14	0.29	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.08	0.09	0.18	0.18	0.12	0.09	0.16	0.21	0.06
s, saturation flow rate [veh/h]	1810	1900	1567	1183	1900	1779	1900	1558	1387	1900	1564
c, Capacity [veh/h]	198	751	620	529	651	610	268	450	285	458	377
d1, Uniform Delay [s]	52.56	26.60	23.87	17.69	31.45	31.54	50.57	33.22	42.91	43.54	36.74
k, delay calibration	0.07	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.15	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	1.89	0.75	0.82	2.85	3.12	3.64	0.14	17.29	6.22	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

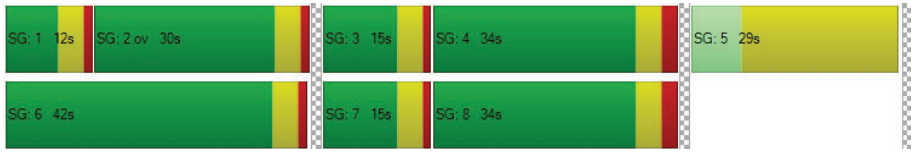
X, volume / capacity	0.86	0.44	0.20	0.19	0.51	0.52	0.88	0.30	0.76	0.85	0.24
d, Delay for Lane Group [s/veh]	59.56	28.49	24.62	18.51	34.31	34.66	54.21	33.36	60.20	49.76	36.86
Lane Group LOS	E	C	C	B	C	C	D	C	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.40	7.27	2.48	1.63	8.10	7.74	7.18	3.07	6.84	11.72	2.18
50th-Percentile Queue Length [ft/ln]	135.01	181.78	62.05	40.87	202.60	193.56	179.52	76.71	171.12	293.07	54.59
95th-Percentile Queue Length [veh/ln]	9.21	11.69	4.47	2.94	12.77	12.31	11.58	5.52	11.14	17.34	3.93
95th-Percentile Queue Length [ft/ln]	230.29	292.33	111.69	73.57	319.32	307.65	289.39	138.08	278.39	433.44	98.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.56	28.49	24.62	18.51	34.44	34.66	0.00	54.21	33.36	60.20	49.76	36.86
Movement LOS	E	C	C	B	C	C		D	C	E	D	D
d_A, Approach Delay [s/veh]	36.13			32.29			46.63			51.30		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.87											
Intersection LOS	D											
Intersection V/C	0.496											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	190	536	0	0	734	100	181	0	84	190	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	536	0	0	734	100	181	0	84	190	140	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	160	0	0	202	28	52	0	24	52	38	8
Total Analysis Volume [veh/h]	227	641	0	0	810	110	208	0	96	209	154	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	75	75	61	61		16	16
g / C, Green / Cycle	0.62	0.62	0.51	0.51		0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.28	0.18	0.24	0.26		0.12	0.11
s, saturation flow rate [veh/h]	798	3618	1900	1802		1810	1669
c, Capacity [veh/h]	481	2255	972	922		241	223
d1, Uniform Delay [s]	12.56	10.35	18.88	19.21		50.97	50.77
k, delay calibration	0.31	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.06	0.32	1.65	1.93		3.66	3.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

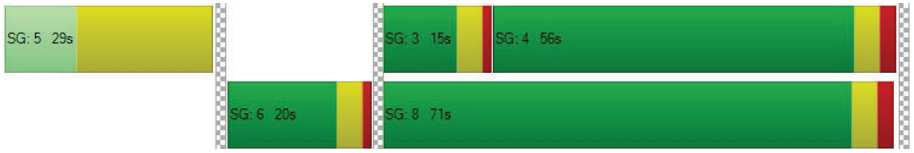
X, volume / capacity	0.47	0.28	0.47	0.50		0.87	0.84
d, Delay for Lane Group [s/veh]	14.62	10.67	20.53	21.14		54.63	54.04
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	3.87	8.43	8.62		6.45	5.73
50th-Percentile Queue Length [ft/ln]	69.62	96.64	210.65	215.39		161.14	143.20
95th-Percentile Queue Length [veh/ln]	5.01	6.96	13.19	13.43		10.61	9.65
95th-Percentile Queue Length [ft/ln]	125.31	173.95	329.66	335.73		265.23	241.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.62	10.67	0.00	0.00	20.79	21.14	0.00	0.00	0.00	54.63	54.04	54.04
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	11.70			20.83			0.00			54.35		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.28											
Intersection LOS	C											
Intersection V/C	0.430											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.578

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	323	0	0	934	860	413
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	323	0	0	934	860	413
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	264	236	113
Total Analysis Volume [veh/h]	369	0	0	1056	945	454
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	37	37
g / C, Green / Cycle	0.62	0.62	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.10	0.29	0.27	0.29
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2227	2227	1081	488
d1, Uniform Delay [s]	9.86	12.51	39.27	40.22
k, delay calibration	0.50	0.50	0.04	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	0.73	0.91	15.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

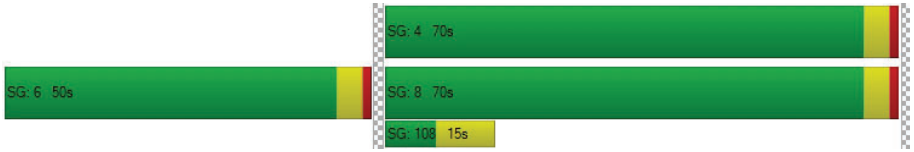
X, volume / capacity	0.17	0.47	0.87	0.93
d, Delay for Lane Group [s/veh]	10.02	13.24	40.18	55.79
Lane Group LOS	B	B	D	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.09	7.63	12.43	14.21
50th-Percentile Queue Length [ft/ln]	52.28	190.87	310.76	355.24
95th-Percentile Queue Length [veh/ln]	3.76	12.17	18.21	20.39
95th-Percentile Queue Length [ft/ln]	94.11	304.16	455.31	509.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.02	0.00	0.00	13.24	40.18	55.79
Movement LOS	B			B	D	E
d_A, Approach Delay [s/veh]	10.02		13.24		45.25	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	28.68					
Intersection LOS	C					
Intersection V/C	0.578					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	20	293	190	352	1242	160	30	360	60	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	293	190	352	1242	160	30	360	60	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	75	49	98	347	45	9	108	18	0	0	0
Total Analysis Volume [veh/h]	20	300	194	393	1388	179	36	430	72	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	24	24	68	89	89	15	15	15
g / C, Green / Cycle	0.02	0.20	0.20	0.56	0.74	0.74	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.16	0.11	0.11	0.41	0.44	0.10	0.10	0.11
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1780	1882	1729	1585
c, Capacity [veh/h]	37	372	353	1984	1406	1317	234	215	197
d1, Uniform Delay [s]	58.14	46.01	43.42	12.80	6.90	7.24	51.20	51.18	51.44
k, delay calibration	0.04	0.21	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.43	7.76	0.50	0.02	1.60	1.99	2.78	2.96	4.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

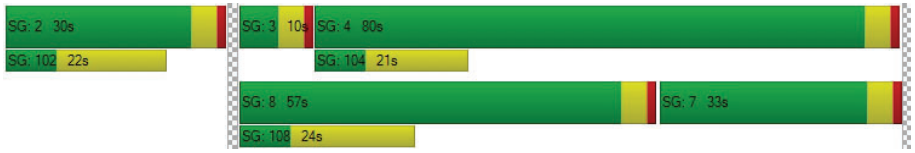
X, volume / capacity	0.54	0.81	0.55	0.20	0.56	0.59	0.82	0.82	0.86
d, Delay for Lane Group [s/veh]	62.57	53.77	43.92	12.82	8.49	9.22	53.99	54.15	55.54
Lane Group LOS	E	D	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.65	9.32	5.25	2.58	8.32	8.81	5.78	5.30	5.15
50th-Percentile Queue Length [ft/ln]	16.19	232.94	131.15	64.43	208.12	220.24	144.46	132.42	128.68
95th-Percentile Queue Length [veh/ln]	1.17	14.32	9.00	4.64	13.06	13.68	9.72	9.07	8.87
95th-Percentile Queue Length [ft/ln]	29.13	358.09	225.05	115.97	326.41	341.93	243.01	226.78	221.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.57	53.77	43.92	12.82	8.81	9.22	53.99	54.40	55.54	0.00	0.00	0.00
Movement LOS	E	D	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	50.39			9.65			54.53			0.00		
Approach LOS	D			A			D			A		
d_I, Intersection Delay [s/veh]	24.62											
Intersection LOS	C											
Intersection V/C	0.558											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	97	277	140	40	70	30	30	511	50	80	652	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	277	140	40	70	30	30	511	50	80	652	110
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	77	39	11	18	8	8	133	13	21	174	29
Total Analysis Volume [veh/h]	108	307	155	42	74	32	31	533	52	86	698	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_PM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	26	26	26	26	26	61	61	61	61	61	61
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.11	0.04	0.06	0.05	0.15	0.04	0.10	0.22	0.24
s, saturation flow rate [veh/h]	1161	1900	1456	1050	1689	675	3618	1421	862	1900	1677
c, Capacity [veh/h]	294	495	380	177	440	383	2196	863	515	1153	1018
d1, Uniform Delay [s]	35.98	32.51	30.50	42.14	29.08	15.24	9.04	8.00	13.09	9.88	10.10
k, delay calibration	0.04	0.06	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.29	0.69	0.26	0.26	0.10	0.41	0.26	0.13	0.70	0.89	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

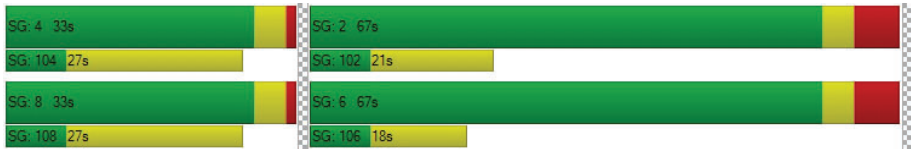
X, volume / capacity	0.37	0.62	0.41	0.24	0.24	0.08	0.24	0.06	0.17	0.36	0.39
d, Delay for Lane Group [s/veh]	36.27	33.20	30.77	42.40	29.19	15.66	9.30	8.13	13.78	10.77	11.23
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.32	6.46	3.04	0.97	1.98	0.44	2.59	0.47	1.11	4.59	4.50
50th-Percentile Queue Length [ft/ln]	58.09	161.55	76.10	24.22	49.48	10.93	64.72	11.63	27.82	114.75	112.58
95th-Percentile Queue Length [veh/ln]	4.18	10.63	5.48	1.74	3.56	0.79	4.66	0.84	2.00	8.10	7.98
95th-Percentile Queue Length [ft/ln]	104.57	265.77	136.98	43.60	89.07	19.67	116.50	20.94	50.07	202.59	199.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.27	33.20	30.77	42.40	29.19	29.19	15.66	9.30	8.13	13.78	10.95	11.23
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	33.12			32.93			9.52			11.26		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	17.79											
Intersection LOS	B											
Intersection V/C	0.399											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	394	40	10	100	40	20	230	30	20	180	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	394	40	10	100	40	20	230	30	20	180	30
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	107	11	3	30	12	6	67	9	6	54	9
Total Analysis Volume [veh/h]	87	429	44	12	118	47	23	267	35	24	217	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	68	68	68	68	68	23	23
g / C, Green / Cycle	0.68	0.68	0.68	0.68	0.68	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.13	0.01	0.10	0.19	0.17
s, saturation flow rate [veh/h]	1185	1900	1800	921	1736	1710	1626
c, Capacity [veh/h]	806	1290	1222	629	1179	430	412
d1, Uniform Delay [s]	7.80	5.89	5.92	7.88	5.69	36.46	35.26
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	0.32	0.35	0.06	0.25	2.72	1.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.19	0.19	0.02	0.14	0.76	0.67
d, Delay for Lane Group [s/veh]	8.07	6.21	6.27	7.94	5.94	39.18	37.18
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.76	1.70	1.67	0.11	1.14	7.65	6.27
50th-Percentile Queue Length [ft/ln]	18.98	42.62	41.81	2.63	28.47	191.26	156.67
95th-Percentile Queue Length [veh/ln]	1.37	3.07	3.01	0.19	2.05	12.19	10.37
95th-Percentile Queue Length [ft/ln]	34.17	76.72	75.27	4.73	51.25	304.66	259.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.07	6.24	6.27	7.94	5.94	5.94	39.18	39.18	39.18	37.18	37.18	37.18
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.52			6.08			39.18			37.18		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	20.73											
Intersection LOS	C											
Intersection V/C	0.320											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	130	424	110	60	120	30	30	360	40	70	300	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	424	110	60	120	30	30	360	40	70	300	40
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	121	31	17	34	8	9	105	12	22	94	12
Total Analysis Volume [veh/h]	148	483	125	68	135	34	35	421	47	87	375	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	28	28	28	28	28	59	59	59	59	59	59
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.13	0.17	0.18	0.08	0.10	0.03	0.12	0.13	0.10	0.20	0.04
s, saturation flow rate [veh/h]	1158	1900	1634	821	1752	1002	1900	1767	907	1900	1406
c, Capacity [veh/h]	284	529	455	156	488	540	1120	1042	531	1120	829
d1, Uniform Delay [s]	38.29	31.21	31.74	43.95	28.82	14.72	9.62	9.68	13.48	10.49	8.73
k, delay calibration	0.04	0.05	0.09	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	0.47	1.24	0.72	0.16	0.23	0.43	0.49	0.66	0.81	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

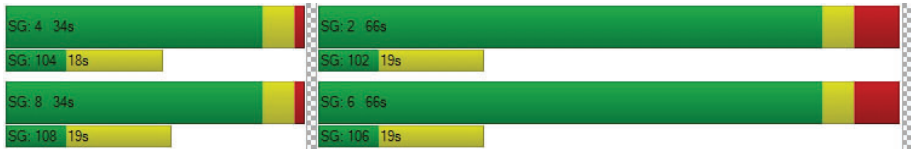
X, volume / capacity	0.52	0.59	0.65	0.44	0.35	0.06	0.21	0.22	0.16	0.33	0.06
d, Delay for Lane Group [s/veh]	38.84	31.68	32.99	44.66	28.98	14.95	10.05	10.17	14.14	11.29	8.87
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.37	6.45	6.22	1.65	3.19	0.47	2.44	2.40	1.14	4.23	0.47
50th-Percentile Queue Length [ft/ln]	84.22	161.35	155.48	41.25	79.76	11.67	60.99	60.01	28.48	105.63	11.83
95th-Percentile Queue Length [veh/ln]	6.06	10.62	10.31	2.97	5.74	0.84	4.39	4.32	2.05	7.60	0.85
95th-Percentile Queue Length [ft/ln]	151.60	265.51	257.72	74.25	143.56	21.01	109.77	108.03	51.26	189.90	21.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.84	32.13	32.99	44.66	28.98	28.98	14.95	10.10	10.17	14.14	11.29	8.87
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	33.59			33.48			10.45			11.54		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.16											
Intersection LOS	C											
Intersection V/C	0.377											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	150	504	120	40	100	90	110	251	70	60	352	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	504	120	40	100	90	110	251	70	60	352	50
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	132	31	11	28	25	29	67	19	17	97	14
Total Analysis Volume [veh/h]	157	529	126	45	111	100	117	267	75	66	389	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28	28	63	63	63	63	63
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.18	0.19	0.06	0.13	0.12	0.19	0.06	0.20	0.04
s, saturation flow rate [veh/h]	1167	1900	1678	789	1655	992	1771	1030	1900	1435
c, Capacity [veh/h]	255	533	470	147	464	578	1112	604	1193	900
d1, Uniform Delay [s]	41.06	31.51	31.92	43.43	29.68	13.62	8.59	12.49	8.71	7.21
k, delay calibration	0.04	0.06	0.09	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.90	0.73	1.41	0.43	0.26	0.79	0.72	0.37	0.73	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.64	0.67	0.31	0.45	0.20	0.31	0.11	0.33	0.06
d, Delay for Lane Group [s/veh]	41.96	32.23	33.34	43.86	29.94	14.41	9.31	12.85	9.44	7.34
Lane Group LOS	D	C	C	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.75	7.06	6.78	1.07	4.12	1.52	3.28	0.79	3.77	0.45
50th-Percentile Queue Length [ft/ln]	93.73	176.47	169.43	26.73	102.94	37.99	82.08	19.71	94.36	11.14
95th-Percentile Queue Length [veh/ln]	6.75	11.42	11.05	1.92	7.41	2.73	5.91	1.42	6.79	0.80
95th-Percentile Queue Length [ft/ln]	168.71	285.40	276.16	48.12	185.28	68.37	147.74	35.48	169.85	20.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.96	32.63	33.34	43.86	29.94	29.94	14.41	9.31	9.31	12.85	9.44	7.34
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	34.54			32.39			10.61			9.66		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	22.65											
Intersection LOS	C											
Intersection V/C	0.393											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	674	40	20	20	120	0	0	0	6	220	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	674	40	20	20	120	0	0	0	6	220	70
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	185	11	6	6	35	0	0	0	2	73	23
Total Analysis Volume [veh/h]	15	741	44	24	24	142	0	0	0	6	291	93
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	41	41	3	49		40
g / C, Green / Cycle	0.41	0.41	0.03	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.20	0.03	0.01	0.10		0.21
s, saturation flow rate [veh/h]	3618	1353	1810	1588		1811
c, Capacity [veh/h]	1494	559	62	783		733
d1, Uniform Delay [s]	21.65	17.80	47.26	14.34		22.48
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.18	0.27	1.48	0.62		2.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

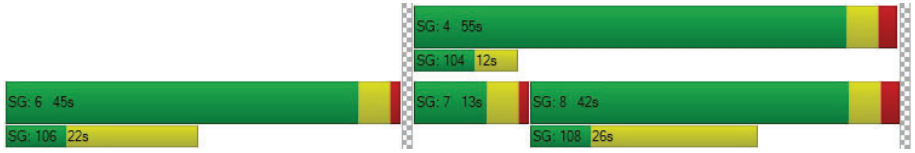
X, volume / capacity	0.50	0.08	0.39	0.21		0.52
d, Delay for Lane Group [s/veh]	22.83	18.07	48.74	14.95		25.14
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.49	0.65	0.60	2.17		7.20
50th-Percentile Queue Length [ft/ln]	162.27	16.31	15.06	54.13		179.97
95th-Percentile Queue Length [veh/ln]	10.67	1.17	1.08	3.90		11.60
95th-Percentile Queue Length [ft/ln]	266.73	29.36	27.10	97.43		289.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	22.83	18.07	48.74	14.95	14.95	0.00	0.00	0.00	0.00	25.14	25.14
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.57			19.22			0.00			25.14		
Approach LOS	C			B			A			C		
d_I, Intersection Delay [s/veh]	22.83											
Intersection LOS	C											
Intersection V/C	0.430											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	30	170	60	90	150	49	70	380	30	30	351	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	170	60	90	150	49	70	380	30	30	351	160
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	49	17	25	42	14	21	115	9	8	96	44
Total Analysis Volume [veh/h]	35	196	69	102	169	55	85	459	36	33	384	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.39	0.12	0.45	0.09	0.09	0.27	0.04	0.20	0.13
s, saturation flow rate [veh/h]	600	600	600	600	970	1844	902	1900	1325
c, Capacity [veh/h]	278	219	290	219	437	928	362	957	667
d1, Uniform Delay [s]	22.88	15.94	24.67	15.53	16.50	11.79	18.45	10.81	9.94
k, delay calibration	0.34	0.04	0.47	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.51	0.30	37.15	0.22	0.99	2.19	0.50	1.26	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

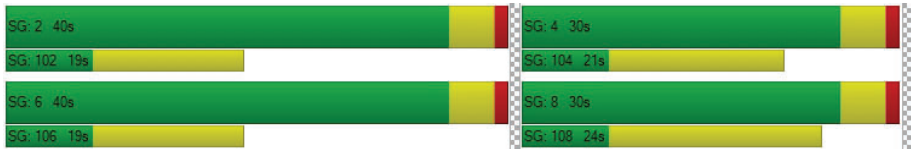
X, volume / capacity	0.83	0.32	0.94	0.25	0.19	0.53	0.09	0.40	0.26
d, Delay for Lane Group [s/veh]	40.39	16.24	61.81	15.75	17.50	13.98	18.95	12.07	10.90
Lane Group LOS	D	B	E	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.91	0.76	7.48	0.59	1.04	5.13	0.43	3.58	1.54
50th-Percentile Queue Length [ft/ln]	122.86	18.94	186.94	14.69	25.95	128.26	10.63	89.52	38.44
95th-Percentile Queue Length [veh/ln]	8.55	1.36	11.96	1.06	1.87	8.84	0.77	6.45	2.77
95th-Percentile Queue Length [ft/ln]	213.75	34.09	299.06	26.44	46.71	221.12	19.13	161.14	69.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.39	40.39	16.24	61.81	61.81	15.75	17.50	13.98	13.98	18.95	12.07	10.90
Movement LOS	D	D	B	E	E	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	34.83			54.04			14.50			12.10		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	24.27											
Intersection LOS	C											
Intersection V/C	0.720											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	100	160	90	30	50	10	30	440	50	50	411	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	160	90	30	50	10	30	440	50	50	411	30
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	45	25	11	18	4	9	138	16	14	112	8
Total Analysis Volume [veh/h]	112	179	100	44	73	15	38	552	63	55	449	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	36	36	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	17	17	17	17
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.04	0.05	0.05	0.34	0.07	0.26
s, saturation flow rate [veh/h]	1274	1698	1081	1812	836	1822	786	1821
c, Capacity [veh/h]	443	474	290	506	385	851	310	851
d1, Uniform Delay [s]	13.00	11.28	15.83	9.91	11.47	7.77	14.36	7.00
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	0.43	0.09	0.06	0.04	0.44	0.10	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

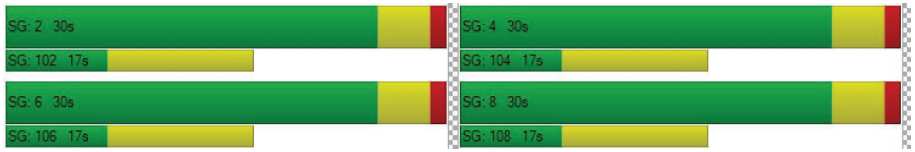
X, volume / capacity	0.25	0.59	0.15	0.17	0.10	0.72	0.18	0.57
d, Delay for Lane Group [s/veh]	13.11	11.71	15.92	9.97	11.51	8.21	14.46	7.22
Lane Group LOS	B	B	B	A	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	1.44	0.29	0.39	0.20	2.39	0.35	1.67
50th-Percentile Queue Length [ft/ln]	15.78	36.05	7.18	9.80	5.01	59.87	8.71	41.74
95th-Percentile Queue Length [veh/ln]	1.14	2.60	0.52	0.71	0.36	4.31	0.63	3.01
95th-Percentile Queue Length [ft/ln]	28.41	64.90	12.92	17.65	9.03	107.76	15.68	75.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.11	11.71	11.71	15.92	9.97	9.97	11.51	8.21	8.21	14.46	7.22	7.22
Movement LOS	B	B	B	B	A	A	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.11			11.95			8.41			7.97		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.39											
Intersection LOS	A											
Intersection V/C	0.502											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	210	411	270	42	273	40	20	613	165	130	665	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	411	270	42	273	40	20	613	165	130	665	53
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	109	71	13	85	12	5	161	43	35	177	14
Total Analysis Volume [veh/h]	222	435	286	52	340	50	21	643	173	139	709	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.18	0.23	0.19	0.05	0.10	0.11	0.03	0.18	0.12	0.14	0.20	0.04
s, saturation flow rate [veh/h]	1237	1900	1525	956	1900	1790	736	3618	1487	972	3618	1443
c, Capacity [veh/h]	449	670	538	89	442	417	303	1593	655	552	2008	801
d1, Uniform Delay [s]	24.44	27.16	25.77	49.71	32.86	32.97	24.26	19.04	17.72	11.59	12.31	10.30
k, delay calibration	0.50	0.13	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.33	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.84	1.32	0.30	2.23	0.26	0.30	0.44	0.76	0.98	0.72	0.49	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.65	0.53	0.58	0.45	0.46	0.07	0.40	0.26	0.25	0.35	0.07
d, Delay for Lane Group [s/veh]	28.28	28.48	26.08	51.93	33.13	33.27	24.70	19.80	18.70	12.31	12.80	10.47
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	8.75	5.35	1.34	4.05	3.94	0.39	5.12	2.66	1.50	4.22	0.58
50th-Percentile Queue Length [ft/ln]	107.39	218.84	133.83	33.45	101.37	98.59	9.68	128.08	66.49	37.62	105.49	14.43
95th-Percentile Queue Length [veh/ln]	7.69	13.61	9.15	2.41	7.30	7.10	0.70	8.84	4.79	2.71	7.59	1.04
95th-Percentile Queue Length [ft/ln]	192.37	340.14	228.70	60.21	182.47	177.47	17.43	220.88	119.68	67.71	189.71	25.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.28	28.48	26.08	51.93	33.19	33.27	24.70	19.80	18.70	12.31	12.80	10.47
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	27.71			35.40			19.70			12.58		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.28											
Intersection LOS	C											
Intersection V/C	0.448											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	38.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.801

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	811	80	40	528	30	20	190	160	50	140	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	811	80	40	528	30	20	190	160	50	140	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	214	21	12	156	9	5	50	43	14	38	11
Total Analysis Volume [veh/h]	95	855	84	47	625	36	21	202	170	55	153	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	54	54	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.54	0.54	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.25	0.25	0.06	0.18	0.18	0.25	0.12	0.53	0.03
s, saturation flow rate [veh/h]	933	1900	1815	752	1900	1850	894	1461	389	1508
c, Capacity [veh/h]	623	1022	977	493	996	970	283	399	152	411
d1, Uniform Delay [s]	7.58	14.24	14.31	8.11	13.73	13.76	31.01	29.92	33.15	27.23
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.28	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	1.53	1.64	0.38	0.91	0.94	11.86	0.27	203.18	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

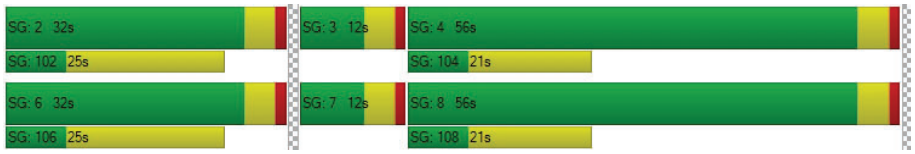
X, volume / capacity	0.15	0.47	0.47	0.10	0.33	0.34	0.79	0.43	1.37	0.11
d, Delay for Lane Group [s/veh]	7.70	15.77	15.95	8.50	14.64	14.70	42.87	30.19	236.33	27.28
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	6.78	6.62	0.40	4.44	4.37	5.25	3.31	11.37	0.78
50th-Percentile Queue Length [ft/ln]	18.72	169.41	165.54	10.08	110.91	109.33	131.17	82.85	284.35	19.46
95th-Percentile Queue Length [veh/ln]	1.35	11.05	10.84	0.73	7.89	7.80	9.00	5.97	19.53	1.40
95th-Percentile Queue Length [ft/ln]	33.69	276.14	271.04	18.15	197.26	195.08	225.08	149.14	488.27	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.70	15.85	15.95	8.50	14.67	14.70	42.87	42.87	30.19	236.33	236.33	27.28
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	15.11			14.26			37.38			199.83		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	38.03											
Intersection LOS	D											
Intersection V/C	0.801											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	100	841	150	120	638	40	50	424	170	120	387	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	841	150	120	638	40	50	424	170	120	387	110
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	216	39	32	169	11	14	118	47	33	107	30
Total Analysis Volume [veh/h]	103	865	154	127	675	42	56	471	189	132	426	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.11	0.28	0.28	0.16	0.19	0.19	0.06	0.18	0.20	0.13	0.22	0.08
s, saturation flow rate [veh/h]	925	1900	1767	777	1900	1845	964	1900	1597	1055	1900	1452
c, Capacity [veh/h]	514	820	763	408	824	800	111	470	395	343	688	526
d1, Uniform Delay [s]	11.96	22.29	22.47	14.23	19.81	19.86	48.63	34.63	35.28	24.06	26.21	22.18
k, delay calibration	0.16	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.14	0.23	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	3.77	4.28	1.98	1.70	1.78	1.33	1.96	4.61	1.53	0.92	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

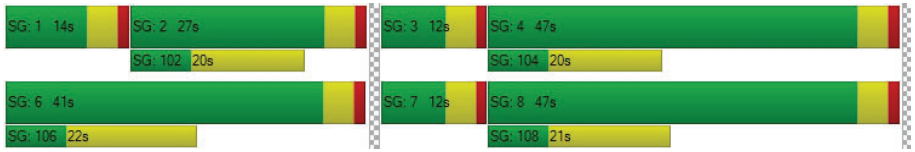
X, volume / capacity	0.20	0.64	0.65	0.31	0.44	0.44	0.51	0.74	0.80	0.39	0.62	0.23
d, Delay for Lane Group [s/veh]	12.25	26.06	26.75	16.21	21.51	21.64	49.97	36.59	39.90	25.59	27.13	22.26
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.11	10.18	9.82	1.56	6.15	6.05	1.44	7.86	7.56	2.26	8.31	1.97
50th-Percentile Queue Length [ft/ln]	27.65	254.47	245.57	38.91	153.63	151.21	35.88	196.46	188.91	56.38	207.76	49.18
95th-Percentile Queue Length [veh/ln]	1.99	15.41	14.96	2.80	10.21	10.08	2.58	12.46	12.06	4.06	13.04	3.54
95th-Percentile Queue Length [ft/ln]	49.76	385.27	374.07	70.04	255.27	252.04	64.58	311.40	301.62	101.48	325.95	88.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.25	26.33	26.75	16.21	21.57	21.64	49.97	37.47	39.90	25.59	27.13	22.26
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	25.10			20.77			39.09			25.97		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	27.17											
Intersection LOS	C											
Intersection V/C	0.570											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	130	951	180	30	818	40	60	251	150	100	282	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	951	180	30	818	40	60	251	150	100	282	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	258	49	8	222	11	16	65	39	27	76	22
Total Analysis Volume [veh/h]	141	1031	195	33	890	44	62	260	155	108	304	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	9	51	51	37	37	37	26	26	26	35	35
g / C, Green / Cycle	0.09	0.51	0.51	0.37	0.37	0.37	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.08	0.33	0.35	0.07	0.25	0.25	0.06	0.14	0.11	0.30	0.06
s, saturation flow rate [veh/h]	1810	1900	1700	462	1900	1836	1092	1900	1352	1392	1366
c, Capacity [veh/h]	172	978	876	114	711	687	72	488	347	486	482
d1, Uniform Delay [s]	44.42	17.56	18.15	44.42	26.05	26.20	50.00	31.99	31.19	29.09	22.33
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.68	3.22	4.31	6.26	4.82	5.24	10.27	0.34	0.34	16.54	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

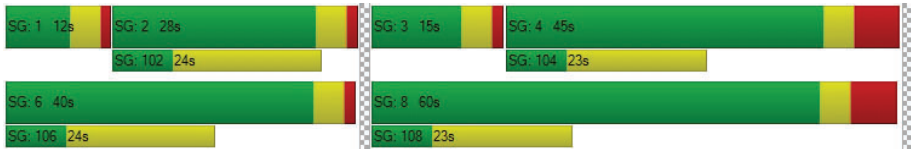
X, volume / capacity	0.82	0.64	0.68	0.29	0.66	0.67	0.86	0.53	0.45	0.85	0.18
d, Delay for Lane Group [s/veh]	48.10	20.78	22.47	50.68	30.87	31.44	60.27	32.33	31.52	45.63	22.40
Lane Group LOS	D	C	C	D	C	C	E	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.58	10.80	10.84	0.99	10.04	9.99	1.74	5.32	3.10	10.07	1.37
50th-Percentile Queue Length [ft/ln]	89.49	270.11	271.06	24.83	250.90	249.67	43.40	133.06	77.48	251.87	34.29
95th-Percentile Queue Length [veh/ln]	6.44	16.20	16.24	1.79	15.23	15.17	3.12	9.11	5.58	15.28	2.47
95th-Percentile Queue Length [ft/ln]	161.08	404.88	406.06	44.69	380.79	379.24	78.11	227.65	139.47	382.01	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.10	21.44	22.47	50.68	31.14	31.44	60.27	32.33	31.52	45.63	45.63	22.40
Movement LOS	D	C	C	D	C	C	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	24.34			31.82			35.70			41.62		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.76											
Intersection LOS	C											
Intersection V/C	0.585											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	52.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	130	1241	50	40	1028	20	6	80	110	66	150	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	1241	50	40	1028	20	6	80	110	66	150	50
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	327	13	10	268	5	2	24	32	18	42	14
Total Analysis Volume [veh/h]	137	1309	53	42	1071	21	7	95	130	70	169	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	32	32	5	28	28	40	40
g / C, Green / Cycle	0.09	0.35	0.35	0.05	0.31	0.31	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.36	0.36	0.02	0.29	0.29	0.13	0.12
s, saturation flow rate [veh/h]	1810	1900	1860	1810	1900	1878	1682	1808
c, Capacity [veh/h]	172	672	658	93	590	583	743	799
d1, Uniform Delay [s]	40.10	29.23	29.23	41.66	30.22	30.28	16.26	16.08
k, delay calibration	0.04	0.50	0.50	0.04	0.32	0.32	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	39.27	42.90	1.26	16.53	17.40	1.05	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.02	1.03	0.45	0.93	0.93	0.30	0.28
d, Delay for Lane Group [s/veh]	43.32	68.50	72.13	42.92	46.75	47.68	17.31	16.96
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.09	21.21	21.43	0.93	13.82	13.88	3.10	3.05
50th-Percentile Queue Length [ft/ln]	77.37	530.35	535.81	23.32	345.45	346.92	77.52	76.23
95th-Percentile Queue Length [veh/ln]	5.57	29.13	29.62	1.68	19.91	19.99	5.58	5.49
95th-Percentile Queue Length [ft/ln]	139.27	728.14	740.43	41.98	497.85	499.66	139.54	137.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.32	70.23	72.13	42.92	47.20	47.68	0.00	17.31	17.31	0.00	16.96	16.96
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	67.84			47.05			17.31			16.96		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	52.79											
Intersection LOS	D											
Intersection V/C	0.521											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.705

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	240	632	0	0	1198	70	0	0	0	650	270	779
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	632	0	0	1198	70	0	0	0	650	270	779
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	181	0	0	315	18	0	0	0	179	74	214
Total Analysis Volume [veh/h]	276	726	0	0	1262	74	0	0	0	715	297	857
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	20	72	47	47		39	39	39	39
g / C, Green / Cycle	0.17	0.60	0.39	0.39		0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.25	0.24		0.27	0.26	0.30	0.31
s, saturation flow rate [veh/h]	1810	3618	3618	1840		1810	1855	1434	1544
c, Capacity [veh/h]	301	2172	1430	727		584	599	463	499
d1, Uniform Delay [s]	49.12	11.98	29.08	28.92		37.44	37.16	39.29	39.59
k, delay calibration	0.25	0.50	0.50	0.50		0.26	0.25	0.35	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.06	0.42	2.05	3.82		6.97	5.85	21.71	23.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.33	0.62	0.61		0.82	0.81	0.93	0.95
d, Delay for Lane Group [s/veh]	70.18	12.40	31.13	32.74		44.40	43.00	61.00	63.38
Lane Group LOS	E	B	C	C		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.86	4.87	10.62	10.93		13.59	13.38	14.50	16.22
50th-Percentile Queue Length [ft/ln]	246.59	121.69	265.42	273.13		339.6	334.6	362.5	405.5
95th-Percentile Queue Length [veh/ln]	15.01	8.49	15.96	16.35		19.63	19.38	20.75	22.83
95th-Percentile Queue Length [ft/ln]	375.36	212.14	399.01	408.65		490.8	484.6	518.6	570.7

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.18	12.40	0.00	0.00	31.60	32.74	0.00	0.00	0.00	43.92	45.84	62.35
Movement LOS	E	B			C	C				D	D	E
d_A, Approach Delay [s/veh]	28.31			31.67			0.00			52.67		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	40.20											
Intersection LOS	D											
Intersection V/C	0.705											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	812	260	546	1242	0	110	170	250	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	812	260	546	1242	0	110	170	250	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	225	72	147	333	0	32	49	72	0	0	0
Total Analysis Volume [veh/h]	0	901	288	586	1334	0	126	195	287	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	56	87	24	24	24
g / C, Green / Cycle	0.22	0.22	0.22	0.47	0.73	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.17	0.19	0.20	0.17	0.37	0.09	0.09	0.18
s, saturation flow rate [veh/h]	3618	1553	1454	3514	3618	1830	1729	1577
c, Capacity [veh/h]	797	342	320	1644	2628	360	340	310
d1, Uniform Delay [s]	43.72	45.20	45.47	20.38	7.11	42.53	42.51	47.29
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	2.88	3.73	0.61	0.70	0.34	0.36	18.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.88	0.90	0.36	0.51	0.46	0.46	0.92
d, Delay for Lane Group [s/veh]	44.27	48.08	49.20	20.99	7.81	42.87	42.86	65.40
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.30	8.79	8.55	5.36	6.85	4.34	4.08	9.86
50th-Percentile Queue Length [ft/ln]	207.43	219.71	213.63	134.06	171.13	108.42	101.88	246.49
95th-Percentile Queue Length [veh/ln]	13.02	13.65	13.34	9.16	11.14	7.75	7.34	15.01
95th-Percentile Queue Length [ft/ln]	325.53	341.25	333.48	229.01	278.39	193.80	183.38	375.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	44.73	49.20	20.99	7.81	0.00	42.87	42.86	65.40	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	46.43			11.83			53.50			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.72											
Intersection LOS	C											
Intersection V/C	0.551											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	715	260	90	783	110	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	715	260	90	783	110	178
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	200	73	28	245	32	51
Total Analysis Volume [veh/h]	798	290	113	982	126	204
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.17	0.27	0.15	0.28
s, saturation flow rate [veh/h]	3618	1353	681	3618	832	734
c, Capacity [veh/h]	2509	938	470	2509	145	128
d1, Uniform Delay [s]	6.03	5.98	10.37	6.45	40.14	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.36
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.86	1.21	0.46	5.92	291.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.31	0.24	0.39	0.87	1.59
d, Delay for Lane Group [s/veh]	6.36	6.84	11.58	6.91	46.06	332.70
Lane Group LOS	A	A	B	A	D	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.99	2.30	1.33	3.95	3.18	13.45
50th-Percentile Queue Length [ft/ln]	74.87	57.47	33.28	98.75	79.56	336.31
95th-Percentile Queue Length [veh/ln]	5.39	4.14	2.40	7.11	5.73	23.01
95th-Percentile Queue Length [ft/ln]	134.77	103.44	59.90	177.74	143.21	575.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.36	6.84	11.58	6.91	46.06	332.70
Movement LOS	A	A	B	A	D	F
d_A, Approach Delay [s/veh]	6.49		7.39		223.26	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	35.35					
Intersection LOS	D					
Intersection V/C	0.549					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	50	40	0	20	40	20	0	30	189	40	0	20	172	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	50	40	0	20	40	20	0	30	189	40	0	20	172	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	17	13	0	6	12	6	0	8	53	11	0	6	48	8
Total Analysis Volume [veh/h]	0	27	67	54	0	25	50	25	0	34	213	45	0	22	191	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	584	676	576	668	648	753	644	745
Degree of Utilization, x	0.16	0.08	0.13	0.04	0.38	0.06	0.33	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.57	0.26	0.45	0.12	1.78	0.19	1.44	0.14
95th-Percentile Queue Length [ft]	14.26	6.48	11.16	2.91	44.61	4.76	36.08	3.47
Approach Delay [s/veh]	9.48		9.49		11.04		10.59	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.41							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	470	130	0	60	351	0	111	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	470	130	0	60	351	0	111	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	34	0	16	92	0	36	26
Total Analysis Volume [veh/h]	0	493	136	0	63	367	0	142	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.26	0.09	0.07	0.19	0.09	0.09
s, saturation flow rate [veh/h]	1900	1581	918	1900	1538	1208
c, Capacity [veh/h]	1107	866	451	1041	437	343
d1, Uniform Delay [s]	7.54	6.11	12.48	6.92	15.47	15.35
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.30	0.39	0.65	0.94	0.16	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

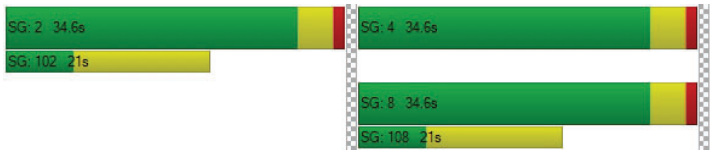
X, volume / capacity	0.45	0.16	0.14	0.35	0.33	0.30
d, Delay for Lane Group [s/veh]	8.84	6.50	13.13	7.86	15.63	15.53
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	0.68	0.56	2.08	1.31	0.94
50th-Percentile Queue Length [ft/ln]	76.04	17.09	13.88	51.91	32.67	23.60
95th-Percentile Queue Length [veh/ln]	5.47	1.23	1.00	3.74	2.35	1.70
95th-Percentile Queue Length [ft/ln]	136.87	30.76	24.98	93.44	58.81	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.84	8.84	6.50	13.13	13.13	7.86	15.63	15.63	15.53
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.34			8.63			15.58		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.80								
Intersection LOS	A								
Intersection V/C	0.352								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.437

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	150	40	10	80	10	20	195	30	20	144	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	150	40	10	80	10	20	195	30	20	144	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	45	12	3	21	3	6	59	9	6	43	6
Total Analysis Volume [veh/h]	36	178	47	11	86	11	24	238	37	24	173	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	664	626	684	668
Degree of Utilization, x	0.39	0.17	0.44	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.87	0.62	2.22	1.45
95th-Percentile Queue Length [ft]	46.87	15.49	55.62	36.21
Approach Delay [s/veh]	11.90	9.95	12.28	11.04
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.58			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	220	60	30	140	20	20	195	50	20	144	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	220	60	30	140	20	20	195	50	20	144	40
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	65	18	8	38	5	6	55	14	5	39	11
Total Analysis Volume [veh/h]	48	262	71	33	154	22	23	220	56	21	154	43
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	569	588	570
Degree of Utilization, x	0.63	0.37	0.51	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.35	1.68	2.88	1.78
95th-Percentile Queue Length [ft]	108.80	42.02	71.97	44.61
Approach Delay [s/veh]	18.28	12.97	15.30	13.17
Approach LOS	C	B	C	B
Intersection Delay [s/veh]	15.47			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	27.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	74	330	30	30	220	30	20	130	105	30	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	330	30	30	220	30	20	130	105	30	130	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	92	8	8	61	8	6	36	29	9	38	9
Total Analysis Volume [veh/h]	82	367	33	33	245	33	22	144	116	35	152	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	499	563	475	530	512	487
Degree of Utilization, x	0.90	0.06	0.58	0.06	0.55	0.46

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	10.22	0.19	3.68	0.20	3.31	2.35
95th-Percentile Queue Length [ft]	255.38	4.66	91.94	4.96	82.69	58.85
Approach Delay [s/veh]	43.39		19.28		18.36	16.48
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	27.56					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	40	201	130	110	261	10	50	150	60	90	120	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	201	130	110	261	10	50	150	60	90	120	20
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	56	37	31	73	3	13	39	16	26	35	6
Total Analysis Volume [veh/h]	45	226	146	124	294	11	52	157	63	105	141	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	48	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.04	0.22	0.11	0.16	0.05	0.13	0.09	0.10
s, saturation flow rate [veh/h]	1169	1690	1127	1877	1025	1723	1150	1716
c, Capacity [veh/h]	749	884	688	1007	159	315	131	314
d1, Uniform Delay [s]	6.88	13.14	7.70	11.56	40.43	34.49	44.13	33.27
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.47	0.58	0.77	0.44	1.05	4.34	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

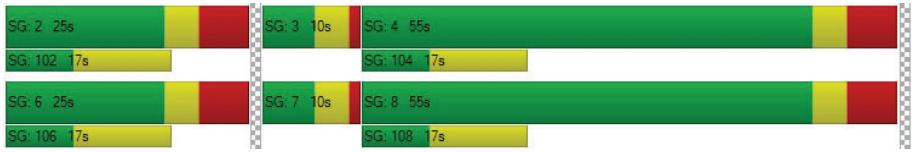
X, volume / capacity	0.06	0.42	0.18	0.30	0.33	0.70	0.80	0.52
d, Delay for Lane Group [s/veh]	6.89	14.61	8.27	12.33	40.87	35.54	48.46	33.77
Lane Group LOS	A	B	A	B	D	D	D	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.29	4.57	0.97	3.38	1.13	4.52	2.46	3.19
50th-Percentile Queue Length [ft/ln]	7.26	114.30	24.26	84.57	28.17	113.07	61.45	79.71
95th-Percentile Queue Length [veh/ln]	0.52	8.08	1.75	6.09	2.03	8.01	4.42	5.74
95th-Percentile Queue Length [ft/ln]	13.07	201.96	43.67	152.22	50.71	200.26	110.61	143.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.89	14.61	14.61	8.27	12.33	12.33	40.87	35.54	35.54	48.46	33.77	33.77
Movement LOS	A	B	B	A	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	13.77			11.16			36.56			39.51		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.42											
Intersection LOS	C											
Intersection V/C	0.379											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	77	190	30	10	50	10	20	185	50	20	154	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	190	30	10	50	10	20	185	50	20	154	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	54	8	3	15	3	6	56	15	5	41	5
Total Analysis Volume [veh/h]	87	215	34	12	60	12	24	225	61	21	165	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	657	608	669	642
Degree of Utilization, x	0.51	0.14	0.46	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.93	0.48	2.45	1.39
95th-Percentile Queue Length [ft]	73.23	11.94	61.30	34.77
Approach Delay [s/veh]	14.08	9.87	12.92	11.25
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	12.70			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	31	210	30	30	171	20	10	80	20	20	130	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	210	30	30	171	20	10	80	20	20	130	50
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	60	9	8	44	5	3	25	6	6	38	15
Total Analysis Volume [veh/h]	35	239	34	31	174	20	13	101	25	23	151	58
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	679	661	632	657
Degree of Utilization, x	0.45	0.34	0.22	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.37	1.51	0.84	1.59
95th-Percentile Queue Length [ft]	59.14	37.64	20.88	39.78
Approach Delay [s/veh]	12.61	11.23	10.30	11.45
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.61			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2640	70	0	2771	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2640	70	0	2771	100	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	717	19	0	709	27	8
Total Analysis Volume [veh/h]	2870	76	0	2836	110	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	62	62	62	62
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	45	45	45	7
g / C, Green / Cycle	0.72	0.72	0.72	0.11
(v / s)_i Volume / Saturation Flow Rate	0.62	0.59	0.47	0.09
s, saturation flow rate [veh/h]	3192	1654	6089	1553
c, Capacity [veh/h]	2289	1186	4366	178
d1, Uniform Delay [s]	6.49	6.14	4.67	26.91
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.58	0.06	3.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.83	0.65	0.80
d, Delay for Lane Group [s/veh]	6.87	6.73	4.73	30.12
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.24	5.04	2.68	2.11
50th-Percentile Queue Length [ft/ln]	131.12	126.11	67.07	52.86
95th-Percentile Queue Length [veh/ln]	9.00	8.73	4.83	3.81
95th-Percentile Queue Length [ft/ln]	225.02	218.20	120.73	95.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.82	6.73	0.00	4.73	30.12	30.12
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.82		4.73		30.12	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.38					
Intersection LOS	A					
Intersection V/C	0.707					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	82.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1960	690	40	340	450	10	568	210	0	0	290	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1960	690	40	340	450	10	568	210	0	0	290	180
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	538	189	11	100	132	3	142	55	0	0	85	53
Total Analysis Volume [veh/h]	2151	757	44	399	528	12	568	219	0	0	338	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	79	79	79	30	30	23	23
g / C, Green / Cycle	0.55	0.55	0.55	0.21	0.21	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.46	0.50	0.52	0.29	0.29	0.14	0.14
s, saturation flow rate [veh/h]	3192	1466	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1766	811	789	335	334	261	619
d1, Uniform Delay [s]	26.49	28.68	29.54	56.40	56.40	57.88	58.40
k, delay calibration	0.04	0.22	0.24	0.50	0.50	0.05	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	8.22	11.42	197.19	198.81	3.21	1.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.91	0.94	1.40	1.40	0.84	0.88
d, Delay for Lane Group [s/veh]	26.90	36.90	40.96	253.59	255.21	61.09	60.13
Lane Group LOS	C	D	D	F	F	E	E
Critical Lane Group	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	20.45	23.88	25.19	30.44	30.49	7.91	6.56
50th-Percentile Queue Length [ft/ln]	511.17	596.98	629.72	760.90	762.34	197.85	164.10
95th-Percentile Queue Length [veh/ln]	27.86	31.89	33.42	46.25	46.37	12.53	10.77
95th-Percentile Queue Length [ft/ln]	696.57	797.33	835.49	1156.34	1159.33	313.20	269.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.75	40.62	40.96	253.59	255.21	255.21	0.00	61.09	0.00	0.00	60.13	60.13
Movement LOS	C	D	D	F	F	F		E			E	F
d_A, Approach Delay [s/veh]	32.92			254.40			61.09			60.13		
Approach LOS	C			F			E			E		
d_I, Intersection Delay [s/veh]	82.09											
Intersection LOS	F											
Intersection V/C	0.958											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	74	120	74	0	20	89	20	0	20	134	82	0	51	140	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	74	120	74	0	20	89	20	0	20	134	82	0	51	140	30
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	22	35	22	0	6	26	6	0	6	39	24	0	15	41	9
Total Analysis Volume [veh/h]	0	86	140	86	0	24	105	24	0	23	155	95	0	60	164	35
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	642	603	648	628
Degree of Utilization, x	0.49	0.25	0.42	0.41

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.67	1.00	2.09	2.02
95th-Percentile Queue Length [ft]	66.72	25.08	52.34	50.43
Approach Delay [s/veh]	13.81	11.00	12.55	12.69
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.75			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.229

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	90	30	20	49	20	10	50	30	30	81	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	90	30	20	49	20	10	50	30	30	81	20
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	5	13	5	4	18	11	9	24	6
Total Analysis Volume [veh/h]	38	113	38	22	53	22	14	71	42	36	98	24
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	659	776	645	760	656	764	654	771
Degree of Utilization, x	0.23	0.05	0.12	0.03	0.13	0.05	0.20	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.15	0.39	0.09	0.44	0.17	0.76	0.10
95th-Percentile Queue Length [ft]	21.99	3.85	9.82	2.23	11.11	4.35	19.11	2.41
Approach Delay [s/veh]	9.34		8.69		8.57		9.30	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.05							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	895	80	180	1403	0	32	1085	209	80	0	90
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	895	80	180	1403	0	32	1085	209	80	0	90
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	240	21	50	387	0	8	271	52	25	0	28
Total Analysis Volume [veh/h]	36	0	960	86	198	1547	0	32	1085	209	100	0	112
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	107	107	117	109		23	23
g / C, Green / Cycle	0.03	0.71	0.71	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.05	0.29	0.43		0.08	0.10
s, saturation flow rate [veh/h]	1810	3618	1585	685	3618		1231	1132
c, Capacity [veh/h]	47	2570	1126	544	2625		192	177
d1, Uniform Delay [s]	72.54	8.56	6.65	5.32	9.85		58.07	59.21
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.42	0.13	1.88	0.98		0.81	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.37	0.08	0.36	0.59		0.52	0.63
d, Delay for Lane Group [s/veh]	81.74	8.97	6.78	7.21	10.83		58.88	60.61
Lane Group LOS	F	A	A	A	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.14	0.87	1.66	11.89		3.55	4.08
50th-Percentile Queue Length [ft/ln]	37.61	153.46	21.87	41.43	297.16		88.87	101.98
95th-Percentile Queue Length [veh/ln]	2.71	10.20	1.57	2.98	17.54		6.40	7.34
95th-Percentile Queue Length [ft/ln]	67.70	255.05	39.37	74.57	438.51		159.97	183.56

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	8.97	6.78	7.21	10.83	0.00	0.00	0.00	0.00	58.88	0.00	60.61
Movement LOS	F		A	A	A	B					E		E
d_A, Approach Delay [s/veh]	11.22				10.42			0.00			59.80		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	14.15												
Intersection LOS	B												
Intersection V/C	0.546												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	90.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.204

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	40	2010	2	361	2530	20	20	30	30	157	20	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	2010	2	361	2530	20	20	30	30	157	20	340
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	583	1	92	647	5	8	12	12	47	6	102
Total Analysis Volume [veh/h]	46	2333	2	369	2588	20	32	48	48	189	24	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	328	328	328	328	328	328	328	328
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	10	200	69	258	258	45	45	118
g / C, Green / Cycle	0.03	0.61	0.21	0.79	0.79	0.14	0.14	0.36
(v / s)_i Volume / Saturation Flow Rate	0.03	0.45	0.20	0.47	0.47	0.55	0.42	0.25
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1893	233	510	1615
c, Capacity [veh/h]	56	3150	379	2845	1489	46	91	580
d1, Uniform Delay [s]	157.96	45.76	128.78	14.17	14.22	134.69	146.70	90.14
k, delay calibration	0.04	0.04	0.43	0.04	0.28	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.63	0.13	36.91	0.08	1.03	868.29	639.30	7.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

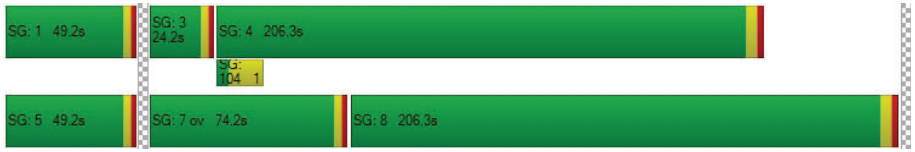
X, volume / capacity	0.82	0.74	0.97	0.60	0.60	2.80	2.35	0.70
d, Delay for Lane Group [s/veh]	168.59	45.89	165.70	14.25	15.25	1002.98	786.00	97.17
Lane Group LOS	F	D	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.16	45.49	35.63	25.79	27.57	15.05	24.14	31.65
50th-Percentile Queue Length [ft/ln]	104.12	1137.33	890.68	644.65	689.37	376.18	603.43	791.26
95th-Percentile Queue Length [veh/ln]	7.50	56.55	45.42	34.11	36.19	26.54	40.09	40.88
95th-Percentile Queue Length [ft/ln]	187.41	1413.87	1135.40	852.84	904.67	663.59	1002.23	1021.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	168.59	45.89	0.00	165.70	14.59	15.25	1002.98	1002.98	1002.98	786.00	786.00	97.17
Movement LOS	F	D		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	48.26			33.32			1002.98			333.06		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	90.00											
Intersection LOS	F											
Intersection V/C	1.204											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	160.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.245

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	314	391	103	46	441	96	70	130	221	0	32	148	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	314	391	103	46	441	96	70	130	221	0	32	148	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	84	104	27	13	126	27	19	36	61	0	10	46	22
Total Analysis Volume [veh/h]	335	417	110	53	504	110	77	142	242	0	40	186	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	60	60	4	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.60	0.60	0.04	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.19	0.22	0.09	0.03	0.27	0.08	0.79	0.16	0.40	0.10
s, saturation flow rate [veh/h]	1810	1900	1262	1810	1900	1352	276	1518	560	860
c, Capacity [veh/h]	189	1138	756	69	1012	720	100	570	146	159
d1, Uniform Delay [s]	44.75	10.30	8.81	47.64	14.87	11.89	41.39	23.19	38.91	36.93
k, delay calibration	0.37	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	363.25	0.91	0.41	6.59	1.75	0.45	570.12	0.19	277.20	1.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

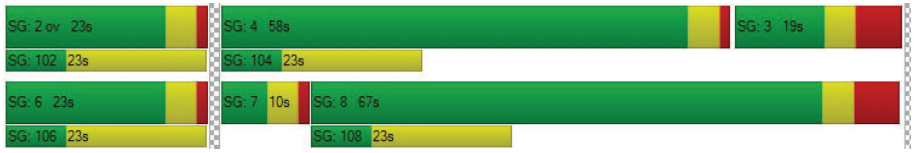
X, volume / capacity	1.77	0.37	0.15	0.77	0.50	0.15	2.20	0.42	1.55	0.55
d, Delay for Lane Group [s/veh]	408.00	11.22	9.21	54.22	16.62	12.34	611.51	23.37	316.11	38.02
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	23.70	4.69	1.08	1.43	7.41	1.30	18.29	4.26	14.85	1.94
50th-Percentile Queue Length [ft/ln]	592.62	117.36	26.97	35.67	185.14	32.42	457.17	106.57	371.23	48.48
95th-Percentile Queue Length [veh/ln]	37.67	8.25	1.94	2.57	11.87	2.33	31.73	7.65	24.99	3.49
95th-Percentile Queue Length [ft/ln]	941.63	206.20	48.55	64.20	296.71	58.36	793.20	191.23	624.75	87.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	408.00	11.22	9.21	54.22	16.62	12.34	611.51	611.51	23.37	316.1	316.1	316.1	38.02
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	165.16			18.90			302.77			238.81			
Approach LOS	F			B			F			F			
d_I, Intersection Delay [s/veh]	160.36												
Intersection LOS	F												
Intersection V/C	1.245												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.386

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	522	180	0	200	590	0	264	272
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	522	180	0	200	590	0	264	272
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	141	49	0	53	156	0	76	78
Total Analysis Volume [veh/h]	0	565	195	0	211	622	0	304	313
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.14	0.21	0.17	0.17	0.12	0.18
s, saturation flow rate [veh/h]	1900	1729	1370	991	3618	1299	1692	1064
c, Capacity [veh/h]	1133	999	791	726	2509	226	295	186
d1, Uniform Delay [s]	10.56	10.56	10.40	5.75	5.67	40.92	38.75	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.14	0.04	0.19
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.66	0.74	1.01	0.24	23.03	1.09	55.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

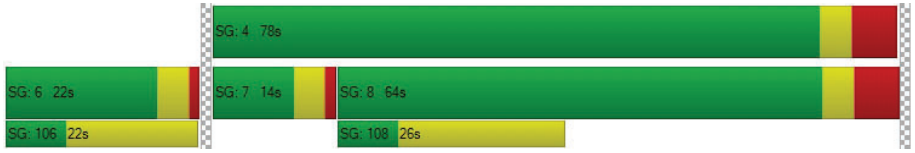
X, volume / capacity	0.26	0.27	0.25	0.29	0.25	0.96	0.69	1.05
d, Delay for Lane Group [s/veh]	11.12	11.23	11.14	6.76	5.90	63.95	39.84	96.95
Lane Group LOS	B	B	B	A	A	E	D	F
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.27	3.00	2.17	1.55	2.19	6.68	4.75	7.38
50th-Percentile Queue Length [ft/ln]	81.83	75.06	54.32	38.66	54.83	167.08	118.64	184.42
95th-Percentile Queue Length [veh/ln]	5.89	5.40	3.91	2.78	3.95	10.92	8.32	12.11
95th-Percentile Queue Length [ft/ln]	147.30	135.11	97.78	69.60	98.69	273.08	207.96	302.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.12	11.17	11.14	6.76	6.76	5.90	63.95	56.48	76.80
Movement LOS	B	B	B	A	A	A	E	E	E
d_A, Approach Delay [s/veh]	11.17			6.12			66.43		
Approach LOS	B			A			E		
d_I, Intersection Delay [s/veh]	24.69								
Intersection LOS	C								
Intersection V/C	0.386								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	571	150	130	694	100	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	571	150	130	694	100	120
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	41	35	184	30	35
Total Analysis Volume [veh/h]	628	165	138	737	118	142
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.17	0.12	0.17	0.20	0.15
s, saturation flow rate [veh/h]	3618	1339	794	3618	1698
c, Capacity [veh/h]	2235	827	480	2235	424
d1, Uniform Delay [s]	8.82	8.32	14.28	9.16	33.18
k, delay calibration	0.50	0.50	0.50	0.50	0.07
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.54	1.50	0.40	0.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

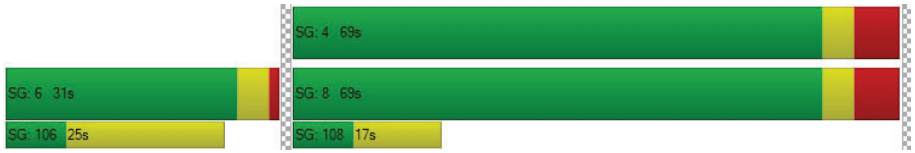
X, volume / capacity	0.28	0.20	0.29	0.33	0.61
d, Delay for Lane Group [s/veh]	9.14	8.86	15.79	9.55	34.05
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.03	1.58	1.97	3.69	5.54
50th-Percentile Queue Length [ft/ln]	75.74	39.42	49.28	92.34	138.55
95th-Percentile Queue Length [veh/ln]	5.45	2.84	3.55	6.65	9.40
95th-Percentile Queue Length [ft/ln]	136.33	70.95	88.71	166.22	235.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.14	8.86	15.79	9.55	34.05	34.05
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.08		10.53		34.05	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	13.11					
Intersection LOS	B					
Intersection V/C	0.357					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	551	240	150	644	180	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	551	240	150	644	180	150
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	155	68	43	184	50	41
Total Analysis Volume [veh/h]	621	271	171	736	198	165
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.18	0.20	0.24	0.13
s, saturation flow rate [veh/h]	3618	1296	951	3618	832	1238
c, Capacity [veh/h]	2190	785	730	2618	120	325
d1, Uniform Delay [s]	9.40	9.84	4.63	4.79	42.78	31.36
k, delay calibration	0.50	0.50	0.50	0.50	0.37	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	1.21	0.75	0.27	318.17	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.35	0.23	0.28	1.65	0.51
d, Delay for Lane Group [s/veh]	9.72	11.05	5.38	5.06	360.95	31.81
Lane Group LOS	A	B	A	A	F	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.13	3.04	1.06	2.31	13.54	3.39
50th-Percentile Queue Length [ft/ln]	78.31	75.89	26.40	57.71	338.55	84.69
95th-Percentile Queue Length [veh/ln]	5.64	5.46	1.90	4.16	23.09	6.10
95th-Percentile Queue Length [ft/ln]	140.96	136.61	47.53	103.88	577.18	152.45

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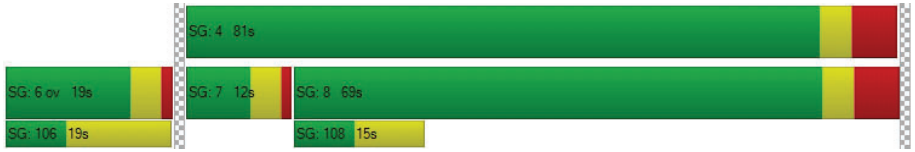
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.72	11.05	5.38	5.06	360.95	31.81
Movement LOS	A	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.13		5.12		211.34	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	41.81					
Intersection LOS	D					
Intersection V/C	0.482					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	10	806	142	67	844	20	20	13	70	190	10	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	806	142	67	844	20	20	13	70	190	10	170
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	226	41	18	222	5	6	6	21	53	3	48
Total Analysis Volume [veh/h]	11	904	165	71	887	21	23	24	82	213	11	191
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	80	80	74	74	11	24	24
g / C, Green / Cycle	0.53	0.53	0.49	0.49	0.08	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.24	0.24	0.06	0.12	0.14
s, saturation flow rate [veh/h]	690	3618	1900	1881	1654	1814	1325
c, Capacity [veh/h]	338	1934	934	925	124	287	209
d1, Uniform Delay [s]	18.44	21.65	25.49	25.56	68.48	60.65	62.11
k, delay calibration	0.04	0.50	0.50	0.50	0.08	0.07	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.81	1.81	1.86	10.64	2.96	18.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

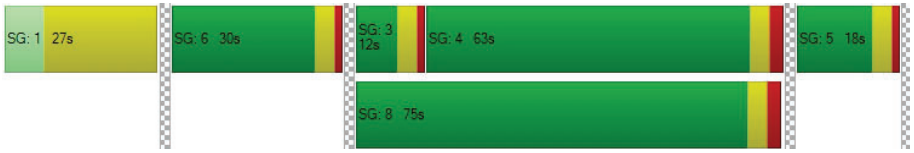
X, volume / capacity	0.03	0.47	0.49	0.49	0.84	0.78	0.91
d, Delay for Lane Group [s/veh]	18.45	22.46	27.30	27.43	79.11	63.60	80.35
Lane Group LOS	B	C	C	C	E	E	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.18	10.16	11.38	11.43	4.34	8.52	8.30
50th-Percentile Queue Length [ft/ln]	4.60	254.04	284.60	285.67	108.45	213.00	207.38
95th-Percentile Queue Length [veh/ln]	0.33	15.39	16.92	16.97	7.75	13.31	13.02
95th-Percentile Queue Length [ft/ln]	8.28	384.74	422.93	424.26	193.85	332.67	325.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.45	22.46	0.00	0.00	27.36	27.43	79.11	0.00	79.11	63.60	63.60	80.35
Movement LOS	B	C			C	C	E		E	E	E	F
d_A, Approach Delay [s/veh]	22.41			27.36			79.11			71.31		
Approach LOS	C			C			E			E		
d_I, Intersection Delay [s/veh]	35.53											
Intersection LOS	D											
Intersection V/C	0.457											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	400	676	804	170	130	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	676	804	170	130	570
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	177	206	44	34	149
Total Analysis Volume [veh/h]	420	709	825	174	135	594
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	17	75	75	75	15	36
g / C, Green / Cycle	0.14	0.62	0.62	0.62	0.12	0.30
(v / s)_i Volume / Saturation Flow Rate	0.12	0.20	0.23	0.13	0.11	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1331	1240	2859
c, Capacity [veh/h]	485	2258	2258	831	152	855
d1, Uniform Delay [s]	50.59	10.54	10.97	9.75	51.78	37.17
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.86	0.36	0.46	0.57	6.60	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

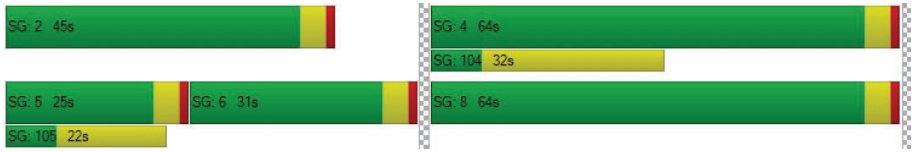
X, volume / capacity	0.87	0.31	0.37	0.21	0.89	0.69
d, Delay for Lane Group [s/veh]	52.45	10.90	11.43	10.32	58.38	37.56
Lane Group LOS	D	B	B	B	E	D
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.29	4.37	5.30	2.06	4.47	8.22
50th-Percentile Queue Length [ft/ln]	157.18	109.16	132.43	51.56	111.84	205.53
95th-Percentile Queue Length [veh/ln]	10.40	7.79	9.07	3.71	7.94	12.92
95th-Percentile Queue Length [ft/ln]	259.99	194.84	226.79	92.81	198.56	323.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.45	10.90	11.43	10.32	58.38	37.56
Movement LOS	D	B	B	B	E	D
d_A, Approach Delay [s/veh]	26.36		11.24		41.41	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.91					
Intersection LOS	C					
Intersection V/C	0.456					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	70	160	70	0	270	0	290	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	160	70	0	270	0	290	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	53	23	0	71	0	78	75
Total Analysis Volume [veh/h]	0	0	0	0	93	212	93	0	285	0	311	300
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		52	52	52	64	64	64
g / C, Green / Cycle		0.44	0.44	0.44	0.54	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate		0.09	0.08	0.10	0.24	0.16	0.20
s, saturation flow rate [veh/h]		1058	1900	1501	1203	1900	1464
c, Capacity [veh/h]		406	830	656	667	1020	786
d1, Uniform Delay [s]		29.75	20.75	21.09	15.78	15.39	16.18
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.31	0.51	0.79	2.00	0.77	1.41
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.23	0.19	0.22	0.43	0.30	0.38
d, Delay for Lane Group [s/veh]		31.06	21.26	21.89	17.77	16.16	17.59
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.12	2.81	2.70	4.54	4.80	4.96
50th-Percentile Queue Length [ft/ln]		52.90	70.32	67.48	113.48	120.05	123.94
95th-Percentile Queue Length [veh/ln]		3.81	5.06	4.86	8.03	8.40	8.61
95th-Percentile Queue Length [ft/ln]		95.22	126.57	121.46	200.84	209.90	215.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	31.06	21.42	21.89	0.00	17.77	0.00	16.16	17.59
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.78				17.15			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	29.90											
Intersection LOS	C											
Intersection V/C	0.485											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	616	230	160	774	0	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	616	230	160	774	0	130
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	163	61	44	215	0	34
Total Analysis Volume [veh/h]	0	53	654	244	177	858	0	135
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	46	46	46
g / C, Green / Cycle	0.26	0.26	0.26	0.39	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.20	0.17	0.27	0.28
s, saturation flow rate [veh/h]	576	3618	1246	1070	1900	1731
c, Capacity [veh/h]	65	955	329	374	734	669
d1, Uniform Delay [s]	59.94	39.66	40.39	27.10	30.82	31.37
k, delay calibration	0.04	0.04	0.04	0.04	0.09	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.19	0.33	1.24	0.35	0.95	2.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

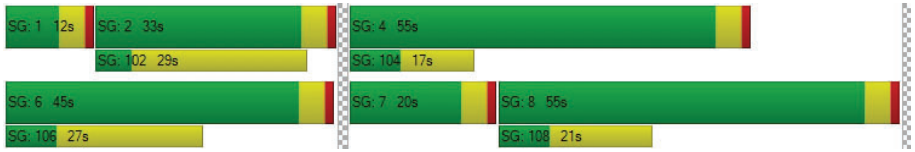
X, volume / capacity	0.82	0.68	0.74	0.47	0.69	0.73
d, Delay for Lane Group [s/veh]	69.13	39.98	41.64	27.45	31.76	33.66
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.78	8.68	6.68	3.48	12.37	12.26
50th-Percentile Queue Length [ft/ln]	44.46	217.00	166.95	87.05	309.24	306.57
95th-Percentile Queue Length [veh/ln]	3.20	13.51	10.92	6.27	18.14	18.01
95th-Percentile Queue Length [ft/ln]	80.03	337.79	272.90	156.69	453.43	450.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	69.13	39.98	41.64	27.45	32.54	0.00	33.66
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	42.03				31.90			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	29.90							
Intersection LOS	C							
Intersection V/C	0.485							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	317.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	5.991

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	69	124	221	0	110	79	57	0	55	203	53	0	171	317	195
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	69	124	221	0	110	79	57	0	55	203	53	0	171	317	195
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	33	59	0	30	21	15	0	16	58	15	0	44	82	50
Total Analysis Volume [veh/h]	0	74	132	235	0	119	86	62	0	63	234	61	0	177	327	201
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.22	5.84	0.07	0.06	0.04	0.15	0.15	0.15
s, saturation flow rate [veh/h]	1259	1673	46	889	3618	1577	1165	1900	1618
c, Capacity [veh/h]	73	259	59	385	1709	745	551	898	764
d1, Uniform Delay [s]	50.02	42.26	48.51	22.63	14.88	14.48	20.43	16.33	16.43
k, delay calibration	0.04	0.18	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	33.38	194.69	1636.52	0.91	0.17	0.22	1.54	0.91	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	1.41	4.55	0.16	0.14	0.08	0.32	0.31	0.32
d, Delay for Lane Group [s/veh]	83.40	236.95	1685.03	23.55	15.05	14.69	21.97	17.24	17.56
Lane Group LOS	F	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.48	20.29	28.12	1.12	1.51	0.79	3.04	4.09	3.67
50th-Percentile Queue Length [ft/ln]	61.93	507.26	702.88	28.06	37.74	19.75	76.05	102.29	91.85
95th-Percentile Queue Length [veh/ln]	4.46	31.85	46.84	2.02	2.72	1.42	5.48	7.36	6.61
95th-Percentile Queue Length [ft/ln]	111.47	796.22	1170.91	50.50	67.93	35.56	136.90	184.12	165.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	83.40	83.40	236.9	236.9	1685.	1685.	1685.	1685.	23.55	23.55	15.05	14.69	21.97	21.97	17.28	17.56
Movement LOS	F	F	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	211.18				1685.03				16.48				18.54			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	317.34															
Intersection LOS	F															
Intersection V/C	5.991															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	90	233	130	40	113	30	50	90	60	70	70	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	233	130	40	113	30	50	90	60	70	70	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	61	34	12	33	9	15	28	18	20	20	26
Total Analysis Volume [veh/h]	95	246	137	47	134	35	62	111	74	79	79	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	21	21	21	21	21	49	49
g / C, Green / Cycle	0.21	0.21	0.21	0.21	0.21	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.09	0.04	0.09	0.16	0.24
s, saturation flow rate [veh/h]	1236	1900	1540	1152	1810	1542	1100
c, Capacity [veh/h]	196	396	321	145	377	800	585
d1, Uniform Delay [s]	43.84	35.98	34.38	45.70	34.55	15.20	17.07
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	0.59	0.33	0.47	0.31	1.00	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

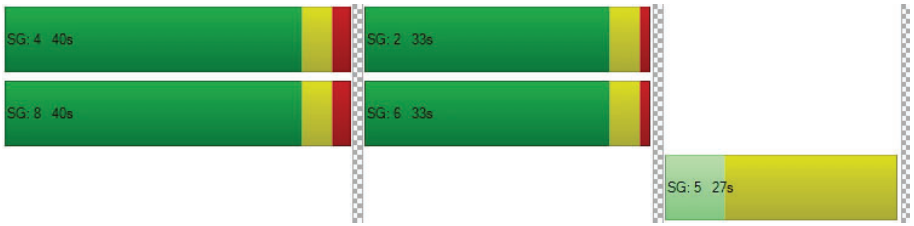
X, volume / capacity	0.48	0.62	0.43	0.32	0.45	0.31	0.44
d, Delay for Lane Group [s/veh]	44.53	36.57	34.71	46.17	34.86	16.20	19.51
Lane Group LOS	D	D	C	D	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	5.40	2.87	1.14	3.55	3.41	4.24
50th-Percentile Queue Length [ft/ln]	57.26	135.04	71.73	28.54	88.81	85.18	106.00
95th-Percentile Queue Length [veh/ln]	4.12	9.21	5.16	2.05	6.39	6.13	7.62
95th-Percentile Queue Length [ft/ln]	103.06	230.32	129.12	51.37	159.86	153.32	190.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.53	36.57	34.71	46.17	34.86	34.86	16.20	16.20	16.20	19.51	19.51	19.51
Movement LOS	D	D	C	D	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	37.62			37.32			16.20			19.51		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.24											
Intersection LOS	C											
Intersection V/C	0.366											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	85.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.088

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	70	263	190	60	153	50	40	230	100	80	170	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	263	190	60	153	50	40	230	100	80	170	190
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	74	53	17	43	14	11	62	27	23	49	55
Total Analysis Volume [veh/h]	79	296	214	67	170	56	43	249	108	92	195	218
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.16	0.27	0.06	0.13	0.51	0.07	0.82	0.14
s, saturation flow rate [veh/h]	1173	1900	800	1100	1794	573	1570	350	1581
c, Capacity [veh/h]	143	370	156	103	349	330	789	224	795
d1, Uniform Delay [s]	47.26	38.40	40.25	49.33	37.09	21.68	13.27	31.33	14.33
k, delay calibration	0.04	0.08	0.44	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	3.06	200.17	2.58	0.76	27.58	0.36	157.39	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

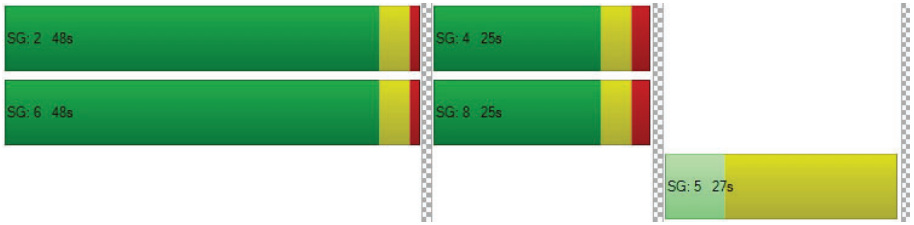
X, volume / capacity	0.55	0.80	1.37	0.65	0.65	0.89	0.14	1.28	0.27
d, Delay for Lane Group [s/veh]	48.50	41.46	240.42	51.91	37.85	49.26	13.63	188.71	15.19
Lane Group LOS	D	D	F	D	D	D	B	F	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.00	7.07	12.38	1.73	5.05	6.29	1.34	15.33	2.95
50th-Percentile Queue Length [ft/ln]	49.91	176.72	309.42	43.15	126.36	157.22	33.61	383.34	73.66
95th-Percentile Queue Length [veh/ln]	3.59	11.43	20.72	3.11	8.74	10.40	2.42	25.34	5.30
95th-Percentile Queue Length [ft/ln]	89.83	285.73	517.89	77.67	218.54	260.04	60.49	633.39	132.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.50	41.46	240.42	51.91	37.85	37.85	49.26	49.26	13.63	188.71	188.71	15.19
Movement LOS	D	D	F	D	D	D	D	D	B	F	F	B
d_A, Approach Delay [s/veh]	114.69			41.06			39.64			113.80		
Approach LOS	F			D			D			F		
d_I, Intersection Delay [s/veh]	85.57											
Intersection LOS	F											
Intersection V/C	1.088											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.350

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	80	202	200	92	201	40	70	210	110	120	195	202
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	202	200	92	201	40	70	210	110	120	195	202
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	60	59	25	54	11	18	55	29	35	56	58
Total Analysis Volume [veh/h]	95	239	237	98	215	43	73	220	115	139	225	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.16	0.08	0.14	0.06	0.19	0.13	0.12	0.15
s, saturation flow rate [veh/h]	1139	1900	1472	1159	1833	1174	1769	1062	1900	1559
c, Capacity [veh/h]	184	461	357	204	445	467	769	369	826	678
d1, Uniform Delay [s]	44.31	32.80	34.18	42.90	33.37	23.48	19.71	29.82	18.12	18.78
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	0.34	0.79	0.65	0.45	0.71	1.79	2.91	0.81	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

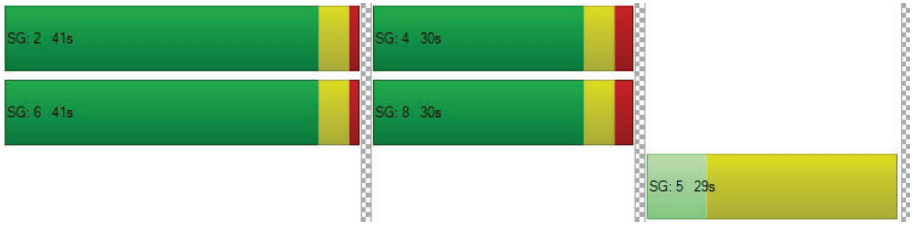
X, volume / capacity	0.51	0.52	0.66	0.48	0.58	0.16	0.44	0.38	0.27	0.34
d, Delay for Lane Group [s/veh]	45.13	33.14	34.97	43.56	33.82	24.20	21.50	32.73	18.93	20.17
Lane Group LOS	D	C	C	D	C	C	C	C	B	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.31	4.94	5.14	2.34	5.43	1.29	5.59	3.00	3.40	3.71
50th-Percentile Queue Length [ft/ln]	57.82	123.47	128.43	58.44	135.79	32.15	139.77	75.03	85.07	92.81
95th-Percentile Queue Length [veh/ln]	4.16	8.58	8.85	4.21	9.25	2.32	9.47	5.40	6.12	6.68
95th-Percentile Queue Length [ft/ln]	104.07	214.58	221.36	105.19	231.35	57.88	236.71	135.05	153.12	167.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.13	33.14	34.97	43.56	33.82	33.82	24.20	21.50	21.50	32.73	18.93	20.17
Movement LOS	D	C	C	D	C	C	C	C	C	C	B	C
d_A, Approach Delay [s/veh]	35.89			36.50			21.98			22.63		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.97											
Intersection LOS	C											
Intersection V/C	0.350											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	50	352	0	29	341	130	66	90	0	120	230	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	352	0	29	341	130	66	90	0	120	230	180
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	94	0	8	92	35	20	27	0	32	61	48
Total Analysis Volume [veh/h]	54	378	0	31	367	140	79	108	0	127	244	191
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	32	32	32	32		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.20	0.20	0.10		0.16	0.17
s, saturation flow rate [veh/h]	1011	1863	1863	1397		1861	1487
c, Capacity [veh/h]	130	502	502	377		906	723
d1, Uniform Delay [s]	54.91	40.13	39.84	35.55		18.92	19.09
k, delay calibration	0.04	0.17	0.34	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.79	3.58	6.29	0.23		1.01	1.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.75	0.73	0.37		0.34	0.35
d, Delay for Lane Group [s/veh]	55.70	43.71	46.13	35.78		19.93	20.44
Lane Group LOS	E	D	D	D		B	C
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.63	10.66	10.57	3.32		5.56	4.74
50th-Percentile Queue Length [ft/ln]	40.81	266.59	264.25	83.08		138.90	118.49
95th-Percentile Queue Length [veh/ln]	2.94	16.02	15.90	5.98		9.42	8.31
95th-Percentile Queue Length [ft/ln]	73.46	400.47	397.55	149.55		235.55	207.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.70	43.71	0.00	0.00	46.13	35.78	0.00	0.00	0.00	19.93	20.07	20.44
Movement LOS	E	D			D	D				B	C	C
d_A, Approach Delay [s/veh]	45.21			43.27			0.00			20.16		
Approach LOS	D			D			A			C		
d_I, Intersection Delay [s/veh]	35.18											
Intersection LOS	D											
Intersection V/C	0.375											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	14	552	0	60	40	0	686	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	552	0	60	40	0	686	110
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	146	0	20	13	0	190	30
Total Analysis Volume [veh/h]	0	15	584	0	80	53	0	759	122
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.04	0.03	0.25	0.25
s, saturation flow rate [veh/h]	640	3618	1810	1580	1900	1630
c, Capacity [veh/h]	327	2058	124	109	1117	927
d1, Uniform Delay [s]	18.51	11.08	45.35	44.85	12.37	12.40
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.35	2.06	1.26	1.18	1.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.28	0.64	0.49	0.42	0.44
d, Delay for Lane Group [s/veh]	18.77	11.43	47.41	46.11	13.54	13.92
Lane Group LOS	B	B	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.24	3.26	1.98	1.29	6.07	5.34
50th-Percentile Queue Length [ft/ln]	5.90	81.50	49.41	32.15	151.83	133.54
95th-Percentile Queue Length [veh/ln]	0.42	5.87	3.56	2.32	10.11	9.13
95th-Percentile Queue Length [ft/ln]	10.62	146.70	88.93	57.88	252.86	228.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.77	18.77	11.43	47.41	47.41	46.11	13.54	13.69	13.92
Movement LOS	B	B	B	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	11.61			46.89			13.72		
Approach LOS	B			D			B		
d_I, Intersection Delay [s/veh]	15.67								
Intersection LOS	B								
Intersection V/C	0.295								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.298

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	90	50	50	123	30	30	240	20	60	211	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	90	50	50	123	30	30	240	20	60	211	70
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	24	13	14	35	8	9	74	6	16	57	19
Total Analysis Volume [veh/h]	21	94	52	57	139	34	37	297	25	65	229	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	14	14
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.29	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.05	0.04	0.05	0.07	0.02	0.20	0.22
s, saturation flow rate [veh/h]	1236	1900	1405	1237	1900	1481	1785	1646
c, Capacity [veh/h]	445	558	413	469	558	435	879	828
d1, Uniform Delay [s]	11.10	8.55	8.44	10.90	8.77	8.32	6.70	6.85
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.05	0.05	0.04	0.09	0.03	0.11	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

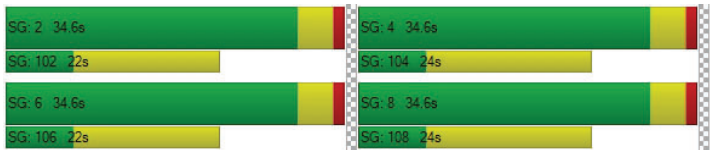
X, volume / capacity	0.05	0.17	0.13	0.12	0.25	0.08	0.41	0.45
d, Delay for Lane Group [s/veh]	11.12	8.60	8.49	10.95	8.85	8.35	6.81	6.99
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.09	0.33	0.18	0.26	0.54	0.12	1.15	1.11
50th-Percentile Queue Length [ft/ln]	2.33	8.24	4.54	6.59	13.38	3.11	28.86	27.85
95th-Percentile Queue Length [veh/ln]	0.17	0.59	0.33	0.47	0.96	0.22	2.08	2.01
95th-Percentile Queue Length [ft/ln]	4.19	14.84	8.16	11.86	24.08	5.60	51.95	50.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.12	8.60	8.49	10.95	8.85	8.35	6.81	6.81	6.81	6.99	6.99	6.99
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.88			9.30			6.81			6.99		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.69											
Intersection LOS	A											
Intersection V/C	0.298											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	131	40	20	210	23	21	188	84	10	214	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	131	40	20	210	23	21	188	84	10	214	30
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	39	12	5	57	6	6	55	25	3	59	8
Total Analysis Volume [veh/h]	47	155	47	22	226	25	25	221	99	11	237	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	31	31	31	31	31	31
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	11	11
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.02	0.14	0.20	0.16
s, saturation flow rate [veh/h]	1113	1760	1137	1847	1726	1806
c, Capacity [veh/h]	452	632	477	663	718	742
d1, Uniform Delay [s]	10.42	7.18	9.72	7.36	8.28	7.88
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.11	0.01	0.13	0.19	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

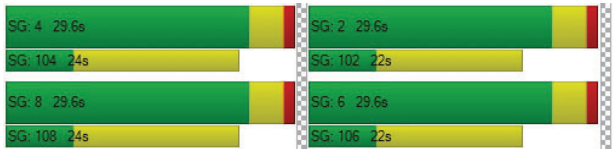
X, volume / capacity	0.10	0.32	0.05	0.38	0.48	0.38
d, Delay for Lane Group [s/veh]	10.46	7.29	9.74	7.49	8.47	8.00
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.19	0.56	0.08	0.72	1.79	0.87
50th-Percentile Queue Length [ft/ln]	4.75	14.05	2.08	17.89	44.87	21.63
95th-Percentile Queue Length [veh/ln]	0.34	1.01	0.15	1.29	3.23	1.56
95th-Percentile Queue Length [ft/ln]	8.54	25.29	3.74	32.21	80.77	38.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.46	7.29	7.29	9.74	7.49	7.49	8.47	8.47	8.47	8.00	8.00	8.00
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.88			7.67			8.47			8.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.04											
Intersection LOS	A											
Intersection V/C	0.336											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	97	130	110	110	144	40	29	487	111	150	649	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	130	110	110	144	40	29	487	111	150	649	122
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	42	36	30	39	11	8	129	30	41	179	34
Total Analysis Volume [veh/h]	125	168	142	118	155	43	31	518	118	165	716	135
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	32	32	32	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.32	0.32	0.32	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.09	0.10	0.08	0.03	0.05	0.14	0.07	0.15	0.23	0.23
s, saturation flow rate [veh/h]	1251	1900	1577	1237	1900	1581	658	3618	1579	1108	1900	1779
c, Capacity [veh/h]	200	369	306	190	369	307	158	1164	508	496	844	790
d1, Uniform Delay [s]	44.80	35.68	35.74	45.24	35.41	33.44	39.63	26.88	24.89	17.84	20.09	20.15
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.19	0.33	0.41	1.23	0.28	0.08	2.74	1.23	1.07	0.15	2.27	2.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.46	0.46	0.62	0.42	0.14	0.20	0.44	0.23	0.33	0.52	0.52
d, Delay for Lane Group [s/veh]	45.99	36.01	36.15	46.47	35.70	33.51	42.37	28.11	25.96	17.99	22.36	22.62
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.10	3.59	3.05	2.94	3.29	0.86	0.81	5.02	2.19	2.30	7.67	7.31
50th-Percentile Queue Length [ft/ln]	77.47	89.73	76.13	73.44	82.13	21.48	20.30	125.56	54.64	57.54	191.82	182.86
95th-Percentile Queue Length [veh/ln]	5.58	6.46	5.48	5.29	5.91	1.55	1.46	8.70	3.93	4.14	12.22	11.75
95th-Percentile Queue Length [ft/ln]	139.45	161.51	137.04	132.19	147.83	38.67	36.54	217.44	98.35	103.57	305.39	293.75

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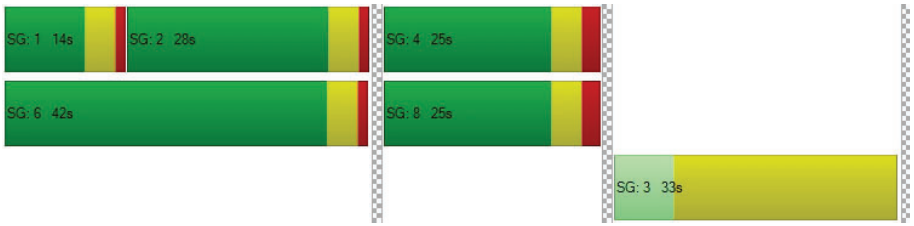
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.99	36.01	36.15	46.47	35.70	33.51	42.37	28.11	25.96	17.99	22.46	22.62
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	38.93			39.42			28.39			21.75		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.94											
Intersection LOS	C											
Intersection V/C	0.332											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.382

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	30	167	60	50	284	60	30	140	90	80	150	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	167	60	50	284	60	30	140	90	80	150	70
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	47	17	16	91	19	9	40	26	22	42	19
Total Analysis Volume [veh/h]	34	188	68	64	364	77	34	159	102	89	166	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40	40	40	28	28
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.04	0.05	0.12	0.12	0.19	0.26
s, saturation flow rate [veh/h]	963	1900	1554	1214	1900	1763	1588	1280
c, Capacity [veh/h]	356	757	620	451	757	703	482	402
d1, Uniform Delay [s]	25.78	20.07	18.91	24.97	20.52	20.59	31.34	35.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.10	0.35
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.78	0.36	0.66	1.01	1.13	1.22	13.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

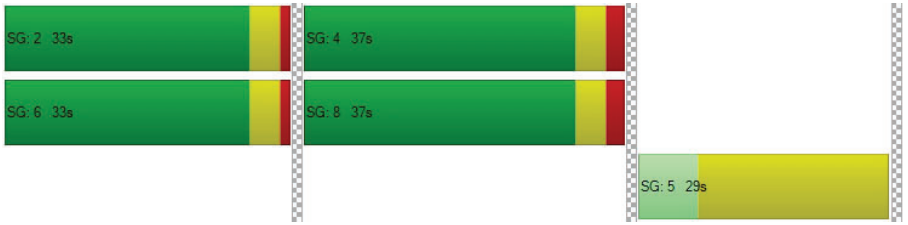
X, volume / capacity	0.10	0.25	0.11	0.14	0.30	0.31	0.61	0.83
d, Delay for Lane Group [s/veh]	26.31	20.85	19.26	25.63	21.52	21.72	32.56	48.60
Lane Group LOS	C	C	B	C	C	C	C	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	3.00	1.03	1.16	3.69	3.55	6.27	9.20
50th-Percentile Queue Length [ft/ln]	15.84	75.02	25.71	29.08	92.34	88.83	156.84	230.08
95th-Percentile Queue Length [veh/ln]	1.14	5.40	1.85	2.09	6.65	6.40	10.38	14.18
95th-Percentile Queue Length [ft/ln]	28.51	135.04	46.27	52.35	166.21	159.89	259.53	354.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.31	20.85	19.26	25.63	21.60	21.72	32.56	32.56	32.56	48.60	48.60	48.60
Movement LOS	C	C	B	C	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.12			22.13			32.56			48.60		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.28											
Intersection LOS	C											
Intersection V/C	0.382											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	207	80	70	364	60	0	310	180	0	360	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	207	80	70	364	60	0	310	180	0	360	70
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	63	24	19	98	16	0	84	49	0	102	20
Total Analysis Volume [veh/h]	36	251	97	76	393	65	0	335	195	0	410	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	50	50	50	50	50	50	20	20	20	20
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.20	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.06	0.07	0.12	0.13	0.18	0.12	0.13	0.14
s, saturation flow rate [veh/h]	948	1900	1583	1147	1900	1794	1900	1563	1900	1781
c, Capacity [veh/h]	452	951	792	526	951	898	373	307	373	350
d1, Uniform Delay [s]	18.68	14.37	13.28	19.55	14.22	14.25	39.19	36.89	37.06	37.43
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.68	0.32	0.58	0.62	0.67	5.85	0.82	0.74	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.26	0.12	0.14	0.25	0.25	0.90	0.64	0.66	0.70
d, Delay for Lane Group [s/veh]	19.02	15.05	13.60	20.13	14.83	14.92	45.05	37.70	37.80	38.39
Lane Group LOS	B	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.55	3.28	1.18	1.20	3.02	2.92	8.51	4.40	5.54	5.62
50th-Percentile Queue Length [ft/ln]	13.73	82.12	29.49	29.89	75.56	73.03	212.83	110.03	138.61	140.40
95th-Percentile Queue Length [veh/ln]	0.99	5.91	2.12	2.15	5.44	5.26	13.30	7.84	9.41	9.50
95th-Percentile Queue Length [ft/ln]	24.71	147.82	53.08	53.80	136.02	131.45	332.45	196.04	235.16	237.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.02	15.05	13.60	20.13	14.87	14.92	0.00	45.05	37.70	0.00	38.04	38.39
Movement LOS	B	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	15.05			15.62			42.34			38.10		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.50											
Intersection LOS	C											
Intersection V/C	0.308											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	155	297	130	80	344	70	0	221	211	110	382	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	297	130	80	344	70	0	221	211	110	382	90
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	86	38	26	111	22	0	62	59	31	109	26
Total Analysis Volume [veh/h]	179	343	150	103	442	90	0	246	235	126	437	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	16	47	47	58	37	37	18	39	30	30	30
g / C, Green / Cycle	0.14	0.39	0.39	0.48	0.31	0.31	0.15	0.32	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.10	0.09	0.14	0.15	0.13	0.15	0.09	0.23	0.07
s, saturation flow rate [veh/h]	1810	1900	1567	1176	1900	1771	1900	1562	1374	1900	1565
c, Capacity [veh/h]	247	739	610	513	588	548	280	503	286	470	388
d1, Uniform Delay [s]	49.70	27.35	24.79	18.23	33.44	33.54	50.13	32.48	37.59	44.14	36.38
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.16	0.22	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.14	2.09	0.96	0.88	2.63	2.91	3.50	0.56	1.54	14.73	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

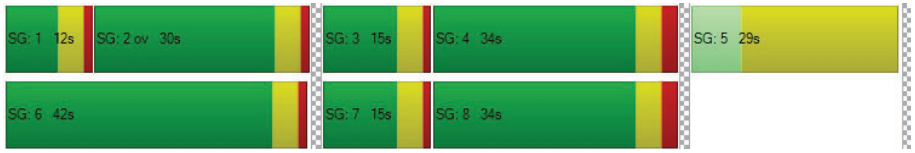
X, volume / capacity	0.73	0.46	0.25	0.20	0.46	0.47	0.88	0.47	0.44	0.93	0.27
d, Delay for Lane Group [s/veh]	53.84	29.44	25.75	19.11	36.07	36.45	53.63	33.04	39.13	58.87	36.52
Lane Group LOS	D	C	C	B	D	D	D	C	D	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.38	7.65	3.02	1.66	6.78	6.49	7.49	5.53	3.10	14.40	2.44
50th-Percentile Queue Length [ft/ln]	134.57	191.22	75.60	41.59	169.53	162.20	187.31	138.25	77.49	360.08	60.97
95th-Percentile Queue Length [veh/ln]	9.19	12.18	5.44	2.99	11.05	10.67	11.98	9.39	5.58	20.63	4.39
95th-Percentile Queue Length [ft/ln]	229.70	304.61	136.07	74.85	276.29	266.63	299.53	234.67	139.49	515.69	109.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.84	29.44	25.75	19.11	36.21	36.45	0.00	53.63	33.04	39.13	58.87	36.52
Movement LOS	D	C	C	B	D	D		D	C	D	E	D
d_A, Approach Delay [s/veh]	35.12			33.47			43.57			51.68		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.84											
Intersection LOS	D											
Intersection V/C	0.475											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	190	532	0	0	625	150	181	0	84	170	180	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	532	0	0	625	150	181	0	84	170	180	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	159	0	0	172	41	52	0	24	47	49	8
Total Analysis Volume [veh/h]	227	636	0	0	690	166	208	0	96	187	198	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	74	74	61	61		16	16
g / C, Green / Cycle	0.62	0.62	0.51	0.51		0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.27	0.18	0.23	0.25		0.12	0.12
s, saturation flow rate [veh/h]	833	3618	1900	1745		1822	1673
c, Capacity [veh/h]	498	2240	963	885		250	230
d1, Uniform Delay [s]	12.45	10.56	18.83	19.32		50.72	50.72
k, delay calibration	0.28	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.69	0.32	1.48	1.89		3.64	3.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

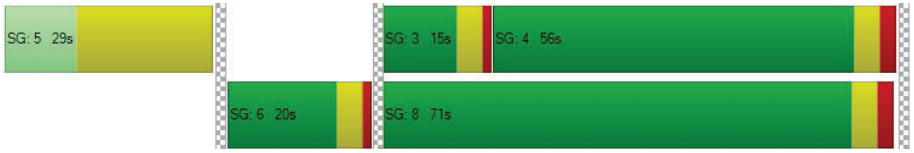
X, volume / capacity	0.46	0.28	0.44	0.48		0.87	0.87
d, Delay for Lane Group [s/veh]	14.14	10.88	20.31	21.21		54.36	54.66
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	3.88	7.75	8.01		6.71	6.18
50th-Percentile Queue Length [ft/ln]	69.48	97.08	193.71	200.26		167.83	154.60
95th-Percentile Queue Length [veh/ln]	5.00	6.99	12.31	12.65		10.96	10.26
95th-Percentile Queue Length [ft/ln]	125.06	174.74	307.83	316.30		274.06	256.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.14	10.88	0.00	0.00	20.65	21.21	0.00	0.00	0.00	54.36	54.61	54.66
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	11.74			20.76			0.00			54.50		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.72											
Intersection LOS	C											
Intersection V/C	0.425											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	364	0	0	745	650	338
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	364	0	0	745	650	338
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	0	0	211	178	93
Total Analysis Volume [veh/h]	416	0	0	843	714	371
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	80	80	31	31
g / C, Green / Cycle	0.67	0.67	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.11	0.23	0.20	0.23
s, saturation flow rate [veh/h]	3618	3618	3514	1584
c, Capacity [veh/h]	2417	2417	896	404
d1, Uniform Delay [s]	7.46	8.60	41.72	43.41
k, delay calibration	0.50	0.50	0.04	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.40	0.63	9.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

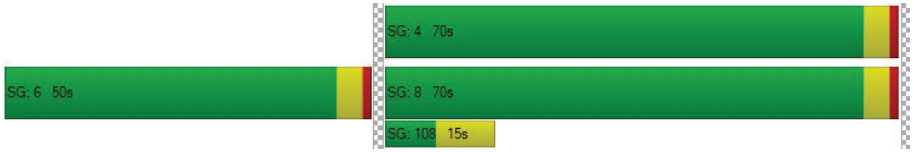
X, volume / capacity	0.17	0.35	0.80	0.92
d, Delay for Lane Group [s/veh]	7.61	9.00	42.35	52.79
Lane Group LOS	A	A	D	D
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.98	4.63	9.39	11.12
50th-Percentile Queue Length [ft/ln]	49.38	115.78	234.65	277.92
95th-Percentile Queue Length [veh/ln]	3.56	8.16	14.41	16.59
95th-Percentile Queue Length [ft/ln]	88.89	204.01	360.26	414.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	9.00	42.35	52.79
Movement LOS	A			A	D	D
d_A, Approach Delay [s/veh]	7.61		9.00		45.92	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	25.84					
Intersection LOS	C					
Intersection V/C	0.467					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	40	314	390	472	622	230	100	590	40	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	314	390	472	622	230	100	590	40	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	80	100	132	174	64	30	176	12	0	0	0
Total Analysis Volume [veh/h]	41	321	399	527	695	257	119	705	48	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	4	25	25	59	80	80	22	22	22
g / C, Green / Cycle	0.03	0.21	0.21	0.49	0.67	0.67	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.17	0.22	0.15	0.26	0.28	0.17	0.17	0.17
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1622	1864	1729	1670
c, Capacity [veh/h]	57	396	376	1733	1274	1087	341	316	305
d1, Uniform Delay [s]	57.47	45.12	47.38	18.10	8.78	9.08	47.90	47.87	47.96
k, delay calibration	0.04	0.25	0.46	0.04	0.50	0.50	0.14	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.22	8.91	62.28	0.04	0.89	1.21	11.10	11.44	12.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

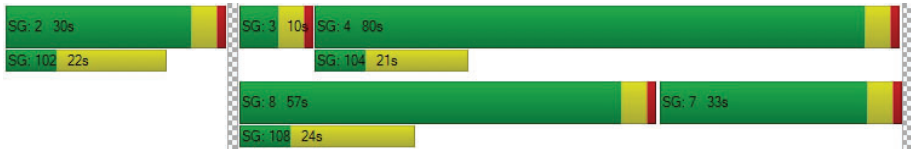
X, volume / capacity	0.72	0.81	1.06	0.30	0.39	0.42	0.90	0.90	0.91
d, Delay for Lane Group [s/veh]	63.69	54.03	109.66	18.13	9.67	10.28	59.00	59.31	60.96
Lane Group LOS	E	D	F	B	A	B	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	10.05	17.64	4.35	5.70	5.55	9.96	9.23	9.14
50th-Percentile Queue Length [ft/ln]	33.27	251.18	440.93	108.69	142.42	138.83	248.88	230.85	228.54
95th-Percentile Queue Length [veh/ln]	2.40	15.25	25.36	7.77	9.61	9.42	15.13	14.22	14.10
95th-Percentile Queue Length [ft/ln]	59.88	381.14	633.94	194.19	240.28	235.44	378.24	355.44	352.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.69	54.03	109.66	18.13	9.85	10.28	59.00	59.77	60.96	0.00	0.00	0.00
Movement LOS	E	D	F	B	A	B	E	E	E			
d_A, Approach Delay [s/veh]	83.72			12.88			59.73			0.00		
Approach LOS	F			B			E			A		
d_I, Intersection Delay [s/veh]	43.33											
Intersection LOS	D											
Intersection V/C	0.538											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	109	155	130	40	90	10	20	637	80	100	872	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	155	130	40	90	10	20	637	80	100	872	100
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	43	36	11	24	3	5	166	21	27	233	27
Total Analysis Volume [veh/h]	121	172	144	42	95	11	21	665	83	107	934	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.10	0.04	0.06	0.04	0.18	0.06	0.14	0.28	0.29
s, saturation flow rate [veh/h]	1154	1900	1449	1167	1820	551	3618	1425	770	1900	1739
c, Capacity [veh/h]	283	474	362	253	454	311	2236	881	462	1174	1075
d1, Uniform Delay [s]	37.19	30.88	31.18	36.93	29.82	16.60	8.91	7.73	14.08	10.09	10.31
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.17	0.26	0.11	0.10	0.42	0.34	0.21	1.17	1.25	1.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.36	0.40	0.17	0.23	0.07	0.30	0.09	0.23	0.45	0.48
d, Delay for Lane Group [s/veh]	37.57	31.05	31.45	37.04	29.92	17.02	9.25	7.94	15.25	11.34	11.82
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.67	3.37	2.86	0.89	2.00	0.32	3.25	0.73	1.49	6.08	6.04
50th-Percentile Queue Length [ft/ln]	66.79	84.25	71.40	22.33	50.11	7.90	81.24	18.30	37.29	151.88	151.03
95th-Percentile Queue Length [veh/ln]	4.81	6.07	5.14	1.61	3.61	0.57	5.85	1.32	2.68	10.12	10.07
95th-Percentile Queue Length [ft/ln]	120.22	151.65	128.53	40.19	90.19	14.21	146.22	32.95	67.12	252.94	251.80

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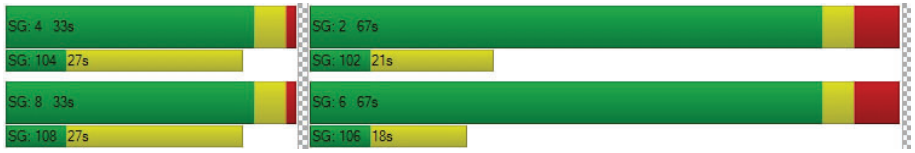
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.57	31.05	31.45	37.04	29.92	29.92	17.02	9.25	7.94	15.25	11.55	11.82
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	32.99			31.94			9.32			11.92		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	15.98											
Intersection LOS	B											
Intersection V/C	0.399											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	120	264	50	40	220	30	30	320	60	50	230	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	264	50	40	220	30	30	320	60	50	230	70
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	72	14	12	65	9	9	93	17	15	69	21
Total Analysis Volume [veh/h]	131	287	54	47	260	35	35	371	70	60	277	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	54	54	54	54	54	36	36
g / C, Green / Cycle	0.54	0.54	0.54	0.54	0.54	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.12	0.09	0.10	0.05	0.16	0.31	0.34
s, saturation flow rate [veh/h]	1061	1900	1723	1026	1821	1548	1247
c, Capacity [veh/h]	552	1033	936	574	989	603	496
d1, Uniform Delay [s]	17.11	11.47	11.53	13.67	12.43	28.03	29.11
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.17	0.22
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.35	0.42	0.28	0.77	3.68	7.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.17	0.18	0.08	0.30	0.79	0.85
d, Delay for Lane Group [s/veh]	18.13	11.82	11.95	13.95	13.20	31.71	36.99
Lane Group LOS	B	B	B	B	B	C	D
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	1.93	1.88	0.59	3.58	10.34	10.35
50th-Percentile Queue Length [ft/ln]	49.12	48.37	46.96	14.76	89.54	258.50	258.85
95th-Percentile Queue Length [veh/ln]	3.54	3.48	3.38	1.06	6.45	15.61	15.63
95th-Percentile Queue Length [ft/ln]	88.42	87.06	84.53	26.57	161.17	390.34	390.78

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.13	11.87	11.95	13.95	13.20	13.20	31.71	31.71	31.71	36.99	36.99	36.99
Movement LOS	B	B	B	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	13.62			13.30			31.71			36.99		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	24.34											
Intersection LOS	C											
Intersection V/C	0.500											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	180	344	120	70	230	60	60	420	70	70	270	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	344	120	70	230	60	60	420	70	70	270	60
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	98	34	20	65	17	18	123	20	22	84	19
Total Analysis Volume [veh/h]	205	392	137	79	260	68	70	491	82	87	337	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.19	0.15	0.16	0.09	0.19	0.07	0.15	0.16	0.10	0.18	0.05
s, saturation flow rate [veh/h]	1068	1900	1583	875	1753	1033	1900	1712	833	1900	1400
c, Capacity [veh/h]	193	559	466	196	516	545	1090	982	461	1090	803
d1, Uniform Delay [s]	46.39	29.10	29.61	40.47	30.60	15.72	10.74	10.86	15.85	11.04	9.60
k, delay calibration	0.12	0.04	0.04	0.04	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	49.00	0.25	0.37	0.50	1.30	0.49	0.61	0.73	0.91	0.74	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

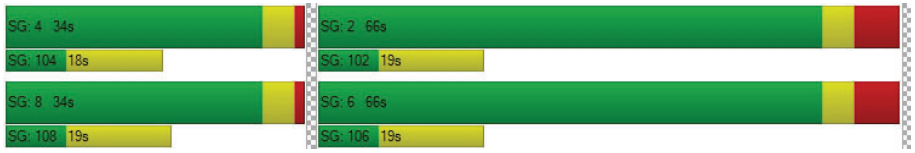
X, volume / capacity	1.06	0.49	0.54	0.40	0.64	0.13	0.27	0.29	0.19	0.31	0.09
d, Delay for Lane Group [s/veh]	95.39	29.35	29.98	40.97	31.90	16.21	11.35	11.59	16.76	11.78	9.83
Lane Group LOS	F	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.40	5.36	5.02	1.83	6.84	0.99	3.28	3.20	1.27	3.89	0.76
50th-Percentile Queue Length [ft/ln]	184.99	133.98	125.38	45.68	170.96	24.64	82.06	79.91	31.82	97.24	19.02
95th-Percentile Queue Length [veh/ln]	12.24	9.16	8.69	3.29	11.13	1.77	5.91	5.75	2.29	7.00	1.37
95th-Percentile Queue Length [ft/ln]	305.97	228.89	217.20	82.22	278.18	44.35	147.71	143.84	57.28	175.03	34.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	95.39	29.53	29.98	40.97	31.90	31.90	16.21	11.45	11.59	16.76	11.78	9.83
Movement LOS	F	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	48.01			33.66			11.98			12.36		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	27.51											
Intersection LOS	C											
Intersection V/C	0.369											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.450

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	120	494	130	60	170	130	100	341	80	80	372	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	494	130	60	170	130	100	341	80	80	372	80
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	130	34	17	47	36	27	91	21	22	103	22
Total Analysis Volume [veh/h]	126	518	136	67	189	145	106	363	85	88	411	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	31	31	59	59	59	59	59
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.12	0.18	0.19	0.08	0.20	0.11	0.25	0.09	0.22	0.06
s, saturation flow rate [veh/h]	1063	1900	1672	790	1682	975	1785	948	1900	1426
c, Capacity [veh/h]	199	594	523	175	526	525	1062	490	1131	848
d1, Uniform Delay [s]	43.92	28.70	29.07	41.31	29.43	16.05	10.93	17.19	10.45	8.73
k, delay calibration	0.04	0.06	0.09	0.04	0.12	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	0.49	0.94	0.51	1.38	0.87	1.23	0.80	0.91	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.57	0.60	0.38	0.63	0.20	0.42	0.18	0.36	0.10
d, Delay for Lane Group [s/veh]	45.16	29.19	30.01	41.83	30.81	16.92	12.16	17.99	11.35	8.97
Lane Group LOS	D	C	C	D	C	B	B	B	B	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.12	6.65	6.34	1.56	6.85	1.53	5.24	1.31	4.56	0.82
50th-Percentile Queue Length [ft/ln]	77.88	166.29	158.45	39.10	171.22	38.13	130.88	32.83	113.90	20.54
95th-Percentile Queue Length [veh/ln]	5.61	10.88	10.47	2.82	11.14	2.75	8.99	2.36	8.06	1.48
95th-Percentile Queue Length [ft/ln]	140.18	272.03	261.67	70.38	278.51	68.63	224.69	59.10	201.42	36.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.16	29.47	30.01	41.83	30.81	30.81	16.92	12.16	12.16	17.99	11.35	8.97
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.10			32.65			13.07			11.99		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.57											
Intersection LOS	C											
Intersection V/C	0.450											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	634	80	60	30	210	0	0	0	6	180	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	634	80	60	30	210	0	0	0	6	180	80
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	174	22	18	9	62	0	0	0	2	59	26
Total Analysis Volume [veh/h]	15	697	88	71	35	248	0	0	0	6	238	106
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.07	0.04	0.18		0.19
s, saturation flow rate [veh/h]	3618	1338	1810	1581		1789
c, Capacity [veh/h]	1398	517	109	780		724
d1, Uniform Delay [s]	23.29	20.13	45.92	15.65		21.91
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.27	0.71	2.42	1.31		2.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.50	0.17	0.65	0.36		0.47
d, Delay for Lane Group [s/veh]	24.56	20.84	48.34	16.96		24.13
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.35	1.43	1.77	4.06		6.26
50th-Percentile Queue Length [ft/ln]	158.72	35.84	44.30	101.51		156.56
95th-Percentile Queue Length [veh/ln]	10.48	2.58	3.19	7.31		10.37
95th-Percentile Queue Length [ft/ln]	262.03	64.52	79.73	182.71		259.17

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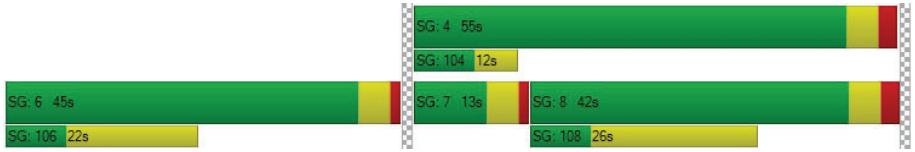
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.56	20.84	48.34	16.96	16.96	0.00	0.00	0.00	0.00	24.13	24.13
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	24.15			23.25			0.00			24.13		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.93											
Intersection LOS	C											
Intersection V/C	0.424											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.803

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	140	60	120	170	38	60	350	40	40	281	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	60	120	170	38	60	350	40	40	281	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	40	17	34	48	11	18	106	12	11	77	33
Total Analysis Volume [veh/h]	23	162	69	135	192	43	73	423	48	44	307	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.31	0.12	0.55	0.07	0.07	0.26	0.05	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1021	1823	919	1900	1325
c, Capacity [veh/h]	277	219	292	219	485	918	375	957	667
d1, Uniform Delay [s]	20.39	15.94	25.40	15.19	14.75	11.63	18.18	10.29	9.57
k, delay calibration	0.19	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.79	0.30	89.30	0.16	0.66	2.05	0.64	0.89	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

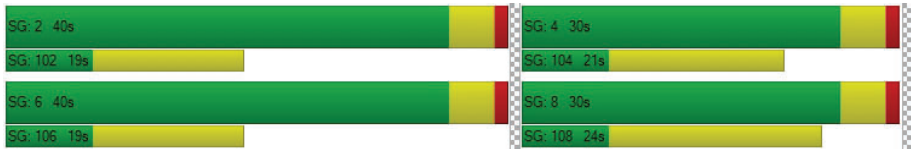
X, volume / capacity	0.67	0.32	1.12	0.20	0.15	0.51	0.12	0.32	0.20
d, Delay for Lane Group [s/veh]	25.19	16.24	114.69	15.36	15.40	13.68	18.82	11.17	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.90	0.76	12.07	0.45	0.82	4.81	0.56	2.71	1.10
50th-Percentile Queue Length [ft/ln]	72.62	18.94	301.64	11.22	20.40	120.19	14.10	67.65	27.57
95th-Percentile Queue Length [veh/ln]	5.23	1.36	19.02	0.81	1.47	8.40	1.02	4.87	1.99
95th-Percentile Queue Length [ft/ln]	130.71	34.09	475.43	20.20	36.72	210.09	25.38	121.77	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.19	25.19	16.24	114.69	114.69	15.36	15.40	13.68	13.68	18.82	11.17	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	22.76			103.15			13.91			11.62		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	34.61											
Intersection LOS	C											
Intersection V/C	0.803											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	100	130	80	20	60	20	30	410	80	60	351	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	130	80	20	60	20	30	410	80	60	351	20
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	36	22	7	22	7	9	129	25	16	96	5
Total Analysis Volume [veh/h]	112	145	89	29	88	29	38	514	100	66	384	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	37	37	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	17	17	17	17
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.03	0.07	0.04	0.35	0.08	0.22
s, saturation flow rate [veh/h]	1245	1689	1121	1776	879	1779	789	1837
c, Capacity [veh/h]	421	484	321	508	440	829	311	856
d1, Uniform Delay [s]	13.64	10.97	14.96	10.12	10.06	8.08	14.67	6.80
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.28	0.04	0.08	0.03	0.50	0.12	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.48	0.09	0.23	0.09	0.74	0.21	0.47
d, Delay for Lane Group [s/veh]	13.76	11.25	15.00	10.20	10.09	8.58	14.79	6.95
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.67	1.19	0.18	0.54	0.18	2.57	0.43	1.40
50th-Percentile Queue Length [ft/ln]	16.68	29.65	4.57	13.54	4.60	64.28	10.87	35.04
95th-Percentile Queue Length [veh/ln]	1.20	2.13	0.33	0.97	0.33	4.63	0.78	2.52
95th-Percentile Queue Length [ft/ln]	30.02	53.37	8.23	24.37	8.28	115.70	19.56	63.08

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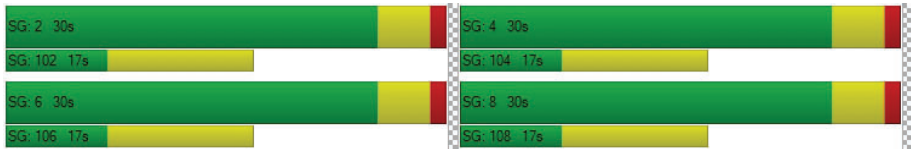
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.76	11.25	11.25	15.00	10.20	10.20	10.09	8.58	8.58	14.79	6.95	6.95
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.06			11.16			8.67			8.04		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.44											
Intersection LOS	A											
Intersection V/C	0.484											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 3: 3 Approval Plus Project Report File: \...\AP_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	253	351	170	64	294	30	20	713	209	150	962	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	351	170	64	294	30	20	713	209	150	962	76
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	93	45	20	91	9	5	187	55	40	256	20
Total Analysis Volume [veh/h]	268	371	180	80	366	37	21	747	219	160	1025	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.22	0.20	0.12	0.08	0.11	0.11	0.04	0.21	0.15	0.18	0.28	0.06
s, saturation flow rate [veh/h]	1228	1900	1525	1010	1900	1820	555	3618	1487	912	3618	1443
c, Capacity [veh/h]	445	670	538	126	442	424	208	1591	654	509	2008	801
d1, Uniform Delay [s]	26.20	26.02	23.74	48.21	32.98	33.05	29.56	19.78	18.40	12.20	13.81	10.49
k, delay calibration	0.50	0.05	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.91	0.35	0.13	1.97	0.28	0.30	0.96	1.00	1.38	1.60	0.93	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.55	0.33	0.64	0.46	0.47	0.10	0.47	0.33	0.31	0.51	0.10
d, Delay for Lane Group [s/veh]	32.11	26.37	23.88	50.18	33.26	33.36	30.53	20.77	19.78	13.80	14.74	10.74
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.47	7.02	3.10	2.04	4.19	4.10	0.45	6.19	3.51	1.85	6.88	0.85
50th-Percentile Queue Length [ft/ln]	136.87	175.43	77.44	51.06	104.74	102.52	11.26	154.83	87.73	46.31	172.06	21.27
95th-Percentile Queue Length [veh/ln]	9.31	11.36	5.58	3.68	7.54	7.38	0.81	10.27	6.32	3.33	11.19	1.53
95th-Percentile Queue Length [ft/ln]	232.81	284.04	139.39	91.92	188.53	184.53	20.27	256.86	157.92	83.35	279.63	38.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.11	26.37	23.88	50.18	33.30	33.36	30.53	20.77	19.78	13.80	14.74	10.74
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	27.70			36.10			20.76			14.37		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.17											
Intersection LOS	C											
Intersection V/C	0.503											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	180	725	70	20	531	30	20	190	220	40	150	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	725	70	20	531	30	20	190	220	40	150	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	191	18	6	157	9	5	50	58	11	41	11
Total Analysis Volume [veh/h]	190	764	74	24	629	36	21	202	234	44	164	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	55	55	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.20	0.22	0.23	0.03	0.18	0.18	0.25	0.16	0.41	0.03
s, saturation flow rate [veh/h]	938	1900	1817	775	1900	1851	892	1461	502	1508
c, Capacity [veh/h]	625	1054	1008	515	987	961	283	399	181	412
d1, Uniform Delay [s]	8.11	12.76	12.81	7.59	14.03	14.05	30.99	31.47	32.14	27.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.29	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.25	1.15	1.23	0.17	0.94	0.97	11.98	0.51	113.46	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

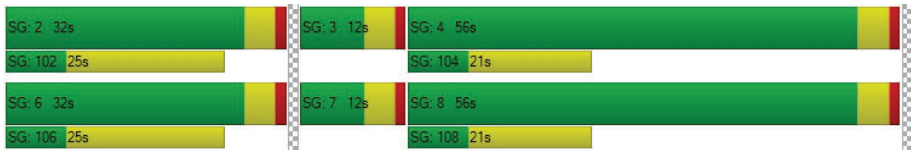
X, volume / capacity	0.30	0.40	0.41	0.05	0.34	0.34	0.79	0.59	1.15	0.11
d, Delay for Lane Group [s/veh]	9.36	13.91	14.04	7.76	14.96	15.03	42.98	31.98	145.60	27.26
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.76	5.54	5.41	0.20	4.53	4.46	5.25	4.81	9.10	0.78
50th-Percentile Queue Length [ft/ln]	44.01	138.54	135.26	5.03	113.14	111.58	131.37	120.32	227.60	19.46
95th-Percentile Queue Length [veh/ln]	3.17	9.40	9.23	0.36	8.01	7.93	9.01	8.41	15.10	1.40
95th-Percentile Queue Length [ft/ln]	79.22	235.05	230.63	9.05	200.36	198.19	225.35	210.27	377.45	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.36	13.97	14.04	7.76	14.99	15.03	42.98	42.98	31.98	145.60	145.60	27.26
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	13.12			14.74			37.35			124.94		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	29.76											
Intersection LOS	C											
Intersection V/C	0.647											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	140	805	100	160	601	40	40	506	220	120	347	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	805	100	160	601	40	40	506	220	120	347	150
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	207	26	42	159	11	11	141	61	33	96	41
Total Analysis Volume [veh/h]	144	828	103	169	636	42	44	563	245	132	382	165
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.15	0.25	0.25	0.21	0.18	0.18	0.04	0.22	0.24	0.13	0.20	0.11
s, saturation flow rate [veh/h]	953	1900	1801	820	1900	1841	988	1900	1581	980	1900	1452
c, Capacity [veh/h]	532	817	775	439	819	794	135	470	391	297	688	526
d1, Uniform Delay [s]	12.16	21.64	21.75	13.93	19.75	19.79	45.86	36.51	37.39	25.34	25.45	22.94
k, delay calibration	0.37	0.50	0.50	0.50	0.50	0.50	0.04	0.21	0.26	0.28	0.05	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.92	3.00	3.27	2.55	1.57	1.65	0.52	12.08	28.36	2.72	0.35	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

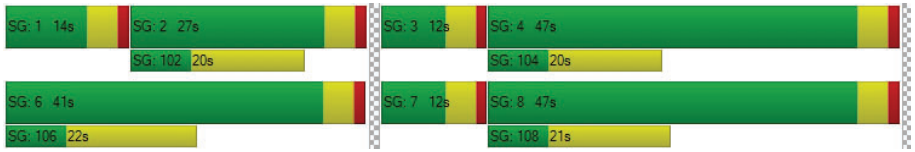
X, volume / capacity	0.27	0.58	0.59	0.39	0.42	0.42	0.33	0.91	0.98	0.44	0.55	0.31
d, Delay for Lane Group [s/veh]	13.09	24.64	25.02	16.47	21.32	21.44	46.38	48.59	65.75	28.06	25.81	23.07
Lane Group LOS	B	C	C	B	C	C	D	D	E	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.66	8.88	8.63	2.13	5.77	5.67	1.08	11.44	12.17	2.33	7.15	2.78
50th-Percentile Queue Length [ft/ln]	41.57	221.95	215.74	53.22	144.17	141.73	27.08	286.03	304.28	58.34	178.76	69.39
95th-Percentile Queue Length [veh/ln]	2.99	13.76	13.45	3.83	9.71	9.57	1.95	16.99	17.89	4.20	11.54	5.00
95th-Percentile Queue Length [ft/ln]	74.82	344.11	336.19	95.79	242.63	239.36	48.74	424.72	447.32	105.01	288.39	124.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.09	24.81	25.02	16.47	21.38	21.44	46.38	52.79	65.75	28.06	25.81	23.07
Movement LOS	B	C	C	B	C	C	D	D	E	C	C	C
d_A, Approach Delay [s/veh]	23.26			20.40			56.18			25.58		
Approach LOS	C			C			E			C		
d_I, Intersection Delay [s/veh]	31.14											
Intersection LOS	C											
Intersection V/C	0.600											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	200	975	100	60	871	60	60	241	240	130	242	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	975	100	60	871	60	60	241	240	130	242	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	264	27	16	237	16	16	62	62	35	65	22
Total Analysis Volume [veh/h]	217	1057	108	65	948	65	62	250	249	140	261	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.12	0.31	0.32	0.13	0.27	0.28	0.05	0.13	0.18	0.31	0.06
s, saturation flow rate [veh/h]	1810	1900	1779	490	1900	1812	1136	1900	1352	1312	1366
c, Capacity [veh/h]	194	978	916	126	688	656	72	488	347	459	482
d1, Uniform Delay [s]	44.65	17.06	17.37	45.35	27.86	28.12	50.00	31.80	33.85	29.67	22.33
k, delay calibration	0.21	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.18	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	78.97	2.76	3.24	14.15	7.18	8.22	10.18	0.31	4.51	20.07	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

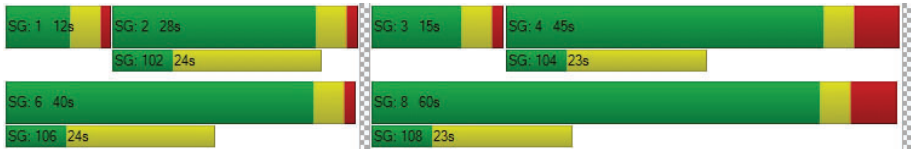
X, volume / capacity	1.12	0.60	0.63	0.51	0.74	0.76	0.86	0.51	0.72	0.87	0.18
d, Delay for Lane Group [s/veh]	123.61	19.82	20.61	59.50	35.05	36.35	60.18	32.11	38.35	49.73	22.40
Lane Group LOS	F	B	C	E	D	D	E	C	D	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.00	9.83	9.82	2.12	11.77	11.76	1.73	5.09	5.78	10.14	1.37
50th-Percentile Queue Length [ft/ln]	225.12	245.68	245.54	52.88	294.13	293.91	43.36	127.13	144.54	253.52	34.29
95th-Percentile Queue Length [veh/ln]	14.55	14.97	14.96	3.81	17.39	17.38	3.12	8.78	9.73	15.36	2.47
95th-Percentile Queue Length [ft/ln]	363.73	374.21	374.04	95.18	434.76	434.49	78.04	219.58	243.13	384.09	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.61	20.17	20.61	59.50	35.64	36.35	60.18	32.11	38.35	49.73	49.73	22.40
Movement LOS	F	C	C	E	D	D	E	C	D	D	D	C
d_A, Approach Delay [s/veh]	36.45			37.13			37.98			44.91		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	38.08											
Intersection LOS	D											
Intersection V/C	0.677											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	180	1125	60	20	1181	30	6	90	170	66	180	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	1125	60	20	1181	30	6	90	170	66	180	90
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	297	16	5	308	8	2	27	50	18	51	25
Total Analysis Volume [veh/h]	190	1187	63	21	1231	31	7	106	201	70	202	101
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	96	96	96	96	96	96	96	96
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	12	39	39	3	30	30	40	40
g / C, Green / Cycle	0.12	0.41	0.41	0.03	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.11	0.33	0.34	0.01	0.33	0.34	0.19	0.17
s, saturation flow rate [veh/h]	1810	1900	1850	1810	1900	1873	1654	1778
c, Capacity [veh/h]	225	768	748	60	596	587	692	743
d1, Uniform Delay [s]	41.00	25.38	25.54	45.23	32.84	32.84	19.89	19.53
k, delay calibration	0.11	0.47	0.49	0.04	0.48	0.49	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.26	9.05	10.06	1.27	54.14	56.96	2.06	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.82	0.83	0.35	1.06	1.07	0.44	0.41
d, Delay for Lane Group [s/veh]	49.26	34.43	35.60	46.50	86.99	89.80	21.95	21.19
Lane Group LOS	D	C	D	D	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.84	14.09	14.16	0.51	22.28	22.42	5.14	4.93
50th-Percentile Queue Length [ft/ln]	121.12	352.18	353.96	12.66	557.06	560.50	128.39	123.36
95th-Percentile Queue Length [veh/ln]	8.45	20.24	20.33	0.91	31.25	31.54	8.85	8.58
95th-Percentile Queue Length [ft/ln]	211.36	506.07	508.23	22.78	781.13	788.61	221.30	214.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.26	34.98	35.60	46.50	88.35	89.80	0.00	21.95	21.95	0.00	21.19	21.19
Movement LOS	D	C	D	D	F	F		C	C		C	C
d_A, Approach Delay [s/veh]	36.89			87.70			21.95			21.19		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	53.65											
Intersection LOS	D											
Intersection V/C	0.626											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	53.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.841

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	320	700	0	0	1381	50	0	0	0	700	560	715
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	700	0	0	1381	50	0	0	0	700	560	715
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	201	0	0	364	13	0	0	0	193	154	197
Total Analysis Volume [veh/h]	368	804	0	0	1455	53	0	0	0	770	616	787
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.20	0.22	0.28	0.27		0.31	0.30	0.32	0.36
s, saturation flow rate [veh/h]	1810	3618	3618	1861		1810	1864	1565	1545
c, Capacity [veh/h]	337	2123	1310	674		609	627	526	520
d1, Uniform Delay [s]	48.76	13.16	33.79	33.42		38.09	37.60	39.00	39.77
k, delay calibration	0.48	0.50	0.50	0.50		0.37	0.34	0.41	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	74.46	0.52	4.36	7.37		16.14	12.40	27.03	59.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.09	0.38	0.77	0.75		0.91	0.89	0.96	1.07
d, Delay for Lane Group [s/veh]	123.22	13.67	38.14	40.80		54.23	50.01	66.02	98.94
Lane Group LOS	F	B	D	D		D	D	E	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	17.02	5.78	13.59	14.04		17.60	16.84	17.81	23.07
50th-Percentile Queue Length [ft/ln]	425.47	144.44	339.63	350.89		440.0	421.0	445.1	576.7
95th-Percentile Queue Length [veh/ln]	24.88	9.72	19.63	20.18		24.48	23.57	24.73	32.35
95th-Percentile Queue Length [ft/ln]	622.06	243.00	490.75	504.50		612.0	589.2	618.1	808.7

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.22	13.67	0.00	0.00	38.96	40.80	0.00	0.00	0.00	52.99	57.14	89.40
Movement LOS	F	B			D	D				D	E	F
d_A, Approach Delay [s/veh]	48.07			39.03			0.00			67.33		
Approach LOS	D			D			A			E		
d_I, Intersection Delay [s/veh]	53.88											
Intersection LOS	D											
Intersection V/C	0.841											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	870	720	778	1283	0	120	110	320	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	870	720	778	1283	0	120	110	320	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	241	200	209	344	0	34	32	92	0	0	0
Total Analysis Volume [veh/h]	0	965	799	835	1378	0	138	126	367	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	38	38	38	43	85	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.35	0.71	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.24	0.38	0.08	0.07	0.23
s, saturation flow rate [veh/h]	3618	1503	1503	3514	3618	1810	1729	1579
c, Capacity [veh/h]	1152	479	479	1246	2574	383	366	334
d1, Uniform Delay [s]	36.84	39.43	39.43	32.76	8.06	40.34	40.20	47.28
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	3.23	3.23	2.88	0.80	0.21	0.21	71.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.92	0.92	0.67	0.54	0.36	0.34	1.10
d, Delay for Lane Group [s/veh]	37.25	42.65	42.65	35.64	8.87	40.55	40.40	118.59
Lane Group LOS	D	D	D	D	A	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.50	12.66	12.66	10.70	7.77	3.48	3.17	16.45
50th-Percentile Queue Length [ft/ln]	287.41	316.53	316.53	267.40	194.37	87.07	79.22	411.20
95th-Percentile Queue Length [veh/ln]	17.06	18.50	18.50	16.06	12.35	6.27	5.70	24.28
95th-Percentile Queue Length [ft/ln]	426.43	462.42	462.42	401.49	308.70	156.72	142.59	607.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.25	42.65	35.64	8.87	0.00	40.55	40.40	118.59	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	D	F			
d_A, Approach Delay [s/veh]	39.95			18.97			85.91			0.00		
Approach LOS	D			B			F			A		
d_I, Intersection Delay [s/veh]	36.17											
Intersection LOS	D											
Intersection V/C	0.763											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	43.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	596	270	100	824	140	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	596	270	100	824	140	185
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	75	31	258	40	53
Total Analysis Volume [veh/h]	665	301	125	1033	161	212
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.22	0.16	0.29	0.19	0.29
s, saturation flow rate [veh/h]	3618	1353	764	3618	832	734
c, Capacity [veh/h]	2509	938	532	2509	145	128
d1, Uniform Delay [s]	5.76	6.04	9.47	6.57	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.90	1.04	0.50	70.75	320.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.32	0.23	0.41	1.11	1.65
d, Delay for Lane Group [s/veh]	6.01	6.95	10.50	7.08	112.02	361.44
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.38	2.41	1.37	4.24	6.34	14.48
50th-Percentile Queue Length [ft/ln]	59.52	60.31	34.33	105.99	158.59	361.89
95th-Percentile Queue Length [veh/ln]	4.29	4.34	2.47	7.62	10.94	24.73
95th-Percentile Queue Length [ft/ln]	107.13	108.55	61.79	190.41	273.58	618.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.01	6.95	10.50	7.08	112.02	361.44
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.30		7.45		253.78	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	43.80					
Intersection LOS	D					
Intersection V/C	0.574					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	50	70	0	10	40	20	0	20	232	40	0	20	226	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	50	70	0	10	40	20	0	20	232	40	0	20	226	20
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	10	17	24	0	3	12	6	0	6	65	11	0	6	63	6
Total Analysis Volume [veh/h]	0	40	67	94	0	12	50	25	0	23	261	45	0	22	251	22
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	556	645	547	623	627	720	623	715
Degree of Utilization, x	0.19	0.15	0.11	0.04	0.45	0.06	0.44	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.71	0.51	0.38	0.13	2.36	0.20	2.23	0.10
95th-Percentile Queue Length [ft]	17.66	12.71	9.52	3.13	58.88	4.99	55.63	2.38
Approach Delay [s/veh]	10.02		9.71		12.42		12.53	
Approach LOS	B		A		B		B	
Intersection Delay [s/veh]	11.67							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	381	120	0	90	531	0	90	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	381	120	0	90	531	0	90	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	31	0	24	139	0	29	26
Total Analysis Volume [veh/h]	0	400	126	0	94	556	0	115	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.21	0.08	0.09	0.29	0.07	0.09
s, saturation flow rate [veh/h]	1900	1581	1000	1900	1538	1208
c, Capacity [veh/h]	1108	867	520	1042	436	342
d1, Uniform Delay [s]	7.06	6.06	11.31	7.88	15.18	15.36
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.91	0.35	0.76	1.96	0.12	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

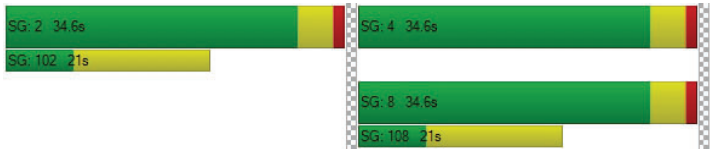
X, volume / capacity	0.36	0.15	0.18	0.53	0.26	0.30
d, Delay for Lane Group [s/veh]	7.98	6.41	12.08	9.84	15.30	15.54
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	0.63	0.77	3.68	1.04	0.94
50th-Percentile Queue Length [ft/ln]	57.18	15.67	19.36	91.95	25.94	23.60
95th-Percentile Queue Length [veh/ln]	4.12	1.13	1.39	6.62	1.87	1.70
95th-Percentile Queue Length [ft/ln]	102.92	28.21	34.85	165.50	46.68	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.98	7.98	6.41	12.08	12.08	9.84	15.30	15.30	15.54
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	7.60			10.16			15.41		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	10.02								
Intersection LOS	B								
Intersection V/C	0.378								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	100	40	20	70	10	20	198	40	20	147	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	100	40	20	70	10	20	198	40	20	147	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	30	12	5	19	3	6	60	12	6	44	6
Total Analysis Volume [veh/h]	36	119	47	21	75	11	24	242	49	24	177	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	668	637	713	692
Degree of Utilization, x	0.30	0.17	0.44	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.27	0.60	2.27	1.41
95th-Percentile Queue Length [ft]	31.87	15.01	56.69	35.32
Approach Delay [s/veh]	10.72	9.79	11.97	10.70
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.06			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	29	159	50	40	210	20	21	178	59	20	148	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	159	50	40	210	20	21	178	59	20	148	70
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	47	15	11	58	5	6	50	17	5	40	19
Total Analysis Volume [veh/h]	35	189	59	44	231	22	24	201	67	21	159	75
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	579	575	580	575
Degree of Utilization, x	0.49	0.52	0.50	0.44

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.68	2.96	2.82	2.26
95th-Percentile Queue Length [ft]	66.94	74.00	70.60	56.59
Approach Delay [s/veh]	15.03	15.78	15.35	14.16
Approach LOS	C	C	C	B
Intersection Delay [s/veh]	15.11			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	33.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.960

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	108	310	40	20	250	50	30	140	118	30	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	310	40	20	250	50	30	140	118	30	100	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	86	11	6	70	14	8	39	33	9	29	9
Total Analysis Volume [veh/h]	120	345	45	22	278	56	33	155	131	35	117	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	485	547	466	518	501	459
Degree of Utilization, x	0.96	0.08	0.64	0.11	0.64	0.41

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	12.06	0.27	4.46	0.36	4.41	1.95
95th-Percentile Queue Length [ft]	301.52	6.69	111.52	9.05	110.13	48.68
Approach Delay [s/veh]	54.31		21.32		21.94	16.11
Approach LOS	F		C		C	C
Intersection Delay [s/veh]	33.01					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	80.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	30	252	160	240	191	30	80	260	60	50	230	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	252	160	240	191	30	80	260	60	50	230	120
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	71	45	67	54	8	21	68	16	15	67	35
Total Analysis Volume [veh/h]	34	283	180	270	215	34	84	272	63	59	269	141
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	49	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.27	0.25	0.14	0.08	0.19	0.06	0.27
s, saturation flow rate [veh/h]	1213	1691	1064	1817	991	1780	1062	1504
c, Capacity [veh/h]	795	875	617	987	80	325	80	274
d1, Uniform Delay [s]	6.65	14.44	9.42	10.88	45.02	36.81	45.02	36.81
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	2.29	2.25	0.61	42.16	23.17	4.84	230.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

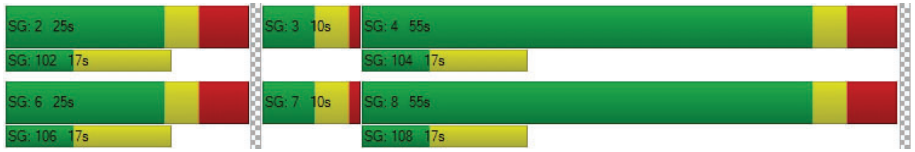
X, volume / capacity	0.04	0.53	0.44	0.25	1.05	1.03	0.74	1.49
d, Delay for Lane Group [s/veh]	6.66	16.73	11.66	11.50	87.18	59.98	49.87	267.01
Lane Group LOS	A	B	B	B	F	F	D	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.22	6.28	2.43	2.63	2.71	9.07	1.40	23.36
50th-Percentile Queue Length [ft/ln]	5.44	156.98	60.83	65.75	67.74	226.63	34.99	583.90
95th-Percentile Queue Length [veh/ln]	0.39	10.39	4.38	4.73	4.88	14.22	2.52	36.94
95th-Percentile Queue Length [ft/ln]	9.79	259.72	109.49	118.35	121.93	355.44	62.98	923.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.66	16.73	16.73	11.66	11.50	11.50	87.18	59.98	59.98	49.87	267.01	267.01
Movement LOS	A	B	B	B	B	B	F	E	E	D	F	F
d_A, Approach Delay [s/veh]	16.04			11.58			65.43			239.70		
Approach LOS	B			B			E			F		
d_I, Intersection Delay [s/veh]	80.79											
Intersection LOS	F											
Intersection V/C	0.615											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	85	110	40	20	60	20	20	188	40	20	177	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	110	40	20	60	20	20	188	40	20	177	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	31	11	6	18	6	6	57	12	5	48	5
Total Analysis Volume [veh/h]	96	124	45	24	72	24	24	228	49	21	190	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	647	622	675	657
Degree of Utilization, x	0.41	0.19	0.45	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.99	0.71	2.30	1.59
95th-Percentile Queue Length [ft]	49.85	17.75	57.51	39.82
Approach Delay [s/veh]	12.35	10.17	12.55	11.45
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.91			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.329

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	12	140	30	30	173	20	20	70	40	50	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	140	30	30	173	20	20	70	40	50	100	30
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	40	9	8	44	5	6	22	13	15	29	9
Total Analysis Volume [veh/h]	14	159	34	31	176	20	25	88	50	58	116	35
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	694	691	686	682
Degree of Utilization, x	0.30	0.33	0.24	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.25	1.43	0.92	1.30
95th-Percentile Queue Length [ft]	31.24	35.84	23.09	32.46
Approach Delay [s/veh]	10.38	10.74	9.89	10.60
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	10.44			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2141	140	0	2471	110	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2141	140	0	2471	110	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	582	38	0	632	30	8
Total Analysis Volume [veh/h]	2327	152	0	2529	121	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	39	39	39	39
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	24	24	24	5
g / C, Green / Cycle	0.61	0.61	0.61	0.13
(v / s)_i Volume / Saturation Flow Rate	0.52	0.51	0.42	0.10
s, saturation flow rate [veh/h]	3192	1624	6089	1556
c, Capacity [veh/h]	1938	986	3697	195
d1, Uniform Delay [s]	6.28	6.17	5.18	16.67
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.75	0.08	2.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.84	0.68	0.79
d, Delay for Lane Group [s/veh]	6.71	6.92	5.27	19.35
Lane Group LOS	A	A	A	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.51	2.55	1.53	1.28
50th-Percentile Queue Length [ft/ln]	62.63	63.81	38.25	31.98
95th-Percentile Queue Length [veh/ln]	4.51	4.59	2.75	2.30
95th-Percentile Queue Length [ft/ln]	112.74	114.86	68.85	57.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.77	6.92	0.00	5.27	19.35	19.35
Movement LOS	A	A		A	B	B
d_A, Approach Delay [s/veh]	6.78		5.27		19.35	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.41					
Intersection LOS	A					
Intersection V/C	0.617					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	79.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1900	200	60	210	460	90	568	340	0	0	470	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1900	200	60	210	460	90	568	340	0	0	470	170
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	521	55	16	62	135	26	142	89	0	0	137	50
Total Analysis Volume [veh/h]	2086	220	66	246	540	106	568	354	0	0	548	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	67	67	67	30	30	33	33
g / C, Green / Cycle	0.47	0.47	0.47	0.21	0.21	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.44	0.44	0.20	0.28	0.29	0.22	0.20
s, saturation flow rate [veh/h]	3192	1576	1425	1597	1552	1597	3783
c, Capacity [veh/h]	1515	748	676	341	331	380	901
d1, Uniform Delay [s]	34.40	34.74	24.29	55.31	55.31	52.43	50.83
k, delay calibration	0.04	0.13	0.04	0.50	0.50	0.32	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	6.96	0.16	161.23	172.40	23.50	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.93	0.42	1.32	1.34	0.93	0.83
d, Delay for Lane Group [s/veh]	35.44	41.70	24.44	216.53	227.70	75.94	51.59
Lane Group LOS	D	D	C	F	F	E	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	21.94	23.38	6.34	27.30	27.56	14.70	8.38
50th-Percentile Queue Length [ft/ln]	548.46	584.54	158.42	682.45	689.06	367.39	209.52
95th-Percentile Queue Length [veh/ln]	29.62	31.31	10.47	41.05	41.70	20.98	13.13
95th-Percentile Queue Length [ft/ln]	740.50	782.80	261.63	1026.20	1042.54	524.56	328.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.95	24.44	24.44	216.53	227.70	227.70	0.00	75.94	0.00	0.00	51.59	51.59
Movement LOS	D	C	C	F	F	F		E			D	D
d_A, Approach Delay [s/veh]	35.95			222.09			75.94			51.59		
Approach LOS	D			F			E			D		
d_I, Intersection Delay [s/veh]	79.91											
Intersection LOS	E											
Intersection V/C	0.949											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	56	100	65	0	20	89	30	0	30	206	28	0	69	179	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	56	100	65	0	20	89	30	0	30	206	28	0	69	179	30
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	16	29	19	0	6	26	9	0	9	60	8	0	20	52	9
Total Analysis Volume [veh/h]	0	65	117	76	0	24	105	35	0	35	238	32	0	81	209	35
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	601	577	619	621
Degree of Utilization, x	0.43	0.28	0.49	0.52

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.15	1.17	2.72	3.05
95th-Percentile Queue Length [ft]	53.77	29.14	68.06	76.14
Approach Delay [s/veh]	13.43	11.70	14.32	14.99
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	13.90			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.237

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	90	30	20	69	20	10	80	40	30	72	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	90	30	20	69	20	10	80	40	30	72	30
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	5	19	5	4	28	14	9	22	9
Total Analysis Volume [veh/h]	38	113	38	22	75	22	14	113	56	36	87	36
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	639	748	631	736	648	750	636	747
Degree of Utilization, x	0.24	0.05	0.15	0.03	0.20	0.07	0.19	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.16	0.54	0.09	0.72	0.24	0.71	0.15
95th-Percentile Queue Length [ft]	22.89	4.01	13.52	2.31	18.07	6.03	17.80	3.79
Approach Delay [s/veh]	9.61		9.13		9.07		9.28	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.29							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	906	110	270	964	0	32	1085	209	80	0	200
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	906	110	270	964	0	32	1085	209	80	0	200
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	243	30	74	266	0	8	271	52	25	0	62
Total Analysis Volume [veh/h]	36	0	972	118	298	1063	0	32	1085	209	100	0	250
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.07	0.42	0.29		0.08	0.22
s, saturation flow rate [veh/h]	1810	3618	1584	705	3618		1231	1132
c, Capacity [veh/h]	47	2509	1099	555	2625		192	177
d1, Uniform Delay [s]	72.54	9.62	7.60	6.33	7.98		58.07	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.45	0.20	3.69	0.47		0.81	216.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.39	0.11	0.54	0.40		0.52	1.41
d, Delay for Lane Group [s/veh]	81.74	10.07	7.80	10.01	8.45		58.88	279.36
Lane Group LOS	F	B	A	B	A		E	F
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.71	1.32	2.77	6.59		3.55	17.38
50th-Percentile Queue Length [ft/ln]	37.61	167.85	32.95	69.28	164.78		88.87	434.46
95th-Percentile Queue Length [veh/ln]	2.71	10.96	2.37	4.99	10.80		6.40	27.80
95th-Percentile Queue Length [ft/ln]	67.70	274.09	59.31	124.70	270.04		159.97	694.89

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.07	7.80	10.01	8.45	0.00	0.00	0.00	0.00	58.88	0.00	279.36
Movement LOS	F		B	A	B	A					E		F
d_A, Approach Delay [s/veh]	12.12				8.79			0.00			216.37		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	35.72												
Intersection LOS	D												
Intersection V/C	0.538												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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FUTURE (2025) NO PROJECT CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	67.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.115

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	20	2660	2	380	3570	30	10	10	10	170	20	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	2660	2	380	3570	30	10	10	10	170	20	270
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	757	1	101	951	8	3	3	3	46	5	74
Total Analysis Volume [veh/h]	23	3030	2	405	3805	32	12	12	12	186	22	295
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	5	134	55	185	185	36	35	95
g / C, Green / Cycle	0.02	0.56	0.23	0.77	0.77	0.15	0.15	0.40
(v / s)_i Volume / Saturation Flow Rate	0.01	0.59	0.22	0.70	0.70	0.18	0.31	0.19
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1892	200	680	1594
c, Capacity [veh/h]	36	2892	418	2783	1455	50	127	634
d1, Uniform Delay [s]	116.81	53.00	91.56	20.99	21.20	92.60	106.81	53.50
k, delay calibration	0.04	0.50	0.38	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.81	30.97	31.34	5.41	9.84	62.40	319.73	2.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	1.05	0.97	0.90	0.91	0.72	1.64	0.47
d, Delay for Lane Group [s/veh]	123.62	83.97	122.90	26.40	31.04	154.99	426.54	55.95
Lane Group LOS	F	F	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.51	64.79	28.55	50.82	55.67	3.16	19.41	14.02
50th-Percentile Queue Length [ft/ln]	37.71	1619.75	713.72	1270.61	1391.86	79.05	485.29	350.45
95th-Percentile Queue Length [veh/ln]	2.71	81.28	37.31	62.52	67.91	5.69	31.64	20.16
95th-Percentile Queue Length [ft/ln]	67.87	2032.05	932.78	1562.91	1697.79	142.30	790.90	503.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.62	83.97	0.00	122.90	27.97	31.04	154.99	154.99	154.99	426.54	426.54	55.95
Movement LOS	F	F		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	84.27			37.06			154.99			209.20		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	67.05											
Intersection LOS	E											
Intersection V/C	1.115											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	65.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	210	360	50	0	20	380	120	0	40	110	390	0	40	100	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	360	50	0	20	380	120	0	40	110	390	0	40	100	50
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	62	106	15	0	5	104	33	0	12	33	117	0	11	27	13
Total Analysis Volume [veh/h]	247	424	59	0	22	415	131	0	48	132	468	0	42	106	53
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	61	61	2	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.61	0.61	0.02	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.04	0.01	0.22	0.09	0.37	0.30	0.29	0.04
s, saturation flow rate [veh/h]	1810	1900	1422	1810	1900	1440	488	1542	509	1213
c, Capacity [veh/h]	189	1166	872	42	1012	767	136	579	140	224
d1, Uniform Delay [s]	44.75	9.60	7.78	48.26	13.98	12.02	39.55	27.98	39.48	34.71
k, delay calibration	0.16	0.50	0.50	0.04	0.50	0.50	0.50	0.44	0.40	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	150.28	0.88	0.15	3.68	1.23	0.48	187.87	10.21	83.23	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

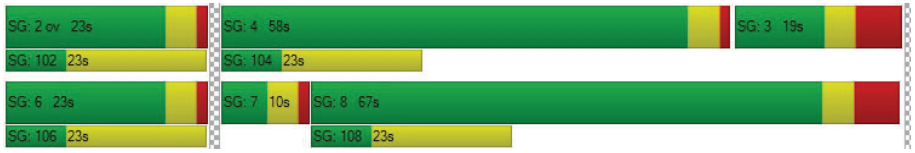
X, volume / capacity	1.31	0.36	0.07	0.52	0.41	0.17	1.32	0.81	1.05	0.24
d, Delay for Lane Group [s/veh]	195.03	10.48	7.93	51.94	15.21	12.50	227.42	38.19	122.70	34.91
Lane Group LOS	F	B	A	D	B	B	F	D	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.53	4.56	0.52	0.58	5.70	1.56	10.51	11.52	6.70	1.10
50th-Percentile Queue Length [ft/ln]	313.18	113.89	12.95	14.58	142.43	38.88	262.69	288.04	167.62	27.38
95th-Percentile Queue Length [veh/ln]	20.17	8.06	0.93	1.05	9.61	2.80	17.76	17.09	11.22	1.97
95th-Percentile Queue Length [ft/ln]	504.35	201.40	23.30	26.24	240.29	69.98	444.06	427.21	280.49	49.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	195.03	10.48	7.93	51.94	51.94	15.21	12.50	227.4	227.4	227.4	38.19	122.7	122.7	122.7	34.91
Movement LOS	F	B	A	D	D	B	B	F	F	F	D	F	F	F	C
d_A, Approach Delay [s/veh]	72.72			16.01				90.75				99.55			
Approach LOS	E			B				F				F			
d_I, Intersection Delay [s/veh]	65.67														
Intersection LOS	E														
Intersection V/C	0.778														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	440	290	0	280	530	0	180	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	440	290	0	280	530	0	180	170
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	121	80	0	80	152	0	51	48
Total Analysis Volume [veh/h]	0	484	319	0	320	607	0	202	191
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	59	59	59	72	72	15	15	15
g / C, Green / Cycle	0.59	0.59	0.59	0.72	0.72	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.21	0.30	0.17	0.08	0.08	0.09
s, saturation flow rate [veh/h]	1900	1729	1546	1060	3618	1699	1704	1440
c, Capacity [veh/h]	1152	1015	908	806	2590	258	259	219
d1, Uniform Delay [s]	9.83	9.83	10.73	5.24	4.85	39.13	38.93	39.33
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	0.52	1.07	1.46	0.21	0.64	0.57	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

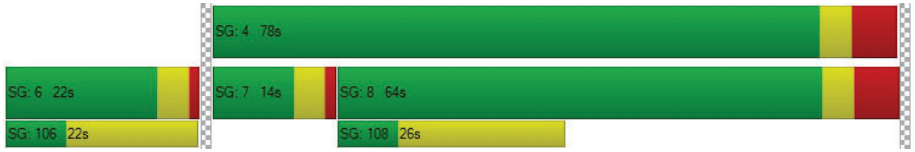
X, volume / capacity	0.22	0.23	0.35	0.40	0.23	0.54	0.50	0.57
d, Delay for Lane Group [s/veh]	10.27	10.35	11.80	6.70	5.06	39.77	39.49	40.19
Lane Group LOS	B	B	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	2.43	3.72	2.27	1.90	3.16	2.96	2.86
50th-Percentile Queue Length [ft/ln]	66.20	60.70	92.91	56.82	47.53	79.01	74.11	71.41
95th-Percentile Queue Length [veh/ln]	4.77	4.37	6.69	4.09	3.42	5.69	5.34	5.14
95th-Percentile Queue Length [ft/ln]	119.15	109.26	167.23	102.27	85.55	142.22	133.39	128.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.27	10.31	11.80	6.70	6.70	5.06	39.77	39.68	39.96
Movement LOS	B	B	B	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	10.90			5.63			39.81		
Approach LOS	B			A			D		
d_I, Intersection Delay [s/veh]	13.95								
Intersection LOS	B								
Intersection V/C	0.362								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	780	90	90	580	30	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	780	90	90	580	30	60
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	212	24	25	159	10	20
Total Analysis Volume [veh/h]	849	98	98	634	39	79
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	72	72	72	72	15
g / C, Green / Cycle	0.72	0.72	0.72	0.72	0.15
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.15	0.18	0.07
s, saturation flow rate [veh/h]	3618	1495	657	3618	1674
c, Capacity [veh/h]	2590	1071	467	2590	254
d1, Uniform Delay [s]	5.26	4.30	9.36	4.88	38.62
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.17	1.02	0.23	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

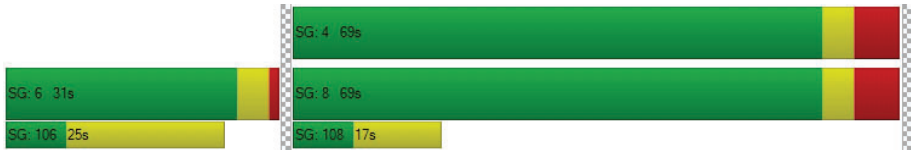
X, volume / capacity	0.33	0.09	0.21	0.24	0.46
d, Delay for Lane Group [s/veh]	5.59	4.47	10.38	5.10	39.11
Lane Group LOS	A	A	B	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.89	0.57	1.08	2.00	2.63
50th-Percentile Queue Length [ft/ln]	72.28	14.35	26.91	50.00	65.68
95th-Percentile Queue Length [veh/ln]	5.20	1.03	1.94	3.60	4.73
95th-Percentile Queue Length [ft/ln]	130.11	25.83	48.44	90.01	118.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.59	4.47	10.38	5.10	39.11	39.11
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	5.48		5.81		39.11	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.82					
Intersection LOS	A					
Intersection V/C	0.305					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	790	190	100	480	80	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	790	190	100	480	80	70
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	214	51	27	129	25	22
Total Analysis Volume [veh/h]	856	206	107	515	102	89
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	66	66	77	77	9	21
g / C, Green / Cycle	0.66	0.66	0.77	0.77	0.09	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.14	0.13	0.14	0.07	0.06
s, saturation flow rate [veh/h]	3618	1486	798	3618	1378	1425
c, Capacity [veh/h]	2384	979	655	2803	128	298
d1, Uniform Delay [s]	7.61	6.75	3.40	2.96	44.38	33.36
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.49	0.54	0.14	4.15	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.21	0.16	0.18	0.79	0.30
d, Delay for Lane Group [s/veh]	8.03	7.23	3.93	3.10	48.53	33.57
Lane Group LOS	A	A	A	A	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.83	1.71	0.48	1.07	2.60	1.83
50th-Percentile Queue Length [ft/ln]	95.81	42.70	12.02	26.70	65.11	45.72
95th-Percentile Queue Length [veh/ln]	6.90	3.07	0.87	1.92	4.69	3.29
95th-Percentile Queue Length [ft/ln]	172.46	76.86	21.63	48.06	117.21	82.29

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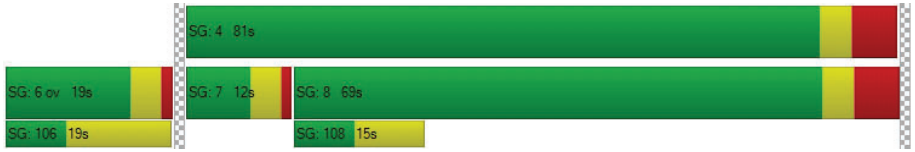
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.03	7.23	3.93	3.10	48.53	33.57
Movement LOS	A	A	A	A	D	C
d_A, Approach Delay [s/veh]	7.88		3.25		41.56	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.77					
Intersection LOS	A					
Intersection V/C	0.330					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.401

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	900	142	67	600	20	20	13	20	110	30	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	900	142	67	600	20	20	13	20	110	30	130
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	236	41	18	166	6	7	6	7	32	9	38
Total Analysis Volume [veh/h]	21	943	165	71	665	22	30	24	30	129	35	153
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

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Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	64	64	57	57	6	15	15
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.05	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.18	0.18	0.04	0.09	0.10
s, saturation flow rate [veh/h]	851	3618	1900	1873	1707	1828	1458
c, Capacity [veh/h]	452	1941	906	893	87	224	179
d1, Uniform Delay [s]	13.98	17.45	20.06	20.12	56.06	50.76	51.62
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.87	1.21	1.25	3.66	1.73	4.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

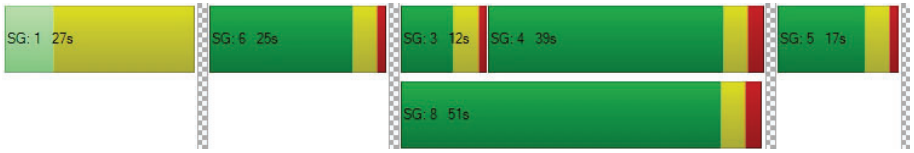
X, volume / capacity	0.05	0.49	0.38	0.38	0.69	0.73	0.86
d, Delay for Lane Group [s/veh]	13.99	18.32	21.27	21.37	59.72	52.49	56.09
Lane Group LOS	B	B	C	C	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	8.24	6.40	6.43	1.86	4.90	4.77
50th-Percentile Queue Length [ft/ln]	6.72	206.12	160.04	160.70	46.58	122.49	119.21
95th-Percentile Queue Length [veh/ln]	0.48	12.95	10.55	10.59	3.35	8.53	8.35
95th-Percentile Queue Length [ft/ln]	12.10	323.84	263.78	264.65	83.84	213.25	208.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.99	18.32	0.00	0.00	21.32	21.37	59.72	0.00	59.72	52.49	52.49	56.09
Movement LOS	B	B			C	C	E		E	D	D	E
d_A, Approach Delay [s/veh]	18.22			21.32			59.72			54.23		
Approach LOS	B			C			E			D		
d_I, Intersection Delay [s/veh]	26.13											
Intersection LOS	C											
Intersection V/C	0.401											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	470	790	700	50	70	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	790	700	50	70	470
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	217	188	13	21	138
Total Analysis Volume [veh/h]	517	869	752	54	82	551
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	80	80	80	7	31
g / C, Green / Cycle	0.16	0.66	0.66	0.66	0.06	0.26
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.21	0.03	0.05	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2670
c, Capacity [veh/h]	569	2405	2405	1074	105	690
d1, Uniform Delay [s]	49.37	8.87	8.50	6.97	55.72	41.54
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.42	0.34	0.09	4.65	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

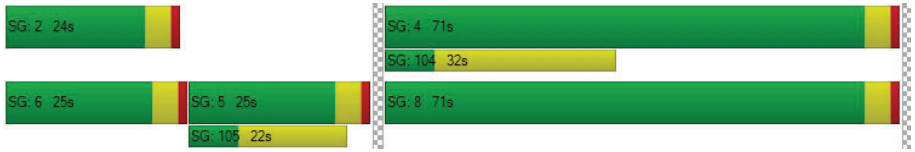
X, volume / capacity	0.91	0.36	0.31	0.05	0.78	0.80
d, Delay for Lane Group [s/veh]	51.74	9.29	8.84	7.06	60.37	42.36
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.78	4.88	4.04	0.49	2.70	8.12
50th-Percentile Queue Length [ft/ln]	194.39	121.93	101.12	12.23	67.49	203.04
95th-Percentile Queue Length [veh/ln]	12.35	8.50	7.28	0.88	4.86	12.80
95th-Percentile Queue Length [ft/ln]	308.72	212.48	182.01	22.01	121.48	319.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.74	9.29	8.84	7.06	60.37	42.36
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	25.12		8.72		44.70	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.83					
Intersection LOS	C					
Intersection V/C	0.447					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	30	80	10	0	200	0	90	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	30	80	10	0	200	0	90	260
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	8	22	3	0	53	0	24	69
Total Analysis Volume [veh/h]	0	0	0	0	32	86	11	0	211	0	95	275
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		18	18	18	30	30	30
g / C, Green / Cycle		0.20	0.20	0.20	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate		0.02	0.03	0.03	0.14	0.05	0.18
s, saturation flow rate [veh/h]		1291	1900	1795	1481	1900	1515
c, Capacity [veh/h]		271	387	366	594	640	511
d1, Uniform Delay [s]		33.51	29.31	29.35	22.44	20.85	24.19
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.19	0.14	0.16	1.66	0.11	0.89
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.12	0.13	0.13	0.36	0.15	0.54
d, Delay for Lane Group [s/veh]		33.70	29.45	29.51	24.10	20.95	25.08
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.61	0.86	0.85	3.50	1.37	4.66
50th-Percentile Queue Length [ft/ln]		15.30	21.42	21.26	87.38	34.19	116.41
95th-Percentile Queue Length [veh/ln]		1.10	1.54	1.53	6.29	2.46	8.20
95th-Percentile Queue Length [ft/ln]		27.54	38.56	38.27	157.29	61.53	204.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	33.70	29.48	29.51	0.00	24.10	0.00	20.95	25.08
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.53				24.05			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.61											
Intersection LOS	C											
Intersection V/C	0.563											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	30	1140	200	160	820	0	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	1140	200	160	820	0	10
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	299	52	43	219	0	3
Total Analysis Volume [veh/h]	0	31	1197	210	171	877	0	10
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	51	51	51
g / C, Green / Cycle	0.44	0.44	0.44	0.56	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.05	0.33	0.14	0.24	0.23	0.23
s, saturation flow rate [veh/h]	635	3618	1536	710	1900	1890
c, Capacity [veh/h]	255	1591	676	383	1066	1060
d1, Uniform Delay [s]	24.80	21.13	16.37	15.35	11.33	11.34
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.97	3.34	1.20	3.74	1.20	1.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

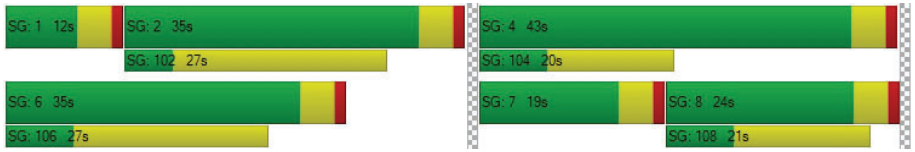
X, volume / capacity	0.12	0.75	0.31	0.45	0.42	0.42
d, Delay for Lane Group [s/veh]	25.77	24.46	17.57	19.09	12.53	12.55
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.56	10.67	2.92	1.92	5.05	5.03
50th-Percentile Queue Length [ft/ln]	14.10	266.66	73.12	48.12	126.15	125.76
95th-Percentile Queue Length [veh/ln]	1.02	16.02	5.26	3.46	8.73	8.71
95th-Percentile Queue Length [ft/ln]	25.38	400.57	131.62	86.62	218.25	217.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.77	24.46	17.57	19.09	12.54	0.00	12.55
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	23.49				13.60			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.61							
Intersection LOS	C							
Intersection V/C	0.563							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	56.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	30	50	50	70	90	40	20	310	70	130	360	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	50	50	70	90	40	20	310	70	130	360	60
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	14	14	22	28	12	8	117	26	34	94	16
Total Analysis Volume [veh/h]	32	54	54	87	112	50	30	468	106	135	374	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.06	0.26	0.03	0.31	0.16	0.12	0.12
s, saturation flow rate [veh/h]	1243	1733	944	968	1834	852	1900	1781
c, Capacity [veh/h]	73	269	186	435	866	246	898	841
d1, Uniform Delay [s]	50.02	38.08	46.09	20.13	20.26	37.65	15.76	15.81
k, delay calibration	0.04	0.04	0.28	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.54	0.36	172.99	0.31	3.97	8.55	0.66	0.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.40	1.34	0.07	0.66	0.55	0.25	0.25
d, Delay for Lane Group [s/veh]	51.55	38.44	219.09	20.44	24.23	46.20	16.42	16.54
Lane Group LOS	D	D	F	C	C	D	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.82	2.37	13.49	0.48	10.77	3.67	3.13	3.02
50th-Percentile Queue Length [ft/ln]	20.52	59.35	337.33	12.11	269.37	91.63	78.16	75.49
95th-Percentile Queue Length [veh/ln]	1.48	4.27	21.90	0.87	16.16	6.60	5.63	5.44
95th-Percentile Queue Length [ft/ln]	36.93	106.83	547.59	21.79	403.95	164.94	140.68	135.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.55	38.44	38.44	219.09	219.09	219.09	20.44	24.23	24.23	46.20	16.47	16.54
Movement LOS	D	D	D	F	F	F	C	C	C	D	B	B
d_A, Approach Delay [s/veh]	41.44			219.09			24.05			23.51		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	56.46											
Intersection LOS	E											
Intersection V/C	0.577											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.279

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	40	160	40	20	50	60	50	80	80	30	80	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	160	40	20	50	60	50	80	80	30	80	60
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	48	12	6	15	18	14	23	23	9	23	17
Total Analysis Volume [veh/h]	48	193	48	24	60	72	56	90	90	34	92	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	16	54	54
g / C, Green / Cycle	0.16	0.16	0.16	0.16	0.16	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.03	0.02	0.08	0.15	0.18
s, saturation flow rate [veh/h]	1278	1900	1541	1209	1701	1584	1100
c, Capacity [veh/h]	153	301	244	119	269	899	636
d1, Uniform Delay [s]	45.55	39.43	36.57	47.10	38.41	12.25	12.88
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.86	0.15	0.30	0.52	0.71	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.64	0.20	0.20	0.49	0.26	0.31
d, Delay for Lane Group [s/veh]	45.98	40.29	36.71	47.40	38.92	12.96	14.12
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.16	4.43	1.01	0.59	2.94	2.81	2.57
50th-Percentile Queue Length [ft/ln]	29.02	110.69	25.36	14.69	73.51	70.35	64.14
95th-Percentile Queue Length [veh/ln]	2.09	7.88	1.83	1.06	5.29	5.07	4.62
95th-Percentile Queue Length [ft/ln]	52.23	196.96	45.65	26.44	132.32	126.64	115.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.98	40.29	36.71	47.40	38.92	38.92	12.96	12.96	12.96	14.12	14.12	14.12
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	40.64			40.23			12.96			14.12		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.21											
Intersection LOS	C											
Intersection V/C	0.279											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	40	130	20	20	110	40	40	210	40	50	150	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	130	20	20	110	40	40	210	40	50	150	130
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	37	6	7	36	13	10	54	10	14	41	36
Total Analysis Volume [veh/h]	45	147	23	26	144	52	41	218	41	55	165	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	52	52	52	52
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.52	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.03	0.02	0.11	0.26	0.03	0.27	0.09
s, saturation flow rate [veh/h]	1206	1900	900	1260	1797	1014	1567	821	1585
c, Capacity [veh/h]	138	338	160	181	320	569	814	472	824
d1, Uniform Delay [s]	46.39	36.60	34.66	42.58	37.91	16.40	11.84	17.95	12.67
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	0.33	0.15	0.13	0.71	2.62	0.12	3.29	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

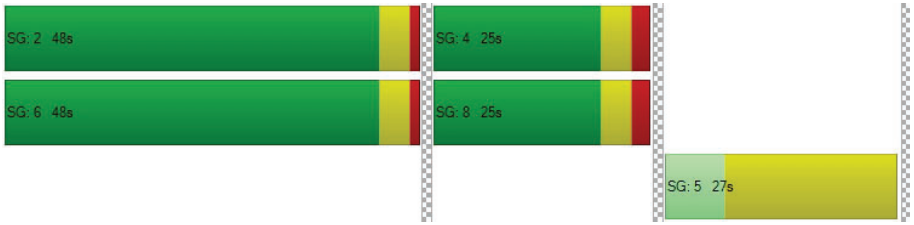
X, volume / capacity	0.33	0.43	0.14	0.14	0.61	0.46	0.05	0.47	0.17
d, Delay for Lane Group [s/veh]	46.89	36.93	34.81	42.71	38.62	19.02	11.96	21.24	13.13
Lane Group LOS	D	D	C	D	D	B	B	C	B
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.10	3.17	0.47	0.60	4.40	3.56	0.47	3.04	1.75
50th-Percentile Queue Length [ft/ln]	27.50	79.22	11.79	14.92	109.90	88.88	11.69	75.95	43.79
95th-Percentile Queue Length [veh/ln]	1.98	5.70	0.85	1.07	7.83	6.40	0.84	5.47	3.15
95th-Percentile Queue Length [ft/ln]	49.50	142.60	21.22	26.86	195.87	159.99	21.04	136.70	78.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.89	36.93	34.81	42.71	38.62	38.62	19.02	19.02	11.96	21.24	21.24	13.13
Movement LOS	D	D	C	D	D	D	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	38.79			39.10			18.06			18.05		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.35											
Intersection LOS	C											
Intersection V/C	0.377											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	10	160	170	60	190	20	20	140	80	130	240	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	160	170	60	190	20	20	140	80	130	240	70
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	46	49	18	55	6	6	39	22	42	77	23
Total Analysis Volume [veh/h]	12	185	197	70	222	23	22	157	90	167	309	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	49	49	49	49	49
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.49	0.49	0.49	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.13	0.06	0.13	0.02	0.14	0.15	0.16	0.06
s, saturation flow rate [veh/h]	1153	1900	1538	1218	1857	1087	1759	1151	1900	1556
c, Capacity [veh/h]	121	358	290	167	350	477	861	519	930	762
d1, Uniform Delay [s]	46.34	36.48	37.77	45.07	37.93	20.07	15.16	21.87	15.56	13.83
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	0.43	1.05	0.62	0.96	0.18	0.84	1.64	0.96	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

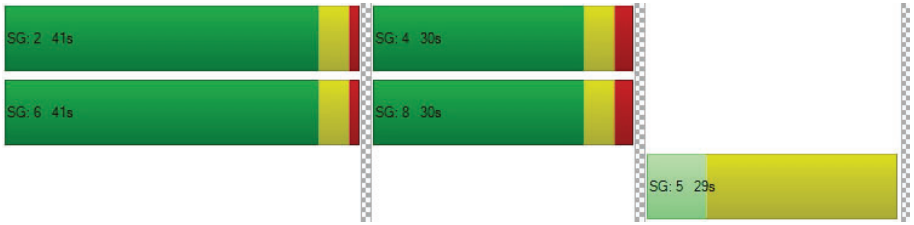
X, volume / capacity	0.10	0.52	0.68	0.42	0.70	0.05	0.29	0.32	0.33	0.12
d, Delay for Lane Group [s/veh]	46.47	36.91	38.81	45.69	38.89	20.26	16.00	23.51	16.52	14.15
Lane Group LOS	D	D	D	D	D	C	B	C	B	B
Critical Lane Group	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	4.03	4.48	1.70	5.58	0.35	3.38	2.95	4.33	1.12
50th-Percentile Queue Length [ft/ln]	7.23	100.65	111.89	42.49	139.45	8.64	84.52	73.65	108.30	28.10
95th-Percentile Queue Length [veh/ln]	0.52	7.25	7.94	3.06	9.45	0.62	6.09	5.30	7.75	2.02
95th-Percentile Queue Length [ft/ln]	13.02	181.17	198.62	76.48	236.28	15.54	152.14	132.56	193.63	50.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.47	36.91	38.81	45.69	38.89	38.89	20.26	16.00	16.00	23.51	16.52	14.15
Movement LOS	D	D	D	D	D	D	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	38.15			40.40			16.35			18.21		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.50											
Intersection LOS	C											
Intersection V/C	0.295											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	380	0	29	210	30	66	90	0	50	220	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	380	0	29	210	30	66	90	0	50	220	170
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	108	0	8	54	8	20	27	0	14	61	47
Total Analysis Volume [veh/h]	11	431	0	31	216	31	79	108	0	55	244	189
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	29	29	29	29		61	61
g / C, Green / Cycle	0.25	0.25	0.25	0.25		0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.12	0.02		0.14	0.15
s, saturation flow rate [veh/h]	1161	1863	1863	1556		1881	1477
c, Capacity [veh/h]	209	456	456	381		960	754
d1, Uniform Delay [s]	45.93	44.44	38.63	34.85		16.73	16.86
k, delay calibration	0.04	0.25	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.04	19.10	0.28	0.03		0.72	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.94	0.47	0.08		0.28	0.29
d, Delay for Lane Group [s/veh]	45.97	63.53	38.92	34.88		17.45	17.85
Lane Group LOS	D	E	D	C		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	14.90	5.42	0.70		4.45	3.74
50th-Percentile Queue Length [ft/ln]	7.31	372.47	135.44	17.51		111.21	93.46
95th-Percentile Queue Length [veh/ln]	0.53	21.23	9.23	1.26		7.91	6.73
95th-Percentile Queue Length [ft/ln]	13.16	530.72	230.87	31.51		197.69	168.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.97	63.53	0.00	0.00	38.92	34.88	0.00	0.00	0.00	17.45	17.50	17.85
Movement LOS	D	E			D	C				B	B	B
d_A, Approach Delay [s/veh]	63.10			38.41			0.00			17.63		
Approach LOS	E			D			A			B		
d_I, Intersection Delay [s/veh]	39.06											
Intersection LOS	D											
Intersection V/C	0.381											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	60	30	0	20	570	0	470	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	60	30	0	20	570	0	470	110
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	9	0	5	152	0	124	29
Total Analysis Volume [veh/h]	0	69	34	0	21	610	0	496	116
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	57	57	57	57
g / C, Green / Cycle	0.07	0.07	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.03	0.32	0.17	0.18
s, saturation flow rate [veh/h]	1810	1547	823	1900	1900	1596
c, Capacity [veh/h]	120	103	445	1085	1121	911
d1, Uniform Delay [s]	45.28	44.54	15.31	13.54	11.12	11.17
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.60	0.69	0.20	2.11	0.67	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.33	0.05	0.56	0.29	0.31
d, Delay for Lane Group [s/veh]	46.88	45.23	15.51	15.65	11.79	12.05
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.69	0.81	0.29	8.73	3.80	3.32
50th-Percentile Queue Length [ft/ln]	42.27	20.33	7.23	218.37	95.09	82.90
95th-Percentile Queue Length [veh/ln]	3.04	1.46	0.52	13.58	6.85	5.97
95th-Percentile Queue Length [ft/ln]	76.08	36.59	13.02	339.55	171.17	149.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.88	46.88	45.23	15.51	15.51	15.65	11.79	11.88	12.05
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	46.34			15.65			11.91		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	16.30								
Intersection LOS	B								
Intersection V/C	0.359								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.267

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	110	60	80	160	40	30	220	10	30	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	110	60	80	160	40	30	220	10	30	190	50
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	31	17	21	42	11	8	60	3	9	54	14
Total Analysis Volume [veh/h]	11	123	67	85	170	42	33	240	11	34	216	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	10	10
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.27	0.27	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.01	0.06	0.05	0.07	0.09	0.03	0.16	0.18
s, saturation flow rate [veh/h]	1216	1900	1482	1254	1900	1518	1806	1727
c, Capacity [veh/h]	426	514	401	458	514	410	851	820
d1, Uniform Delay [s]	10.29	7.68	7.53	10.39	7.89	7.39	5.94	6.09
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.09	0.07	0.07	0.14	0.04	0.08	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

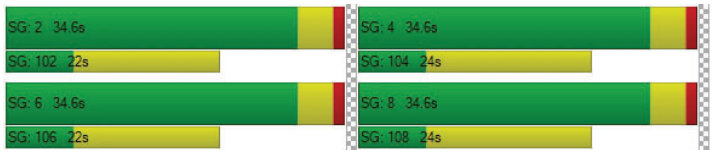
X, volume / capacity	0.03	0.24	0.17	0.19	0.33	0.10	0.33	0.37
d, Delay for Lane Group [s/veh]	10.30	7.77	7.60	10.46	8.03	7.43	6.02	6.19
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.04	0.32	0.17	0.32	0.50	0.12	0.66	0.65
50th-Percentile Queue Length [ft/ln]	0.96	7.99	4.30	8.07	12.45	2.88	16.58	16.33
95th-Percentile Queue Length [veh/ln]	0.07	0.58	0.31	0.58	0.90	0.21	1.19	1.18
95th-Percentile Queue Length [ft/ln]	1.74	14.38	7.73	14.53	22.41	5.18	29.85	29.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.30	7.77	7.60	10.46	8.03	7.43	6.02	6.02	6.02	6.19	6.19	6.19
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.85			8.64			6.02			6.19		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.12											
Intersection LOS	A											
Intersection V/C	0.267											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	210	30	10	320	20	10	80	70	40	120	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	210	30	10	320	20	10	80	70	40	120	30
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	58	8	3	97	6	3	25	22	12	35	9
Total Analysis Volume [veh/h]	33	232	33	12	387	24	12	98	86	47	140	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	28	28	28	28	28	28
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	8	8
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.01	0.22	0.12	0.13
s, saturation flow rate [veh/h]	964	1838	1107	1867	1704	1725
c, Capacity [veh/h]	388	697	488	708	632	658
d1, Uniform Delay [s]	10.80	6.27	8.85	6.88	7.91	8.00
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.13	0.01	0.28	0.10	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

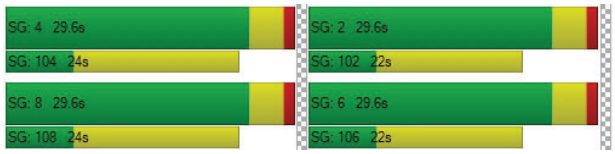
X, volume / capacity	0.09	0.38	0.02	0.58	0.31	0.34
d, Delay for Lane Group [s/veh]	10.84	6.40	8.85	7.17	8.01	8.11
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.13	0.54	0.04	0.93	0.89	0.62
50th-Percentile Queue Length [ft/ln]	3.13	13.52	0.93	23.35	22.24	15.54
95th-Percentile Queue Length [veh/ln]	0.23	0.97	0.07	1.68	1.60	1.12
95th-Percentile Queue Length [ft/ln]	5.64	24.33	1.68	42.03	40.04	27.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.84	6.40	6.40	8.85	7.17	7.17	8.01	8.01	8.01	8.11	8.11	8.11
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.89			7.21			8.01			8.11		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.44											
Intersection LOS	A											
Intersection V/C	0.349											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	43.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	50	220	100	70	290	10	40	490	80	90	550	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	220	100	70	290	10	40	490	80	90	550	100
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	71	32	19	78	3	11	133	22	24	144	26
Total Analysis Volume [veh/h]	65	286	130	75	312	11	43	531	87	94	576	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.15	0.08	0.07	0.16	0.01	0.06	0.33	0.09	0.18	0.19
s, saturation flow rate [veh/h]	1084	1900	1579	1110	1900	1586	771	1849	1025	1900	1782
c, Capacity [veh/h]	88	368	306	106	368	308	212	614	293	844	792
d1, Uniform Delay [s]	49.95	38.34	35.49	49.44	38.97	32.80	35.52	33.49	22.32	18.96	19.01
k, delay calibration	0.04	0.07	0.04	0.04	0.11	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.54	2.17	0.35	3.28	5.48	0.02	2.14	38.14	0.23	1.50	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

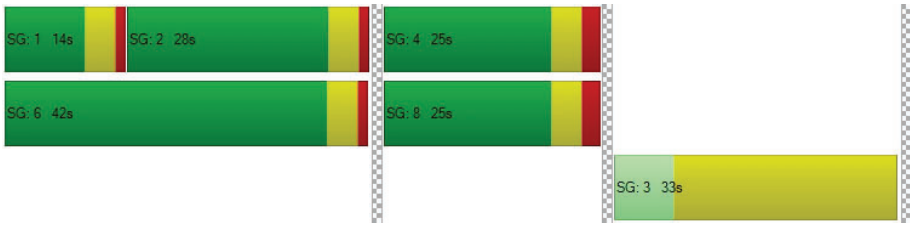
X, volume / capacity	0.74	0.78	0.42	0.71	0.85	0.04	0.20	1.01	0.32	0.41	0.42
d, Delay for Lane Group [s/veh]	54.49	40.52	35.84	52.72	44.45	32.81	37.66	71.64	22.56	20.45	20.64
Lane Group LOS	D	D	D	D	D	C	D	F	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.72	6.72	2.76	1.95	7.77	0.22	1.03	20.90	1.27	5.73	5.48
50th-Percentile Queue Length [ft/ln]	42.91	168.08	69.12	48.72	194.22	5.38	25.76	522.51	31.64	143.35	137.03
95th-Percentile Queue Length [veh/ln]	3.09	10.98	4.98	3.51	12.34	0.39	1.85	28.54	2.28	9.66	9.32
95th-Percentile Queue Length [ft/ln]	77.23	274.38	124.41	87.70	308.50	9.69	46.37	713.50	56.95	241.52	233.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.49	40.52	35.84	52.72	44.45	32.81	37.66	71.64	71.64	22.56	20.53	20.64
Movement LOS	D	D	D	D	D	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	41.14			45.69			69.43			20.79		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	43.19											
Intersection LOS	D											
Intersection V/C	0.532											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	40	410	70	10	390	10	10	110	40	70	160	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	410	70	10	390	10	10	110	40	70	160	10
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	115	20	3	107	3	3	33	12	21	48	3
Total Analysis Volume [veh/h]	45	460	79	11	426	11	12	133	48	83	191	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	46	46	46	46	46	46	22	22
g / C, Green / Cycle	0.46	0.46	0.46	0.46	0.46	0.46	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.05	0.01	0.12	0.12	0.11	0.20
s, saturation flow rate [veh/h]	967	1900	1557	947	1900	1880	1765	1440
c, Capacity [veh/h]	429	873	715	325	873	864	423	361
d1, Uniform Delay [s]	20.89	19.27	15.39	27.18	16.51	16.52	34.21	38.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	2.27	0.31	0.19	0.69	0.70	0.29	8.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

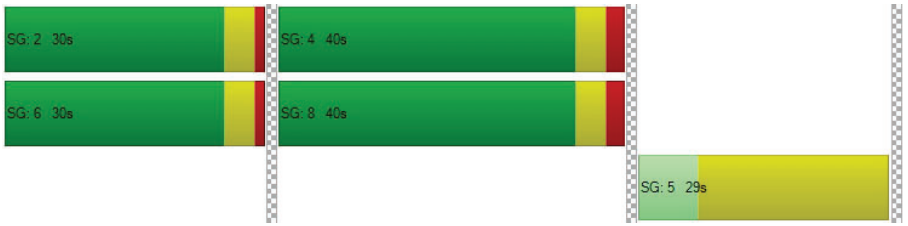
X, volume / capacity	0.11	0.53	0.11	0.03	0.25	0.25	0.46	0.79
d, Delay for Lane Group [s/veh]	21.39	21.54	15.70	27.38	17.20	17.22	34.50	46.66
Lane Group LOS	C	C	B	C	B	B	C	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.74	7.77	1.05	0.21	3.12	3.10	4.10	7.52
50th-Percentile Queue Length [ft/ln]	18.48	194.31	26.31	5.24	77.88	77.48	102.57	187.96
95th-Percentile Queue Length [veh/ln]	1.33	12.34	1.89	0.38	5.61	5.58	7.38	12.01
95th-Percentile Queue Length [ft/ln]	33.26	308.62	47.35	9.43	140.19	139.47	184.62	300.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.39	21.54	15.70	27.38	17.21	17.22	34.50	34.50	34.50	46.66	46.66	46.66
Movement LOS	C	C	B	C	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	20.74			17.46			34.50			46.66		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	26.43											
Intersection LOS	C											
Intersection V/C	0.441											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.480

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	70	570	50	40	380	40	0	210	50	0	230	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	570	50	40	380	40	0	210	50	0	230	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	170	15	11	106	11	0	58	14	0	61	13
Total Analysis Volume [veh/h]	83	678	60	44	422	44	0	234	56	0	243	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	55	55	55	55	14	14	14	14
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.55	0.55	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.04	0.06	0.12	0.13	0.12	0.04	0.08	0.08
s, saturation flow rate [veh/h]	941	1900	1587	774	1900	1832	1900	1568	1900	1770
c, Capacity [veh/h]	509	1053	880	286	1053	1015	272	224	272	253
d1, Uniform Delay [s]	15.77	15.43	10.32	27.75	11.33	11.35	41.87	38.07	39.82	40.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	3.03	0.15	1.14	0.49	0.52	3.14	0.21	0.63	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.64	0.07	0.15	0.22	0.23	0.86	0.25	0.54	0.58
d, Delay for Lane Group [s/veh]	16.46	18.46	10.47	28.89	11.83	11.87	45.01	38.29	40.45	40.87
Lane Group LOS	B	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.17	10.64	0.61	0.88	2.64	2.58	5.82	1.23	3.41	3.44
50th-Percentile Queue Length [ft/ln]	29.22	265.98	15.34	22.06	65.93	64.49	145.53	30.71	85.16	85.89
95th-Percentile Queue Length [veh/ln]	2.10	15.99	1.10	1.59	4.75	4.64	9.78	2.21	6.13	6.18
95th-Percentile Queue Length [ft/ln]	52.59	399.72	27.61	39.71	118.68	116.08	244.45	55.28	153.28	154.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.46	18.46	10.47	28.89	11.85	11.87	0.00	45.01	38.29	0.00	40.61	40.87
Movement LOS	B	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	17.68			13.32			43.71			40.66		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.00											
Intersection LOS	C											
Intersection V/C	0.480											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	39.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	80	630	220	30	350	40	0	230	40	30	310	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	630	220	30	350	40	0	230	40	30	310	70
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	172	60	8	90	10	0	63	11	8	87	20
Total Analysis Volume [veh/h]	87	689	241	31	360	41	0	252	44	34	350	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	7	51	51	61	49	49	18	30	27	27	27
g / C, Green / Cycle	0.06	0.43	0.43	0.50	0.40	0.40	0.15	0.25	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.15	0.03	0.11	0.11	0.13	0.03	0.03	0.18	0.05
s, saturation flow rate [veh/h]	1810	1900	1571	889	1900	1817	1900	1588	1325	1900	1591
c, Capacity [veh/h]	111	813	672	284	768	735	283	395	244	432	362
d1, Uniform Delay [s]	55.55	30.82	23.21	21.91	23.84	23.90	50.11	34.84	37.55	43.93	37.71
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.09	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.46	10.64	1.49	0.77	0.84	0.90	3.81	0.05	0.10	3.05	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

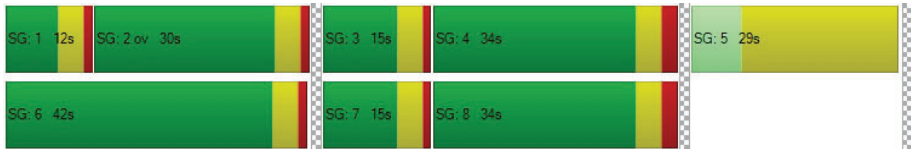
X, volume / capacity	0.78	0.85	0.36	0.11	0.26	0.27	0.89	0.11	0.14	0.81	0.22
d, Delay for Lane Group [s/veh]	60.01	41.47	24.69	22.69	24.68	24.80	53.93	34.88	37.65	46.98	37.82
Lane Group LOS	E	D	C	C	C	C	D	C	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.71	19.64	4.82	0.48	3.98	3.90	7.71	1.01	0.79	10.09	1.90
50th-Percentile Queue Length [ft/ln]	67.84	490.97	120.41	12.10	99.54	97.54	192.68	25.21	19.80	252.25	47.38
95th-Percentile Queue Length [veh/ln]	4.88	26.91	8.42	0.87	7.17	7.02	12.26	1.81	1.43	15.30	3.41
95th-Percentile Queue Length [ft/ln]	122.12	672.66	210.39	21.78	179.17	175.58	306.50	45.37	35.63	382.48	85.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.01	41.47	24.69	22.69	24.73	24.80	0.00	53.93	34.88	37.65	46.98	37.82
Movement LOS	E	D	C	C	C	C		D	C	D	D	D
d_A, Approach Delay [s/veh]	39.08			24.59			51.10			44.74		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	39.04											
Intersection LOS	D											
Intersection V/C	0.556											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	320	980	0	0	430	30	181	0	84	110	130	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	980	0	0	430	30	181	0	84	110	130	40
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	284	0	0	119	8	52	0	24	30	36	11
Total Analysis Volume [veh/h]	372	1138	0	0	478	33	208	0	96	120	142	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	78	78	60	60		13	13
g / C, Green / Cycle	0.65	0.65	0.50	0.50		0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.34	0.31	0.13	0.14		0.09	0.09
s, saturation flow rate [veh/h]	1089	3618	1900	1847		1832	1630
c, Capacity [veh/h]	721	2351	950	923		196	174
d1, Uniform Delay [s]	10.00	10.74	17.34	17.42		52.49	52.56
k, delay calibration	0.34	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.77	0.72	0.70	0.74		3.29	3.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

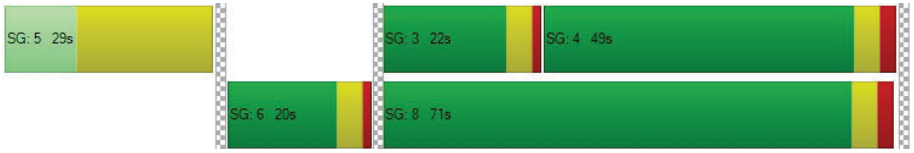
X, volume / capacity	0.52	0.48	0.27	0.28		0.82	0.83
d, Delay for Lane Group [s/veh]	11.77	11.45	18.03	18.16		55.78	56.53
Lane Group LOS	B	B	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	4.47	7.53	4.18	4.20		4.96	4.51
50th-Percentile Queue Length [ft/ln]	111.69	188.14	104.47	105.10		124.04	112.84
95th-Percentile Queue Length [veh/ln]	7.93	12.02	7.52	7.57		8.61	8.00
95th-Percentile Queue Length [ft/ln]	198.35	300.62	188.05	189.16		215.36	199.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.77	11.45	0.00	0.00	18.09	18.16	0.00	0.00	0.00	55.78	56.31	56.53
Movement LOS	B	B			B	B				E	E	E
d_A, Approach Delay [s/veh]	11.53			18.10			0.00			56.14		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	18.84											
Intersection LOS	B											
Intersection V/C	0.404											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	32.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.695

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	530	0	0	640	910	510
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	530	0	0	640	910	510
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	0	0	192	237	133
Total Analysis Volume [veh/h]	586	0	0	769	947	531
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.16	0.21	0.38	0.48
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	493
d1, Uniform Delay [s]	16.23	17.27	22.06	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.62	0.99	0.70	63.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.47	0.85	1.08
d, Delay for Lane Group [s/veh]	16.85	18.26	22.77	88.04
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.94	5.53	7.55	17.35
50th-Percentile Queue Length [ft/ln]	98.54	138.29	188.75	433.86
95th-Percentile Queue Length [veh/ln]	7.09	9.39	12.06	25.49
95th-Percentile Queue Length [ft/ln]	177.36	234.72	301.41	637.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.85	0.00	0.00	18.26	22.77	88.04
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.85		18.26		46.22	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	32.55					
Intersection LOS	C					
Intersection V/C	0.695					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	60.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	490	500	390	780	150	40	450	30	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	490	500	390	780	150	40	450	30	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	137	140	107	213	41	13	145	10	0	0	0
Total Analysis Volume [veh/h]	34	549	560	427	853	164	52	580	39	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	37	59	59	14	14	14
g / C, Green / Cycle	0.03	0.28	0.28	0.42	0.66	0.66	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.29	0.37	0.12	0.27	0.29	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1724	1880	1729	1664
c, Capacity [veh/h]	59	528	426	1459	1255	1138	289	266	256
d1, Uniform Delay [s]	42.90	32.50	32.50	17.51	7.15	7.30	36.92	36.90	36.99
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	49.98	157.58	0.04	1.01	1.22	2.31	2.46	2.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

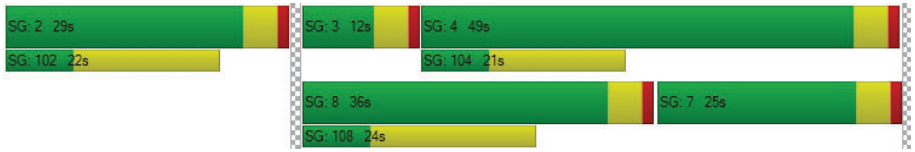
X, volume / capacity	0.57	1.04	1.31	0.29	0.41	0.44	0.83	0.82	0.84
d, Delay for Lane Group [s/veh]	46.12	82.48	190.07	17.56	8.16	8.52	39.23	39.36	39.77
Lane Group LOS	D	F	F	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.79	18.42	27.59	2.86	4.35	4.29	5.12	4.70	4.63
50th-Percentile Queue Length [ft/ln]	19.78	460.39	689.69	71.46	108.74	107.36	127.91	117.54	115.68
95th-Percentile Queue Length [veh/ln]	1.42	26.08	41.91	5.15	7.77	7.69	8.83	8.26	8.16
95th-Percentile Queue Length [ft/ln]	35.61	652.04	1047.73	128.63	194.25	192.33	220.65	206.44	203.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	82.48	190.07	17.56	8.30	8.52	39.23	39.44	39.77	0.00	0.00	0.00
Movement LOS	D	F	F	B	A	A	D	D	D			
d_A, Approach Delay [s/veh]	134.11			11.06			39.44			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	60.08											
Intersection LOS	E											
Intersection V/C	0.615											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	130	120	60	40	90	20	10	515	20	110	620	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	120	60	40	90	20	10	515	20	110	620	40
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	31	16	12	28	6	3	138	5	29	165	11
Total Analysis Volume [veh/h]	135	124	62	50	112	25	11	553	21	117	662	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	23	23	23	23	23	64	64	64	64	64	64
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.04	0.04	0.08	0.01	0.15	0.01	0.14	0.19	0.19
s, saturation flow rate [veh/h]	1229	1900	1538	1260	1812	747	3618	1537	861	1900	1834
c, Capacity [veh/h]	249	437	353	265	416	472	2309	981	549	1213	1170
d1, Uniform Delay [s]	41.13	31.72	30.89	37.31	32.07	10.97	7.72	6.63	11.49	8.05	8.08
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	0.13	0.09	0.13	0.17	0.09	0.25	0.04	0.89	0.62	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

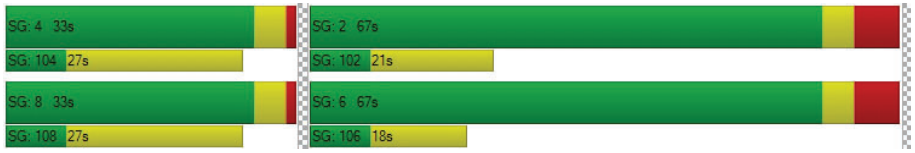
X, volume / capacity	0.54	0.28	0.18	0.19	0.33	0.02	0.24	0.02	0.21	0.29	0.30
d, Delay for Lane Group [s/veh]	41.82	31.85	30.98	37.44	32.24	11.06	7.97	6.67	12.37	8.67	8.73
Lane Group LOS	D	C	C	D	C	B	A	A	B	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.18	2.44	1.19	1.07	2.73	0.12	2.41	0.16	1.42	3.35	3.29
50th-Percentile Queue Length [ft/ln]	79.53	61.04	29.74	26.80	68.23	3.10	60.37	4.08	35.48	83.63	82.37
95th-Percentile Queue Length [veh/ln]	5.73	4.39	2.14	1.93	4.91	0.22	4.35	0.29	2.55	6.02	5.93
95th-Percentile Queue Length [ft/ln]	143.16	109.86	53.54	48.24	122.82	5.57	108.66	7.35	63.87	150.53	148.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.82	31.85	30.98	37.44	32.24	32.24	11.06	7.97	6.67	12.37	8.70	8.73
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	35.87			33.63			7.98			9.22		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	15.69											
Intersection LOS	B											
Intersection V/C	0.300											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.231

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	250	50	30	120	30	20	130	40	20	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	250	50	30	120	30	20	130	40	20	130	30
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	70	14	9	35	9	6	40	12	6	38	9
Total Analysis Volume [veh/h]	89	279	56	35	140	35	25	160	49	24	154	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	71	71	71	71	71	20	20
g / C, Green / Cycle	0.71	0.71	0.71	0.71	0.71	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.07	0.09	0.09	0.03	0.10	0.13	0.12
s, saturation flow rate [veh/h]	1216	1900	1759	1056	1815	1737	1715
c, Capacity [veh/h]	857	1342	1243	755	1282	390	385
d1, Uniform Delay [s]	6.76	4.72	4.74	6.44	4.76	36.59	36.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.20	0.22	0.12	0.22	1.49	1.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.13	0.13	0.05	0.14	0.60	0.55
d, Delay for Lane Group [s/veh]	7.00	4.92	4.96	6.56	4.98	38.07	37.37
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.70	1.02	0.99	0.27	1.05	5.29	4.74
50th-Percentile Queue Length [ft/ln]	17.58	25.46	24.69	6.66	26.36	132.27	118.55
95th-Percentile Queue Length [veh/ln]	1.27	1.83	1.78	0.48	1.90	9.06	8.31
95th-Percentile Queue Length [ft/ln]	31.65	45.83	44.44	11.99	47.44	226.58	207.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.00	4.94	4.96	6.56	4.98	4.98	38.07	38.07	38.07	37.37	37.37	37.37
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	5.37			5.24			38.07			37.37		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	18.73											
Intersection LOS	B											
Intersection V/C	0.231											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.265

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	60	390	70	20	90	20	40	240	10	10	230	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	390	70	20	90	20	40	240	10	10	230	110
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	102	18	6	27	6	11	66	3	3	62	29
Total Analysis Volume [veh/h]	63	408	73	24	106	24	44	264	11	11	246	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	20	20	20	20	20	67	67	67	67	67	67
g / C, Green / Cycle	0.20	0.20	0.20	0.20	0.20	0.67	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.14	0.03	0.07	0.04	0.07	0.07	0.01	0.13	0.08
s, saturation flow rate [veh/h]	1185	1900	1737	907	1778	1123	1900	1858	1084	1900	1498
c, Capacity [veh/h]	200	371	339	113	347	753	1278	1250	754	1278	1008
d1, Uniform Delay [s]	41.98	37.18	37.44	46.80	34.92	8.04	5.78	5.78	6.95	6.15	5.81
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.76	0.96	0.34	0.25	0.15	0.17	0.18	0.04	0.34	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

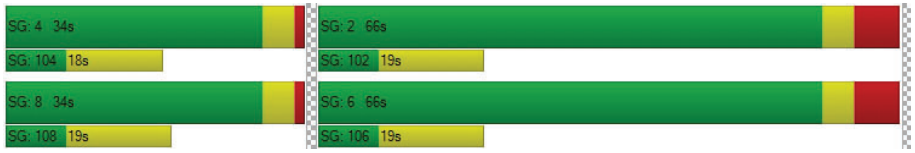
X, volume / capacity	0.31	0.66	0.69	0.21	0.37	0.06	0.11	0.11	0.01	0.19	0.12
d, Delay for Lane Group [s/veh]	42.31	37.94	38.40	47.14	35.17	8.19	5.95	5.96	6.98	6.49	6.05
Lane Group LOS	D	D	D	D	D	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.46	5.50	5.32	0.59	2.72	0.40	0.99	0.98	0.09	1.88	0.86
50th-Percentile Queue Length [ft/ln]	36.46	137.61	133.11	14.69	68.03	9.98	24.65	24.52	2.25	46.90	21.56
95th-Percentile Queue Length [veh/ln]	2.63	9.35	9.11	1.06	4.90	0.72	1.77	1.77	0.16	3.38	1.55
95th-Percentile Queue Length [ft/ln]	65.64	233.80	227.71	26.44	122.45	17.97	44.36	44.13	4.05	84.41	38.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.31	38.12	38.40	47.14	35.17	35.17	8.19	5.95	5.96	6.98	6.49	6.05
Movement LOS	D	D	D	D	D	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	38.64			37.04			6.26			6.36		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	22.35											
Intersection LOS	C											
Intersection V/C	0.265											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	90	510	70	30	50	20	60	240	10	20	300	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	510	70	30	50	20	60	240	10	20	300	50
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	150	21	9	14	6	16	64	3	6	85	14
Total Analysis Volume [veh/h]	106	600	82	34	57	23	64	254	11	23	339	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	26	26	65	65	65	65	65
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.65	0.65	0.65	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.08	0.18	0.19	0.04	0.05	0.06	0.14	0.02	0.18	0.04
s, saturation flow rate [veh/h]	1302	1900	1767	771	1742	1043	1881	1113	1900	1518
c, Capacity [veh/h]	326	487	453	115	447	658	1226	718	1238	989
d1, Uniform Delay [s]	35.23	33.84	34.09	46.60	28.97	10.21	7.06	8.99	7.39	6.31
k, delay calibration	0.04	0.08	0.09	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	1.38	2.01	0.52	0.07	0.29	0.40	0.08	0.55	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.71	0.74	0.30	0.18	0.10	0.22	0.03	0.27	0.06
d, Delay for Lane Group [s/veh]	35.44	35.22	36.10	47.12	29.05	10.50	7.47	9.08	7.93	6.42
Lane Group LOS	D	D	D	D	C	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.24	7.66	7.48	0.84	1.48	0.67	2.16	0.22	2.90	0.42
50th-Percentile Queue Length [ft/ln]	55.98	191.51	186.98	20.97	36.99	16.77	54.09	5.43	72.46	10.49
95th-Percentile Queue Length [veh/ln]	4.03	12.20	11.96	1.51	2.66	1.21	3.89	0.39	5.22	0.76
95th-Percentile Queue Length [ft/ln]	100.76	304.98	299.11	37.74	66.59	30.18	97.36	9.78	130.42	18.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.44	35.59	36.10	47.12	29.05	29.05	10.50	7.47	7.47	9.08	7.93	6.42
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	35.63			34.44			8.06			7.79		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	22.98											
Intersection LOS	C											
Intersection V/C	0.367											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	590	50	30	10	30	0	0	0	6	230	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	590	50	30	10	30	0	0	0	6	230	30
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	166	14	10	3	10	0	0	0	2	69	9
Total Analysis Volume [veh/h]	15	663	56	38	13	38	0	0	0	6	274	36
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	40	40	5	49		40
g / C, Green / Cycle	0.40	0.40	0.05	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.04	0.02	0.03		0.17
s, saturation flow rate [veh/h]	3618	1336	1810	1619		1856
c, Capacity [veh/h]	1451	536	83	798		752
d1, Uniform Delay [s]	21.95	18.71	46.48	13.27		21.23
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.04	0.39	1.47	0.15		1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

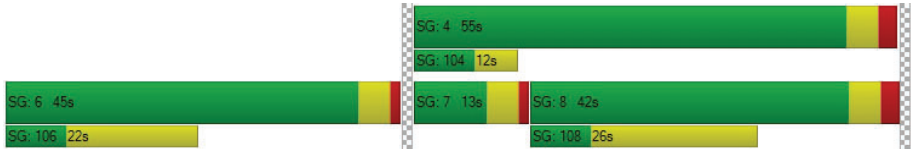
X, volume / capacity	0.46	0.10	0.46	0.06		0.41
d, Delay for Lane Group [s/veh]	22.99	19.11	47.95	13.43		22.89
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.78	0.86	0.94	0.61		5.43
50th-Percentile Queue Length [ft/ln]	144.58	21.52	23.54	15.28		135.69
95th-Percentile Queue Length [veh/ln]	9.73	1.55	1.70	1.10		9.25
95th-Percentile Queue Length [ft/ln]	243.18	38.74	42.38	27.51		231.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	22.99	19.11	47.95	13.43	13.43	0.00	0.00	0.00	0.00	22.89	22.89
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.69			28.17			0.00			22.89		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.18											
Intersection LOS	C											
Intersection V/C	0.371											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	31.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	150	50	100	180	40	70	390	20	50	270	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	50	100	180	40	70	390	20	50	270	120
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	40	13	28	50	11	20	112	6	14	75	34
Total Analysis Volume [veh/h]	11	160	53	112	201	45	81	449	23	56	302	134
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.29	0.09	0.52	0.08	0.08	0.25	0.06	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1024	1861	916	1900	1296
c, Capacity [veh/h]	274	219	289	219	488	937	378	957	652
d1, Uniform Delay [s]	19.73	15.47	25.30	15.25	14.78	11.56	18.23	10.26	9.62
k, delay calibration	0.14	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.07	0.21	77.02	0.17	0.73	1.93	0.83	0.87	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

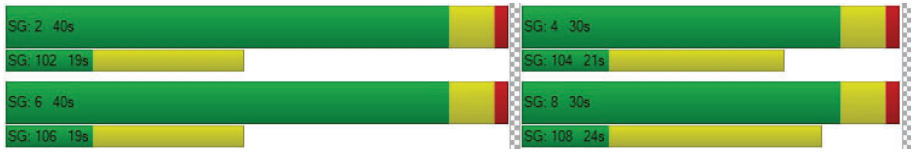
X, volume / capacity	0.62	0.24	1.08	0.21	0.17	0.50	0.15	0.32	0.21
d, Delay for Lane Group [s/veh]	22.80	15.68	102.32	15.42	15.51	13.49	19.05	11.12	10.33
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.50	0.56	10.96	0.47	0.91	4.77	0.72	2.65	1.14
50th-Percentile Queue Length [ft/ln]	62.53	14.10	274.08	11.79	22.75	119.26	18.11	66.32	28.43
95th-Percentile Queue Length [veh/ln]	4.50	1.02	17.21	0.85	1.64	8.35	1.30	4.77	2.05
95th-Percentile Queue Length [ft/ln]	112.55	25.38	430.23	21.22	40.96	208.81	32.59	119.37	51.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.80	22.80	15.68	102.32	102.32	15.42	15.51	13.49	13.49	19.05	11.12	10.33
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	21.12			91.40			13.79			11.81		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	31.28											
Intersection LOS	C											
Intersection V/C	0.775											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	140	60	30	70	30	60	420	50	70	340	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	140	60	30	70	30	60	420	50	70	340	40
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	45	19	11	26	11	16	114	14	20	98	12
Total Analysis Volume [veh/h]	77	179	77	45	104	45	65	456	54	81	394	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	43	43	43	43	43	43	43	43
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	15	15	19	19	19	19
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.07	0.15	0.04	0.09	0.07	0.29	0.10	0.25
s, saturation flow rate [veh/h]	1071	1711	1074	1641	887	1758	830	1792
c, Capacity [veh/h]	430	608	378	583	341	760	291	775
d1, Uniform Delay [s]	13.27	10.59	14.57	9.91	15.06	9.85	17.35	9.27
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.17	0.05	0.08	0.10	0.39	0.19	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

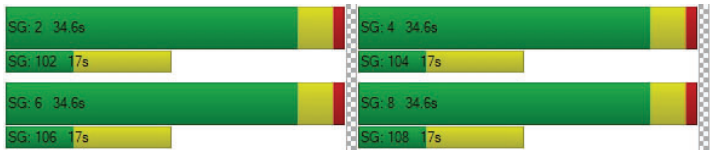
X, volume / capacity	0.18	0.42	0.12	0.26	0.19	0.67	0.28	0.57
d, Delay for Lane Group [s/veh]	13.34	10.77	14.62	9.99	15.16	10.23	17.55	9.51
Lane Group LOS	B	B	B	A	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.50	1.43	0.31	0.78	0.49	2.93	0.68	2.36
50th-Percentile Queue Length [ft/ln]	12.62	35.85	7.85	19.46	12.14	73.19	16.90	59.07
95th-Percentile Queue Length [veh/ln]	0.91	2.58	0.56	1.40	0.87	5.27	1.22	4.25
95th-Percentile Queue Length [ft/ln]	22.72	64.52	14.12	35.03	21.85	131.74	30.43	106.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.34	10.77	10.77	14.62	9.99	9.99	15.16	10.23	10.23	17.55	9.51	9.51
Movement LOS	B	B	B	B	A	A	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	11.36			11.07			10.79			10.76		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.93											
Intersection LOS	B											
Intersection V/C	0.440											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	150	320	240	70	350	50	20	640	140	200	640	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	320	240	70	350	50	20	640	140	200	640	20
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	88	66	19	95	14	6	183	40	53	171	5
Total Analysis Volume [veh/h]	166	354	265	76	381	54	23	732	160	214	683	21
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.14	0.19	0.17	0.07	0.12	0.12	0.03	0.20	0.10	0.23	0.19	0.01
s, saturation flow rate [veh/h]	1207	1900	1560	1034	1900	1795	765	3618	1551	929	3618	1542
c, Capacity [veh/h]	432	670	551	136	442	418	311	1574	675	520	2008	856
d1, Uniform Delay [s]	23.73	25.74	25.23	47.37	33.32	33.42	24.33	20.01	17.80	12.65	12.20	10.03
k, delay calibration	0.30	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.55	0.24	0.24	1.32	0.33	0.36	0.46	0.99	0.83	2.40	0.46	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.53	0.48	0.56	0.50	0.51	0.07	0.47	0.24	0.41	0.34	0.02
d, Delay for Lane Group [s/veh]	25.28	25.98	25.47	48.69	33.64	33.78	24.79	21.00	18.63	15.05	12.66	10.09
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.94	6.61	4.85	1.93	4.59	4.46	0.42	6.10	2.44	2.59	4.03	0.21
50th-Percentile Queue Length [ft/ln]	73.54	165.13	121.27	48.13	114.83	111.41	10.61	152.51	61.07	64.87	100.69	5.24
95th-Percentile Queue Length [veh/ln]	5.30	10.82	8.46	3.47	8.11	7.92	0.76	10.15	4.40	4.67	7.25	0.38
95th-Percentile Queue Length [ft/ln]	132.38	270.50	211.57	86.63	202.70	197.97	19.09	253.78	109.93	116.76	181.24	9.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.28	25.98	25.47	48.69	33.70	33.78	24.79	21.00	18.63	15.05	12.66	10.09
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	25.66			35.94			20.68			13.16		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.22											
Intersection LOS	C											
Intersection V/C	0.454											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	43.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	710	70	10	690	10	10	70	60	70	140	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	710	70	10	690	10	10	70	60	70	140	50
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	194	19	3	182	3	3	24	20	19	38	14
Total Analysis Volume [veh/h]	88	777	77	11	729	11	14	95	82	76	153	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	57	57	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.57	0.57	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.23	0.01	0.20	0.20	0.14	0.06	0.57	0.04
s, saturation flow rate [veh/h]	884	1900	1809	738	1900	1881	800	1325	400	1413
c, Capacity [veh/h]	581	1081	1029	487	995	985	260	363	158	387
d1, Uniform Delay [s]	7.86	12.04	12.10	7.67	14.10	14.12	29.19	28.06	40.44	27.39
k, delay calibration	0.10	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	1.11	1.20	0.09	1.07	1.09	0.40	0.12	235.34	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

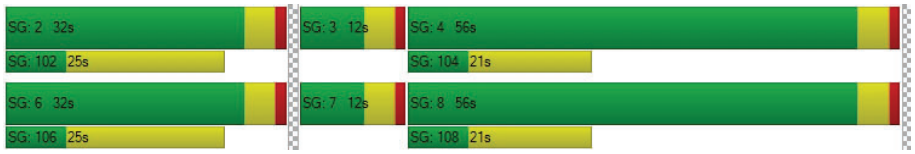
X, volume / capacity	0.15	0.40	0.41	0.02	0.37	0.37	0.42	0.23	1.45	0.14
d, Delay for Lane Group [s/veh]	7.97	13.15	13.30	7.76	15.17	15.21	29.59	28.18	275.79	27.45
Lane Group LOS	A	B	B	A	B	B	C	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	5.44	5.31	0.09	5.06	5.05	2.00	1.50	14.19	0.98
50th-Percentile Queue Length [ft/ln]	17.29	135.95	132.83	2.30	126.55	126.17	50.01	37.55	354.86	24.56
95th-Percentile Queue Length [veh/ln]	1.24	9.26	9.09	0.17	8.75	8.73	3.60	2.70	24.10	1.77
95th-Percentile Queue Length [ft/ln]	31.12	231.56	227.33	4.15	218.79	218.28	90.01	67.58	602.48	44.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.97	13.22	13.30	7.76	15.19	15.21	29.59	29.59	28.18	275.79	275.79	27.45
Movement LOS	A	B	B	A	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	12.74			15.08			28.99			227.69		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	43.14											
Intersection LOS	D											
Intersection V/C	0.807											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	730	200	60	650	10	30	290	60	100	340	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	730	200	60	650	10	30	290	60	100	340	100
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	194	53	17	184	3	8	79	16	26	89	26
Total Analysis Volume [veh/h]	117	777	213	68	735	11	33	315	65	105	357	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	57	46	46	57	45	45	23	23	23	34	34	34
g / C, Green / Cycle	0.57	0.46	0.46	0.57	0.45	0.45	0.23	0.23	0.23	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.28	0.09	0.20	0.20	0.03	0.10	0.11	0.09	0.19	0.07
s, saturation flow rate [veh/h]	904	1900	1730	764	1900	1887	1016	1900	1742	1235	1900	1515
c, Capacity [veh/h]	525	878	800	423	865	859	125	431	395	431	646	515
d1, Uniform Delay [s]	11.02	19.83	19.98	12.12	18.49	18.50	46.44	33.30	33.48	23.65	26.85	23.43
k, delay calibration	0.26	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	2.84	3.26	0.81	1.58	1.59	0.41	0.27	0.32	0.11	0.28	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

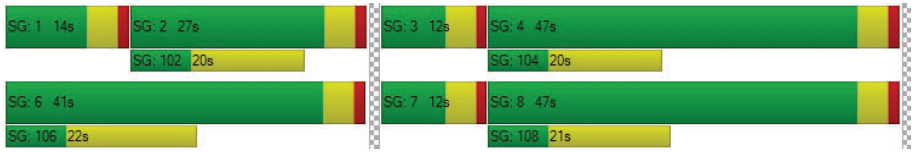
X, volume / capacity	0.22	0.58	0.60	0.16	0.43	0.43	0.26	0.45	0.47	0.24	0.55	0.20
d, Delay for Lane Group [s/veh]	11.53	22.68	23.24	12.93	20.07	20.09	46.85	33.57	33.80	23.76	27.13	23.50
Lane Group LOS	B	C	C	B	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.21	9.18	8.66	0.74	6.09	6.06	0.81	4.04	3.91	1.74	6.84	1.75
50th-Percentile Queue Length [ft/ln]	30.36	229.46	216.41	18.50	152.23	151.60	20.34	101.08	97.71	43.39	171.07	43.84
95th-Percentile Queue Length [veh/ln]	2.19	14.15	13.48	1.33	10.14	10.10	1.46	7.28	7.04	3.12	11.13	3.16
95th-Percentile Queue Length [ft/ln]	54.65	353.68	337.03	33.30	253.41	252.56	36.61	181.95	175.88	78.10	278.32	78.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.53	22.87	23.24	12.93	20.08	20.09	46.85	33.66	33.80	23.76	27.13	23.50
Movement LOS	B	C	C	B	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	21.74			19.48			34.73			25.83		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	23.76											
Intersection LOS	C											
Intersection V/C	0.483											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	42.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	110	940	150	30	840	50	80	280	100	100	280	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	940	150	30	840	50	80	280	100	100	280	50
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	241	38	8	222	13	24	82	29	28	80	14
Total Analysis Volume [veh/h]	113	963	154	32	886	53	94	329	118	114	319	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	8	51	51	39	39	39	26	26	26	35	35
g / C, Green / Cycle	0.08	0.51	0.51	0.39	0.39	0.39	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.31	0.06	0.25	0.25	0.09	0.17	0.08	0.36	0.04
s, saturation flow rate [veh/h]	1810	1900	1753	512	1900	1837	1077	1900	1481	1189	1486
c, Capacity [veh/h]	142	978	903	150	742	717	72	488	380	392	524
d1, Uniform Delay [s]	45.29	16.82	17.08	38.38	24.75	24.86	50.00	33.39	30.00	29.99	21.76
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.14	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	2.54	3.00	3.24	4.19	4.49	142.79	2.13	0.17	76.73	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

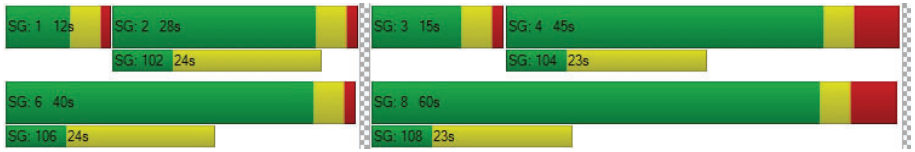
X, volume / capacity	0.80	0.58	0.60	0.21	0.64	0.65	1.30	0.67	0.31	1.10	0.11
d, Delay for Lane Group [s/veh]	49.10	19.36	20.08	41.62	28.93	29.35	192.78	35.52	30.17	106.72	21.80
Lane Group LOS	D	B	C	D	C	C	F	D	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.89	9.35	9.15	0.84	9.74	9.64	4.65	7.26	2.26	15.72	0.89
50th-Percentile Queue Length [ft/ln]	72.22	233.69	228.86	21.02	243.53	240.96	116.36	181.48	56.60	392.92	22.13
95th-Percentile Queue Length [veh/ln]	5.20	14.36	14.12	1.51	14.86	14.73	8.38	11.68	4.08	23.64	1.59
95th-Percentile Queue Length [ft/ln]	129.99	359.04	352.91	37.84	371.50	368.25	209.46	291.95	101.89	590.96	39.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.10	19.65	20.08	41.62	29.13	29.35	192.78	35.52	30.17	106.72	106.72	21.80
Movement LOS	D	B	C	D	C	C	F	D	C	F	F	C
d_A, Approach Delay [s/veh]	22.41			29.55			61.68			96.84		
Approach LOS	C			C			E			F		
d_I, Intersection Delay [s/veh]	42.42											
Intersection LOS	D											
Intersection V/C	0.585											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	83.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	1240	190	10	1100	10	6	90	100	66	90	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1240	190	10	1100	10	6	90	100	66	90	30
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	337	52	3	302	3	2	29	33	18	27	9
Total Analysis Volume [veh/h]	11	1349	207	11	1206	11	7	118	131	70	109	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	30	30	2	30	30	40	40
g / C, Green / Cycle	0.02	0.35	0.35	0.02	0.35	0.35	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.43	0.01	0.32	0.32	0.15	0.08
s, saturation flow rate [veh/h]	1810	1900	1782	1810	1900	1891	1709	1802
c, Capacity [veh/h]	36	666	625	36	666	663	799	843
d1, Uniform Delay [s]	41.31	27.76	27.76	41.31	26.53	26.56	14.18	13.18
k, delay calibration	0.04	0.50	0.50	0.04	0.35	0.36	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.70	97.77	115.69	1.70	14.77	15.05	1.02	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

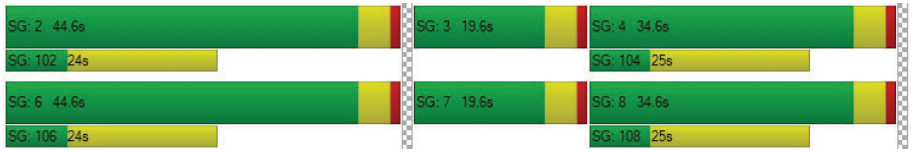
X, volume / capacity	0.30	1.18	1.23	0.30	0.91	0.92	0.31	0.17
d, Delay for Lane Group [s/veh]	43.00	125.53	143.45	43.00	41.30	41.60	15.20	13.62
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.24	30.96	32.14	0.24	13.97	13.98	3.07	1.64
50th-Percentile Queue Length [ft/ln]	6.07	773.89	803.46	6.07	349.24	349.59	76.65	41.01
95th-Percentile Queue Length [veh/ln]	0.44	44.65	47.04	0.44	20.10	20.12	5.52	2.95
95th-Percentile Queue Length [ft/ln]	10.93	1116.23	1175.90	10.93	502.48	502.91	137.96	73.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.00	132.96	143.45	43.00	41.45	41.60	0.00	15.20	15.20	0.00	13.62	13.62
Movement LOS	D	F	F	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	133.71			41.47			15.20			13.62		
Approach LOS	F			D			B			B		
d_I, Intersection Delay [s/veh]	83.48											
Intersection LOS	F											
Intersection V/C	0.582											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	99.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.974

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	280	650	0	0	1150	40	0	0	0	760	280	790
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	650	0	0	1150	40	0	0	0	760	280	790
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	187	0	0	322	11	0	0	0	201	74	209
Total Analysis Volume [veh/h]	322	747	0	0	1288	45	0	0	0	804	296	836
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	18	50	28	28		30	30	30	30
g / C, Green / Cycle	0.20	0.56	0.31	0.31		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.18	0.21	0.25	0.24		0.55	0.27	0.30	0.55
s, saturation flow rate [veh/h]	1810	3618	3618	1865		900	1843	1501	900
c, Capacity [veh/h]	355	2026	1130	583		304	622	507	304
d1, Uniform Delay [s]	35.35	10.98	28.19	27.92		29.80	27.00	28.19	29.80
k, delay calibration	0.28	0.50	0.50	0.50		0.50	0.26	0.33	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.99	0.52	5.53	9.14		298.2	5.45	14.57	296.3
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.37	0.79	0.76		1.63	0.80	0.89	1.63
d, Delay for Lane Group [s/veh]	54.34	11.50	33.73	37.07		328.0	32.45	42.76	326.1
Lane Group LOS	D	B	C	D		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	8.61	3.97	9.29	9.82		31.14	9.75	10.41	30.99
50th-Percentile Queue Length [ft/ln]	215.33	99.14	232.36	245.60		778.6	243.8	260.1	774.7
95th-Percentile Queue Length [veh/ln]	13.43	7.14	14.29	14.96		50.84	14.88	15.70	50.57
95th-Percentile Queue Length [ft/ln]	335.66	178.45	357.36	374.11		1270.	371.8	392.4	1264.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.34	11.50	0.00	0.00	34.76	37.07	0.00	0.00	0.00	210.34	36.23	213.25
Movement LOS	D	B			C	D				F	D	F
d_A, Approach Delay [s/veh]	24.40			34.84			0.00			185.51		
Approach LOS	C			C			A			F		
d_I, Intersection Delay [s/veh]	99.51											
Intersection LOS	F											
Intersection V/C	0.974											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	720	690	810	1030	0	140	380	260	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	720	690	810	1030	0	140	380	260	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	197	235	298	0	47	127	87	0	0	0
Total Analysis Volume [veh/h]	0	820	786	938	1193	0	187	509	348	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	27	27	27	27	59	22	22	22
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.65	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.22	0.27	0.27	0.27	0.33	0.19	0.19	0.22
s, saturation flow rate [veh/h]	3618	1515	1515	3514	3618	1852	1729	1584
c, Capacity [veh/h]	1079	452	452	1061	2356	457	426	391
d1, Uniform Delay [s]	28.52	30.19	30.19	29.94	8.18	31.73	31.73	32.76
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.39	2.44	2.44	10.72	0.78	1.16	1.24	2.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

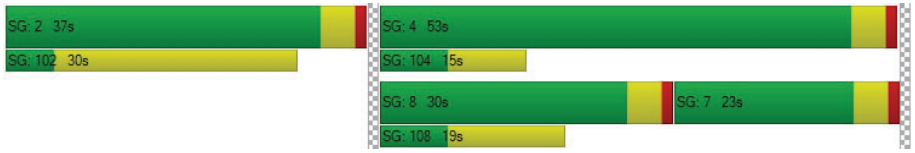
X, volume / capacity	0.74	0.89	0.89	0.88	0.51	0.79	0.79	0.89
d, Delay for Lane Group [s/veh]	28.90	32.63	32.63	40.66	8.96	32.89	32.97	35.61
Lane Group LOS	C	C	C	D	A	C	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.51	8.20	8.20	10.90	5.45	7.18	6.71	7.33
50th-Percentile Queue Length [ft/ln]	187.87	205.00	205.00	272.39	136.15	179.51	167.81	183.22
95th-Percentile Queue Length [veh/ln]	12.01	12.90	12.90	16.31	9.27	11.57	10.96	11.77
95th-Percentile Queue Length [ft/ln]	300.27	322.41	322.41	407.72	231.84	289.37	274.03	294.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.90	32.63	40.66	8.96	0.00	32.89	32.94	35.61	0.00	0.00	0.00
Movement LOS		C	C	D	A		C	C	D			
d_A, Approach Delay [s/veh]	30.77			22.91			33.82			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	27.93											
Intersection LOS	C											
Intersection V/C	0.752											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	780	160	90	470	100	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	780	160	90	470	100	180
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	223	46	24	127	30	54
Total Analysis Volume [veh/h]	893	183	97	508	120	215
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.25	0.12	0.15	0.14	0.08	0.16
s, saturation flow rate [veh/h]	3618	1554	631	3618	1563	1337
c, Capacity [veh/h]	2510	1078	433	2510	272	233
d1, Uniform Delay [s]	6.23	5.32	10.85	5.46	36.92	40.62
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.34	1.20	0.18	0.42	6.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.17	0.22	0.20	0.44	0.92
d, Delay for Lane Group [s/veh]	6.62	5.66	12.04	5.64	37.34	46.89
Lane Group LOS	A	A	B	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.47	1.27	1.18	1.72	2.61	5.49
50th-Percentile Queue Length [ft/ln]	86.73	31.70	29.42	43.10	65.22	137.15
95th-Percentile Queue Length [veh/ln]	6.24	2.28	2.12	3.10	4.70	9.33
95th-Percentile Queue Length [ft/ln]	156.12	57.05	52.96	77.58	117.39	233.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.62	5.66	12.04	5.64	37.34	46.89
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	6.46		6.66		43.47	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.67					
Intersection LOS	B					
Intersection V/C	0.408					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.260

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	30	20	0	20	50	30	0	20	110	30	0	20	110	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	30	20	0	20	50	30	0	20	110	30	0	20	110	30
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	9	6	0	7	18	11	0	7	37	10	0	5	30	8
Total Analysis Volume [veh/h]	0	24	35	24	0	29	72	43	0	27	148	40	0	22	119	32
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	616	729	631	740	672	786	667	778
Degree of Utilization, x	0.10	0.03	0.16	0.06	0.26	0.05	0.21	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	0.10	0.57	0.18	1.04	0.16	0.80	0.13
95th-Percentile Queue Length [ft]	7.90	2.55	14.18	4.62	25.98	4.02	19.89	3.21
Approach Delay [s/veh]	8.77		9.01		9.49		9.17	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.19							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	420	100	0	50	530	0	140	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	420	100	0	50	530	0	140	80
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	29	0	14	148	0	37	21
Total Analysis Volume [veh/h]	0	493	117	0	56	594	0	149	85
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.26	0.07	0.06	0.31	0.09	0.06
s, saturation flow rate [veh/h]	1899	1615	918	1900	1711	1352
c, Capacity [veh/h]	1191	952	142	1120	393	310
d1, Uniform Delay [s]	5.79	4.62	25.44	6.23	16.54	16.11
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.06	0.26	8.02	1.80	0.22	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

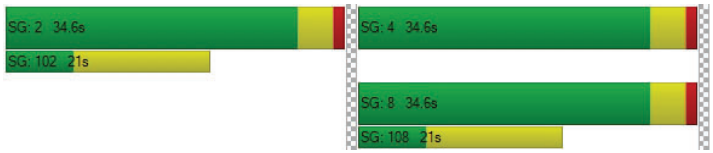
X, volume / capacity	0.41	0.12	0.39	0.53	0.38	0.27
d, Delay for Lane Group [s/veh]	6.85	4.89	33.46	8.03	16.76	16.29
Lane Group LOS	A	A	C	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.28	0.44	0.95	3.06	1.37	0.76
50th-Percentile Queue Length [ft/ln]	57.03	10.89	23.63	76.60	34.20	19.04
95th-Percentile Queue Length [veh/ln]	4.11	0.78	1.70	5.52	2.46	1.37
95th-Percentile Queue Length [ft/ln]	102.65	19.60	42.54	137.88	61.55	34.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.85	6.85	4.89	33.46	33.46	8.03	16.76	16.76	16.29
Movement LOS	A	A	A	C	C	A	B	B	B
d_A, Approach Delay [s/veh]	6.47			10.22			16.59		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	9.69								
Intersection LOS	A								
Intersection V/C	0.400								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	50	10	20	110	10	10	110	20	10	80	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	10	20	110	10	10	110	20	10	80	30
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	3	6	30	3	3	38	7	3	23	9
Total Analysis Volume [veh/h]	11	57	11	22	122	11	14	150	27	12	93	35
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	744	753	785	785
Degree of Utilization, x	0.11	0.21	0.24	0.18

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.36	0.77	0.95	0.65
95th-Percentile Queue Length [ft]	8.88	19.23	23.83	16.16
Approach Delay [s/veh]	8.42	9.01	9.06	8.58
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.84			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	170	40	20	230	20	30	100	30	40	90	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	170	40	20	230	20	30	100	30	40	90	40
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	65	15	6	67	6	10	34	10	11	25	11
Total Analysis Volume [veh/h]	31	260	61	23	268	23	41	135	41	44	100	44
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	630	617	580	575
Degree of Utilization, x	0.56	0.51	0.37	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.46	2.89	1.73	1.42
95th-Percentile Queue Length [ft]	86.53	72.34	43.21	35.43
Approach Delay [s/veh]	15.73	14.75	12.88	12.28
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	14.26			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	80.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.135

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	120	270	40	40	370	40	20	90	100	70	160	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	270	40	40	370	40	20	90	100	70	160	40
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	78	12	11	104	11	6	27	30	25	58	14
Total Analysis Volume [veh/h]	138	311	46	45	418	45	24	109	121	101	232	58
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	449	446	463	446	400	424
Degree of Utilization, x	1.11	0.10	1.14	0.10	0.63	0.92

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	16.16	0.34	17.07	0.33	4.23	10.23
95th-Percentile Queue Length [ft]	404.08	8.56	426.65	8.36	105.79	255.87
Approach Delay [s/veh]	99.93		106.45		26.36	56.00
Approach LOS	F		F		D	F
Intersection Delay [s/veh]	80.18					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	108.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	10	300	430	120	180	20	40	410	10	150	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	300	430	120	180	20	40	410	10	150	30	40
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	77	110	34	51	6	13	128	3	39	8	10
Total Analysis Volume [veh/h]	10	307	441	136	204	23	50	513	13	157	31	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	37	46	41	16	16	16	16
g / C, Green / Cycle	0.58	0.46	0.58	0.51	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.45	0.15	0.12	0.04	0.28	0.18	0.05
s, saturation flow rate [veh/h]	1223	1653	896	1846	1199	1884	891	1537
c, Capacity [veh/h]	760	767	335	939	261	387	90	316
d1, Uniform Delay [s]	7.32	21.04	16.73	11.02	30.73	31.84	40.06	26.56
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.14	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	27.10	3.64	0.61	0.13	166.63	338.12	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

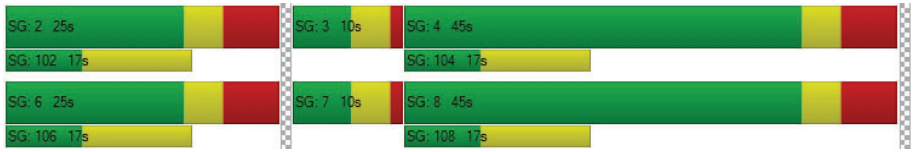
X, volume / capacity	0.01	0.98	0.41	0.24	0.19	1.36	1.74	0.23
d, Delay for Lane Group [s/veh]	7.32	48.14	20.36	11.63	30.87	198.46	378.18	26.70
Lane Group LOS	A	D	C	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	17.82	1.29	2.24	0.85	25.11	10.18	1.13
50th-Percentile Queue Length [ft/ln]	1.58	445.59	32.18	55.91	21.36	627.77	254.56	28.21
95th-Percentile Queue Length [veh/ln]	0.11	24.75	2.32	4.03	1.54	38.49	18.33	2.03
95th-Percentile Queue Length [ft/ln]	2.84	618.69	57.93	100.65	38.44	962.17	458.21	50.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.32	48.14	48.14	20.36	11.63	11.63	30.87	198.46	198.46	378.18	26.70	26.70
Movement LOS	A	D	D	C	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	47.60			14.90			183.91			266.62		
Approach LOS	D			B			F			F		
d_I, Intersection Delay [s/veh]	108.33											
Intersection LOS	F											
Intersection V/C	0.770											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.257

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	50	100	20	10	100	10	10	100	20	10	100	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	100	20	10	100	10	10	100	20	10	100	10
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	28	6	3	27	3	3	34	7	3	28	3
Total Analysis Volume [veh/h]	56	112	22	11	110	11	14	138	28	11	113	11
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	740	732	747	731
Degree of Utilization, x	0.26	0.18	0.24	0.18

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.02	0.65	0.94	0.67
95th-Percentile Queue Length [ft]	25.52	16.37	23.51	16.84
Approach Delay [s/veh]	9.53	9.00	9.35	9.04
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.27			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	180	40	10	250	10	10	90	60	40	60	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	180	40	10	250	10	10	90	60	40	60	20
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	50	11	3	71	3	3	26	17	13	19	6
Total Analysis Volume [veh/h]	22	199	44	11	283	11	12	104	69	50	75	25
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	683	683	654	627
Degree of Utilization, x	0.39	0.45	0.28	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.84	2.31	1.16	0.93
95th-Percentile Queue Length [ft]	45.96	57.80	29.00	23.22
Approach Delay [s/veh]	11.58	12.47	10.66	10.54
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.52			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.811

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2690	90	0	3910	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2690	90	0	3910	140	30
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	774	26	0	1003	46	10
Total Analysis Volume [veh/h]	3096	104	0	4010	184	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	93	93	93	93
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	72	72	72	10
g / C, Green / Cycle	0.78	0.78	0.78	0.11
(v / s)_i Volume / Saturation Flow Rate	0.67	0.65	0.66	0.14
s, saturation flow rate [veh/h]	3192	1648	6089	1564
c, Capacity [veh/h]	2487	1284	4744	169
d1, Uniform Delay [s]	6.83	6.42	6.63	41.40
k, delay calibration	0.04	0.20	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	2.60	0.17	180.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.83	0.85	1.32
d, Delay for Lane Group [s/veh]	7.18	9.02	6.80	222.12
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.16	9.42	8.31	12.25
50th-Percentile Queue Length [ft/ln]	228.96	235.60	207.65	306.37
95th-Percentile Queue Length [veh/ln]	14.12	14.46	13.03	19.89
95th-Percentile Queue Length [ft/ln]	353.04	361.46	325.82	497.17

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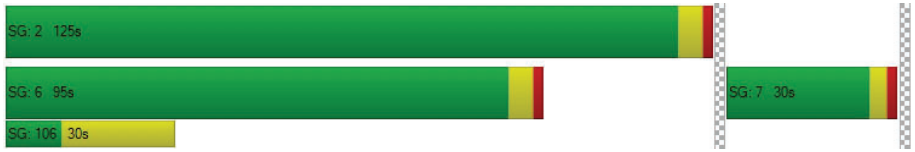
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.75	9.02	0.00	6.80	222.12	222.12
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.79		6.80		222.12	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	13.68					
Intersection LOS	B					
Intersection V/C	0.811					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	155.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.173

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2060	630	30	240	520	10	568	540	0	0	420	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2060	630	30	240	520	10	568	540	0	0	420	240
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	606	185	9	70	151	3	142	138	0	0	130	74
Total Analysis Volume [veh/h]	2424	741	35	279	605	12	568	554	0	0	520	297
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	83	83	83	25	25	25	25
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.51	0.54	0.54	0.28	0.28	0.35	0.22
s, saturation flow rate [veh/h]	3192	1486	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1846	859	824	279	278	279	660
d1, Uniform Delay [s]	25.79	27.91	27.96	59.13	59.13	59.13	59.13
k, delay calibration	0.04	0.38	0.38	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	15.90	16.59	290.03	291.66	457.39	107.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.94	0.94	1.61	1.61	1.99	1.24
d, Delay for Lane Group [s/veh]	26.33	43.81	44.55	349.16	350.79	516.52	167.12
Lane Group LOS	C	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	22.88	28.40	27.47	32.56	32.58	45.51	14.59
50th-Percentile Queue Length [ft/ln]	571.91	710.10	686.77	813.88	814.40	1137.70	364.63
95th-Percentile Queue Length [veh/ln]	30.72	37.14	36.07	50.62	50.67	71.46	22.94
95th-Percentile Queue Length [ft/ln]	768.01	928.62	901.66	1265.44	1266.83	1786.55	573.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.43	44.55	44.55	349.16	350.79	350.79	0.00	516.52	0.00	0.00	167.12	167.12
Movement LOS	C	D	D	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	35.16			349.98			516.52			167.12		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	155.26											
Intersection LOS	F											
Intersection V/C	1.173											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.280

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	40	30	0	20	70	30	0	20	110	60	0	20	100	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	40	30	0	20	70	30	0	20	110	60	0	20	100	20
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	12	9	0	6	21	9	0	6	32	17	0	6	29	6
Total Analysis Volume [veh/h]	0	35	47	35	0	24	83	35	0	23	127	69	0	23	117	23
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	735	739	783	754
Degree of Utilization, x	0.16	0.19	0.28	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.56	0.71	1.15	0.82
95th-Percentile Queue Length [ft]	14.10	17.66	28.67	20.46
Approach Delay [s/veh]	8.83	9.02	9.38	9.09
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.12			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	40	20	10	60	10	10	60	20	30	50	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	40	20	10	60	10	10	60	20	30	50	10
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	6	3	16	3	4	21	7	9	15	3
Total Analysis Volume [veh/h]	25	50	25	11	65	11	14	85	28	36	60	12
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	674	805	685	803	699	822	682	820
Degree of Utilization, x	0.11	0.03	0.11	0.01	0.14	0.03	0.14	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.37	0.10	0.37	0.04	0.49	0.11	0.49	0.04
95th-Percentile Queue Length [ft]	9.34	2.40	9.32	1.04	12.30	2.64	12.21	1.11
Approach Delay [s/veh]	8.36		8.44		8.38		8.66	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.46							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	32	0	1180	260	310	900	0	32	1085	209	60	0	50
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	1180	260	310	900	0	32	1085	209	60	0	50
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	323	71	80	231	0	8	271	52	18	0	15
Total Analysis Volume [veh/h]	32	0	1292	285	318	925	0	32	1085	209	73	0	61
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	53	53	66	58		15	15
g / C, Green / Cycle	0.03	0.59	0.59	0.73	0.65		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.36	0.18	0.49	0.26		0.04	0.04
s, saturation flow rate [veh/h]	1810	3618	1615	645	3618		1730	1501
c, Capacity [veh/h]	56	2148	959	490	2335		294	255
d1, Uniform Delay [s]	43.00	11.55	9.02	12.02	7.60		32.37	32.31
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.32	1.26	0.79	6.54	0.50		0.16	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.60	0.30	0.65	0.40		0.25	0.24
d, Delay for Lane Group [s/veh]	46.32	12.81	9.81	18.56	8.10		32.53	32.49
Lane Group LOS	D	B	A	B	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	7.67	2.72	2.40	3.87		1.38	1.15
50th-Percentile Queue Length [ft/ln]	18.68	191.72	68.07	59.98	96.71		34.39	28.73
95th-Percentile Queue Length [veh/ln]	1.34	12.21	4.90	4.32	6.96		2.48	2.07
95th-Percentile Queue Length [ft/ln]	33.62	305.26	122.53	107.96	174.08		61.90	51.71

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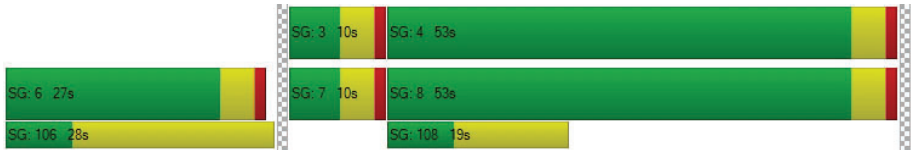
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.32	0.00	12.81	9.81	18.56	8.10	0.00	0.00	0.00	0.00	32.53	0.00	32.49
Movement LOS	D		B	A	B	A					C		C
d_A, Approach Delay [s/veh]	12.95				10.77			0.00			32.51		
Approach LOS	B				B			A			C		
d_I, Intersection Delay [s/veh]	12.92												
Intersection LOS	B												
Intersection V/C	0.467												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	49.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2560	2	340	2310	10	20	10	20	10	10	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2560	2	340	2310	10	20	10	20	10	10	390
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	743	1	87	591	3	8	4	8	3	3	117
Total Analysis Volume [veh/h]	35	2971	2	348	2363	10	32	16	32	12	12	470
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	270	270	270	270	270	270	270	270
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	7	156	54	203	203	45	45	103
g / C, Green / Cycle	0.03	0.58	0.20	0.75	0.75	0.17	0.17	0.38
(v / s)_i Volume / Saturation Flow Rate	0.02	0.57	0.19	0.43	0.43	0.05	0.02	0.29
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1896	1469	1422	1615
c, Capacity [veh/h]	45	2989	364	2726	1429	264	257	620
d1, Uniform Delay [s]	130.80	56.56	106.55	14.37	14.39	100.18	94.98	72.29
k, delay calibration	0.04	0.04	0.24	0.04	0.10	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.63	3.51	23.49	0.07	0.35	0.24	0.06	8.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

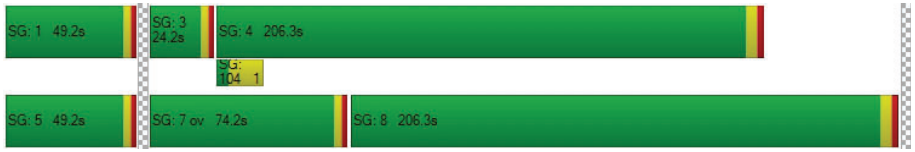
X, volume / capacity	0.78	0.99	0.96	0.57	0.57	0.30	0.09	0.76
d, Delay for Lane Group [s/veh]	141.43	60.07	130.05	14.44	14.74	100.42	95.04	80.75
Lane Group LOS	F	E	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.61	66.30	26.63	20.37	21.53	5.09	1.46	30.31
50th-Percentile Queue Length [ft/ln]	65.31	1657.56	665.64	509.34	538.14	127.33	36.53	757.66
95th-Percentile Queue Length [veh/ln]	4.70	79.66	35.09	27.78	29.13	8.79	2.63	39.33
95th-Percentile Queue Length [ft/ln]	117.55	1991.41	877.20	694.41	728.36	219.86	65.75	983.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	141.43	60.07	0.00	130.05	14.54	14.74	100.42	100.42	100.42	95.04	95.04	80.75
Movement LOS	F	E		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	61.02			29.32			100.42			81.45		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	49.43											
Intersection LOS	D											
Intersection V/C	0.949											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	122.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.048

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	320	570	70	20	400	40	40	80	250	0	50	160	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	570	70	20	400	40	40	80	250	0	50	160	70
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	85	152	19	6	114	11	11	22	68	0	16	50	22
Total Analysis Volume [veh/h]	341	607	75	23	458	46	44	88	274	0	63	201	88
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	57	57	10	48	48	33	33	19	0	33	33	33
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	51	51	2	43	43	28	47	28	28
g / C, Green / Cycle	0.10	0.51	0.51	0.02	0.43	0.43	0.28	0.47	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.19	0.32	0.06	0.01	0.24	0.04	0.49	0.18	0.62	0.08
s, saturation flow rate [veh/h]	1810	1900	1211	1810	1900	1302	272	1534	427	1091
c, Capacity [veh/h]	188	979	624	43	827	567	125	726	165	309
d1, Uniform Delay [s]	44.79	17.26	12.52	48.25	21.03	16.54	34.04	16.91	31.93	27.97
k, delay calibration	0.38	0.50	0.50	0.04	0.50	0.50	0.50	0.08	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	380.24	2.95	0.39	3.76	2.67	0.28	96.64	0.25	295.31	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

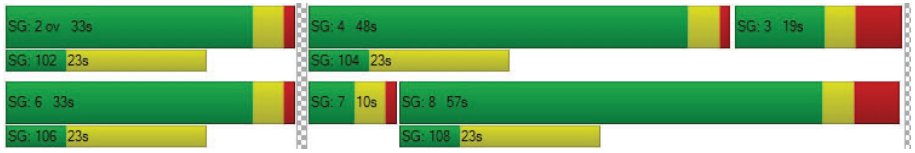
X, volume / capacity	1.81	0.62	0.12	0.53	0.55	0.08	1.06	0.38	1.60	0.29
d, Delay for Lane Group [s/veh]	425.03	20.21	12.92	52.01	23.70	16.82	130.68	17.16	327.23	28.15
Lane Group LOS	F	C	B	D	C	B	F	B	F	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	24.52	10.25	0.92	0.61	8.35	0.66	6.49	4.04	16.60	1.62
50th-Percentile Queue Length [ft/ln]	613.08	256.23	22.88	15.24	208.78	16.39	162.21	101.07	414.94	40.58
95th-Percentile Queue Length [veh/ln]	38.94	15.50	1.65	1.10	13.09	1.18	10.98	7.28	28.44	2.92
95th-Percentile Queue Length [ft/ln]	973.59	387.49	41.18	27.43	327.27	29.50	274.45	181.92	710.90	73.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	425.03	20.21	12.92	52.01	23.70	16.82	130.68	130.68	17.16	327.2	327.2	327.2	28.15
Movement LOS	F	C	B	D	C	B	F	F	B	F	F	F	C
d_A, Approach Delay [s/veh]	154.61			24.33			54.07			252.46			
Approach LOS	F			C			D			F			
d_I, Intersection Delay [s/veh]	122.10												
Intersection LOS	F												
Intersection V/C	1.048												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	50.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.498

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	540	280	0	190	480	0	320	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	540	280	0	190	480	0	320	350
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	146	76	0	50	127	0	92	101
Total Analysis Volume [veh/h]	0	584	303	0	200	506	0	368	403
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.22	0.20	0.14	0.21	0.15	0.23
s, saturation flow rate [veh/h]	1900	1729	1370	978	3618	1299	1686	1064
c, Capacity [veh/h]	1134	999	791	715	2509	226	294	186
d1, Uniform Delay [s]	10.63	10.63	11.45	5.74	5.46	41.27	40.16	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.27	0.08	0.36
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.59	0.69	1.40	0.97	0.18	103.95	6.20	174.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

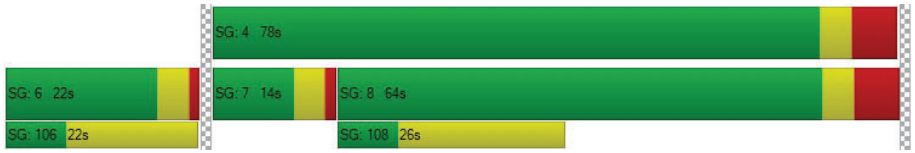
X, volume / capacity	0.27	0.28	0.38	0.28	0.20	1.18	0.87	1.34
d, Delay for Lane Group [s/veh]	11.21	11.32	12.85	6.71	5.64	145.22	46.36	216.09
Lane Group LOS	B	B	B	A	A	F	D	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.40	3.12	3.75	1.46	1.72	12.04	6.54	13.52
50th-Percentile Queue Length [ft/ln]	85.12	78.08	93.67	36.43	42.90	300.97	163.50	337.94
95th-Percentile Queue Length [veh/ln]	6.13	5.62	6.74	2.62	3.09	19.13	10.73	22.06
95th-Percentile Queue Length [ft/ln]	153.21	140.54	168.60	65.57	77.23	478.18	268.35	551.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.21	11.26	12.85	6.71	6.71	5.64	145.22	116.39	153.43
Movement LOS	B	B	B	A	A	A	F	F	F
d_A, Approach Delay [s/veh]	11.81			5.94			135.26		
Approach LOS	B			A			F		
d_I, Intersection Delay [s/veh]	50.32								
Intersection LOS	D								
Intersection V/C	0.498								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	750	100	60	810	50	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	750	100	60	810	50	120
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	206	27	16	215	15	35
Total Analysis Volume [veh/h]	825	110	64	860	59	142
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.23	0.08	0.10	0.24	0.12
s, saturation flow rate [veh/h]	3618	1339	670	3618	1668
c, Capacity [veh/h]	2236	827	395	2236	417
d1, Uniform Delay [s]	9.44	7.94	14.85	9.56	31.96
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.33	0.88	0.50	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

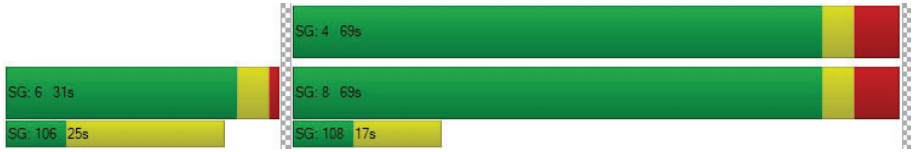
X, volume / capacity	0.37	0.13	0.16	0.38	0.48
d, Delay for Lane Group [s/veh]	9.91	8.27	15.73	10.06	32.28
Lane Group LOS	A	A	B	B	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	4.27	1.00	0.91	4.51	4.09
50th-Percentile Queue Length [ft/ln]	106.68	25.02	22.76	112.67	102.18
95th-Percentile Queue Length [veh/ln]	7.65	1.80	1.64	7.99	7.36
95th-Percentile Queue Length [ft/ln]	191.37	45.04	40.97	199.70	183.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.91	8.27	15.73	10.06	32.28	32.28
Movement LOS	A	A	B	B	C	C
d_A, Approach Delay [s/veh]	9.71		10.45		32.28	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.25					
Intersection LOS	B					
Intersection V/C	0.358					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	33.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	770	200	100	770	170	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	770	200	100	770	170	100
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	217	56	29	220	47	28
Total Analysis Volume [veh/h]	868	225	114	880	187	110
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.24	0.17	0.14	0.24	0.22	0.09
s, saturation flow rate [veh/h]	3618	1296	806	3618	832	1238
c, Capacity [veh/h]	2190	785	612	2618	120	325
d1, Uniform Delay [s]	10.24	9.42	4.99	5.04	42.78	29.83
k, delay calibration	0.50	0.50	0.50	0.50	0.33	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.92	0.67	0.35	275.91	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

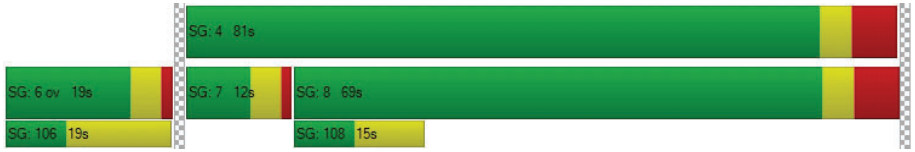
X, volume / capacity	0.40	0.29	0.19	0.34	1.56	0.34
d, Delay for Lane Group [s/veh]	10.78	10.34	5.67	5.39	318.69	30.06
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.78	2.40	0.70	2.91	12.13	2.14
50th-Percentile Queue Length [ft/ln]	119.62	60.10	17.41	72.72	303.31	53.57
95th-Percentile Queue Length [veh/ln]	8.37	4.33	1.25	5.24	20.75	3.86
95th-Percentile Queue Length [ft/ln]	209.31	108.18	31.35	130.90	518.80	96.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.78	10.34	5.67	5.39	318.69	30.06
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.69		5.42		211.79	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	33.55					
Intersection LOS	C					
Intersection V/C	0.488					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	40	830	142	67	840	90	50	13	120	160	50	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	830	142	67	840	90	50	13	120	160	50	170
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	233	41	18	221	24	15	6	35	45	14	48
Total Analysis Volume [veh/h]	45	931	165	71	882	95	59	24	141	180	56	191
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	78	78	69	69	13	24	24
g / C, Green / Cycle	0.52	0.52	0.46	0.46	0.09	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.26	0.26	0.27	0.12	0.13	0.14
s, saturation flow rate [veh/h]	693	3618	1900	1824	1668	1830	1325
c, Capacity [veh/h]	315	1882	876	841	149	289	209
d1, Uniform Delay [s]	20.96	23.23	29.30	29.73	68.27	61.02	62.10
k, delay calibration	0.06	0.50	0.50	0.50	0.50	0.09	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	0.93	2.56	2.92	191.57	4.66	18.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

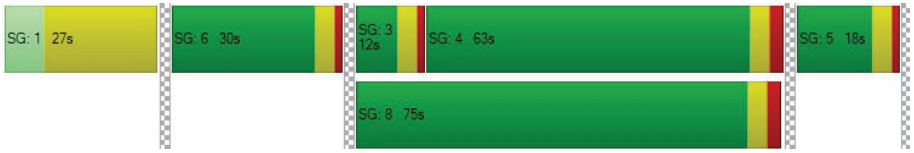
X, volume / capacity	0.14	0.49	0.56	0.58	1.34	0.82	0.91
d, Delay for Lane Group [s/veh]	21.08	24.16	31.85	32.64	259.84	65.68	80.30
Lane Group LOS	C	C	C	C	F	E	F
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	10.96	13.48	13.73	13.64	9.16	8.29
50th-Percentile Queue Length [ft/ln]	19.97	273.97	336.98	343.16	340.96	228.93	207.31
95th-Percentile Queue Length [veh/ln]	1.44	16.39	19.50	19.80	21.75	14.12	13.02
95th-Percentile Queue Length [ft/ln]	35.95	409.69	487.50	495.06	543.72	353.00	325.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.08	24.16	0.00	0.00	32.21	32.64	259.84	0.00	259.84	65.68	65.68	80.30
Movement LOS	C	C			C	C	F		F	E	E	F
d_A, Approach Delay [s/veh]	24.02			32.25			259.84			72.22		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	53.39											
Intersection LOS	D											
Intersection V/C	0.545											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	320	720	1020	80	120	670
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	720	1020	80	120	670
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	189	262	21	31	175
Total Analysis Volume [veh/h]	336	756	1047	82	125	698
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	79	79	79	14	32
g / C, Green / Cycle	0.11	0.66	0.66	0.66	0.12	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.21	0.29	0.06	0.10	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1344	1231	2859
c, Capacity [veh/h]	401	2372	2372	881	142	765
d1, Uniform Delay [s]	52.04	8.98	10.00	7.57	52.25	42.56
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.82	0.35	0.60	0.21	6.75	1.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

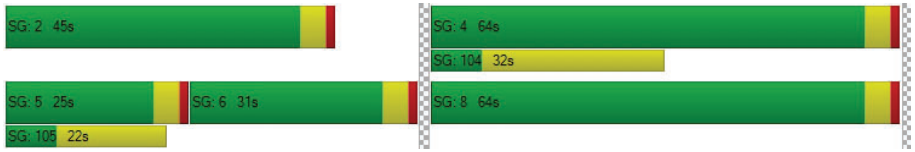
X, volume / capacity	0.84	0.32	0.44	0.09	0.88	0.91
d, Delay for Lane Group [s/veh]	53.86	9.34	10.60	7.78	59.01	44.44
Lane Group LOS	D	A	B	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.05	4.22	6.52	0.80	4.15	10.76
50th-Percentile Queue Length [ft/ln]	126.25	105.51	163.09	20.03	103.83	268.94
95th-Percentile Queue Length [veh/ln]	8.74	7.59	10.71	1.44	7.48	16.14
95th-Percentile Queue Length [ft/ln]	218.38	189.74	267.81	36.05	186.89	403.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.86	9.34	10.60	7.78	59.01	44.44
Movement LOS	D	A	B	A	E	D
d_A, Approach Delay [s/veh]	23.04		10.39		46.65	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.73					
Intersection LOS	C					
Intersection V/C	0.534					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	40	110	40	0	270	0	140	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	40	110	40	0	270	0	140	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	13	36	13	0	71	0	38	59
Total Analysis Volume [veh/h]	0	0	0	0	53	146	53	0	285	0	150	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.41	0.41	0.41	0.51	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate		0.04	0.05	0.06	0.22	0.08	0.16
s, saturation flow rate [veh/h]		1197	1900	1535	1301	1900	1458
c, Capacity [veh/h]		482	785	635	708	975	748
d1, Uniform Delay [s]		26.29	21.81	22.05	17.28	15.43	16.95
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.46	0.34	0.51	1.70	0.34	1.10
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.11	0.13	0.15	0.40	0.15	0.32
d, Delay for Lane Group [s/veh]		26.75	22.16	22.56	18.99	15.76	18.06
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		1.09	1.84	1.80	4.77	2.23	3.92
50th-Percentile Queue Length [ft/ln]		27.13	45.98	45.01	119.24	55.64	98.02
95th-Percentile Queue Length [veh/ln]		1.95	3.31	3.24	8.35	4.01	7.06
95th-Percentile Queue Length [ft/ln]		48.84	82.77	81.01	208.78	100.16	176.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	26.75	22.28	22.56	0.00	18.99	0.00	15.76	18.06
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.28				17.94			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.47											
Intersection LOS	D											
Intersection V/C	0.551											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	20	670	140	220	1260	0	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	670	140	220	1260	0	50
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	178	37	61	349	0	13
Total Analysis Volume [veh/h]	0	21	711	149	244	1397	0	52
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	49	49	49
g / C, Green / Cycle	0.26	0.26	0.26	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.12	0.22	0.38	0.39
s, saturation flow rate [veh/h]	373	3618	1244	1089	1900	1854
c, Capacity [veh/h]	60	949	326	401	779	760
d1, Uniform Delay [s]	59.98	40.62	37.08	27.04	33.81	34.21
k, delay calibration	0.04	0.04	0.04	0.05	0.34	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.29	0.45	0.37	0.65	14.79	19.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

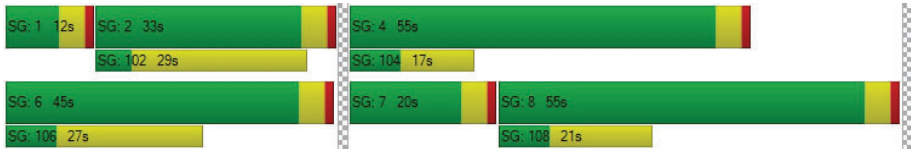
X, volume / capacity	0.35	0.75	0.46	0.61	0.93	0.95
d, Delay for Lane Group [s/veh]	61.27	41.08	37.45	27.69	48.60	53.30
Lane Group LOS	E	D	D	C	D	D
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.66	9.66	3.71	4.81	22.94	23.89
50th-Percentile Queue Length [ft/ln]	16.52	241.51	92.67	120.13	573.56	597.29
95th-Percentile Queue Length [veh/ln]	1.19	14.76	6.67	8.40	30.80	31.91
95th-Percentile Queue Length [ft/ln]	29.74	368.95	166.80	210.00	769.95	797.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	61.27	41.08	37.45	27.69	50.85	0.00	53.30
Movement LOS		E	D	D	C	D		D
d_A, Approach Delay [s/veh]	40.94				47.59			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.47							
Intersection LOS	D							
Intersection V/C	0.551							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	48.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	50	90	110	0	30	90	50	0	50	300	50	0	120	400	130
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	90	110	0	30	90	50	0	50	300	50	0	120	400	130
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	13	24	29	0	8	24	14	0	14	86	14	0	31	103	34
Total Analysis Volume [veh/h]	0	53	96	117	0	32	97	54	0	58	345	58	0	124	413	134
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.28	0.07	0.22	0.12	0.15	0.15
s, saturation flow rate [veh/h]	1256	1702	647	874	1846	998	1900	1712
c, Capacity [veh/h]	73	264	136	379	872	370	898	809
d1, Uniform Delay [s]	50.02	40.81	42.70	22.55	17.81	28.09	16.37	16.44
k, delay calibration	0.04	0.04	0.33	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.99	2.23	183.58	0.86	1.76	2.43	0.93	1.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.81	1.34	0.15	0.46	0.34	0.32	0.32
d, Delay for Lane Group [s/veh]	55.01	43.04	226.28	23.40	19.57	30.53	17.29	17.51
Lane Group LOS	E	D	F	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.41	5.12	10.30	1.03	6.48	2.60	4.16	3.89
50th-Percentile Queue Length [ft/ln]	35.23	128.12	257.62	25.73	162.12	64.95	103.94	97.20
95th-Percentile Queue Length [veh/ln]	2.54	8.84	17.40	1.85	10.66	4.68	7.48	7.00
95th-Percentile Queue Length [ft/ln]	63.41	220.94	434.94	46.32	266.52	116.91	187.09	174.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.01	55.01	43.04	43.04	226.2	226.2	226.2	226.2	23.40	23.40	19.57	19.57	30.53	30.53	17.36	17.51
Movement LOS	E	E	D	D	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	45.43				226.28				20.05				19.82			
Approach LOS	D				F				C				B			
d_I, Intersection Delay [s/veh]	48.09															
Intersection LOS	D															
Intersection V/C	0.501															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	50	260	100	80	160	30	30	140	60	50	120	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	260	100	80	160	30	30	140	60	50	120	110
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	69	26	24	47	9	9	43	18	14	34	31
Total Analysis Volume [veh/h]	53	274	106	95	189	35	37	173	74	57	136	125
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	25	45	45
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.05	0.14	0.07	0.08	0.12	0.17	0.29
s, saturation flow rate [veh/h]	1175	1900	1547	1123	1833	1627	1100
c, Capacity [veh/h]	223	476	388	191	459	769	535
d1, Uniform Delay [s]	39.79	32.81	30.14	43.62	31.99	18.13	21.48
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	0.41	0.14	0.74	0.30	1.37	4.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

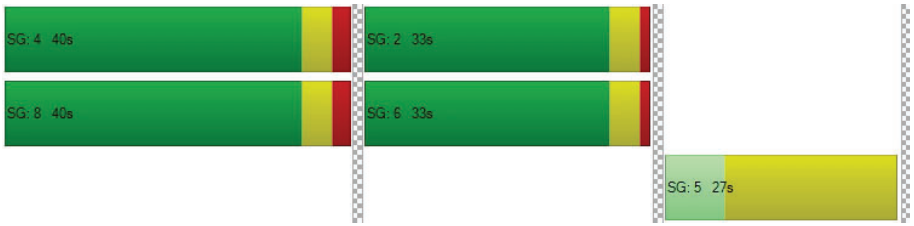
X, volume / capacity	0.24	0.58	0.27	0.50	0.49	0.37	0.59
d, Delay for Lane Group [s/veh]	40.00	33.22	30.28	44.36	32.28	19.50	26.30
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	5.73	2.03	2.29	4.56	4.41	6.29
50th-Percentile Queue Length [ft/ln]	29.62	143.18	50.79	57.35	113.99	110.35	157.15
95th-Percentile Queue Length [veh/ln]	2.13	9.65	3.66	4.13	8.06	7.86	10.40
95th-Percentile Queue Length [ft/ln]	53.31	241.30	91.41	103.24	201.54	196.49	259.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.00	33.22	30.28	44.36	32.28	32.28	19.50	19.50	19.50	26.30	26.30	26.30
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	33.33			35.88			19.50			26.30		
Approach LOS	C			D			B			C		
d_I, Intersection Delay [s/veh]	29.38											
Intersection LOS	C											
Intersection V/C	0.433											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	155.5
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.331

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	140	90	50	140	10	10	210	30	170	250	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	140	90	50	140	10	10	210	30	170	250	170
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	39	25	14	39	3	3	57	8	49	72	49
Total Analysis Volume [veh/h]	34	158	101	56	156	11	11	227	32	195	287	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	16	54	54	54	54
g / C, Green / Cycle	0.16	0.16	0.16	0.16	0.16	0.54	0.54	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.03	0.08	0.13	0.04	0.09	0.23	0.02	1.21	0.12
s, saturation flow rate [veh/h]	1238	1900	800	1248	1870	1052	1572	400	1582
c, Capacity [veh/h]	143	308	130	152	303	602	842	265	848
d1, Uniform Delay [s]	45.67	38.30	40.19	45.89	38.56	19.40	10.99	28.31	12.28
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.49	3.80	0.56	0.59	1.94	0.08	383.11	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

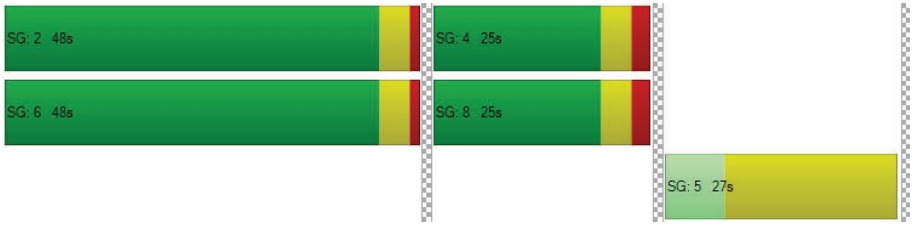
X, volume / capacity	0.24	0.51	0.78	0.37	0.55	0.40	0.04	1.82	0.23
d, Delay for Lane Group [s/veh]	45.98	38.80	43.99	46.45	39.15	21.34	11.07	411.42	12.91
Lane Group LOS	D	D	D	D	D	C	B	F	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.82	3.52	2.47	1.37	3.75	3.66	0.35	34.79	2.38
50th-Percentile Queue Length [ft/ln]	20.47	87.91	61.68	34.13	93.65	91.49	8.67	869.83	59.40
95th-Percentile Queue Length [veh/ln]	1.47	6.33	4.44	2.46	6.74	6.59	0.62	59.88	4.28
95th-Percentile Queue Length [ft/ln]	36.84	158.23	111.02	61.44	168.57	164.69	15.61	1497.02	106.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.98	38.80	43.99	46.45	39.15	39.15	21.34	21.34	11.07	411.42	411.42	12.91
Movement LOS	D	D	D	D	D	D	C	C	B	F	F	B
d_A, Approach Delay [s/veh]	41.42			40.98			20.12			296.64		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	155.52											
Intersection LOS	F											
Intersection V/C	1.331											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	50	180	180	80	310	20	20	100	170	150	270	290
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	180	180	80	310	20	20	100	170	150	270	290
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	53	53	21	83	5	5	26	44	43	78	84
Total Analysis Volume [veh/h]	59	213	213	86	331	21	21	105	178	173	312	335
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.06	0.11	0.14	0.07	0.19	0.02	0.17	0.16	0.16	0.21
s, saturation flow rate [veh/h]	1045	1900	1473	1187	1876	1084	1673	1114	1900	1559
c, Capacity [veh/h]	126	464	360	227	459	394	724	399	823	675
d1, Uniform Delay [s]	47.63	32.14	33.37	40.75	35.13	25.18	19.35	29.56	19.23	20.47
k, delay calibration	0.04	0.04	0.04	0.04	0.09	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.26	0.58	0.39	2.38	0.26	1.58	3.42	1.33	2.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

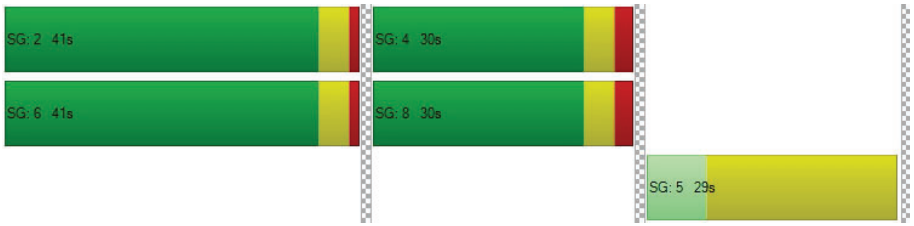
X, volume / capacity	0.47	0.46	0.59	0.38	0.77	0.05	0.39	0.43	0.38	0.50
d, Delay for Lane Group [s/veh]	48.64	32.41	33.95	41.14	37.52	25.44	20.93	32.97	20.56	23.07
Lane Group LOS	D	C	C	D	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.49	4.32	4.51	1.98	8.05	0.38	4.62	3.76	5.02	5.87
50th-Percentile Queue Length [ft/ln]	37.21	108.09	112.77	49.40	201.31	9.48	115.48	93.96	125.43	146.84
95th-Percentile Queue Length [veh/ln]	2.68	7.73	7.99	3.56	12.71	0.68	8.14	6.77	8.69	9.85
95th-Percentile Queue Length [ft/ln]	66.97	193.35	199.86	88.92	317.65	17.06	203.60	169.13	217.26	246.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.64	32.41	33.95	41.14	37.52	37.52	25.44	20.93	20.93	32.97	20.56	23.07
Movement LOS	D	C	C	D	D	D	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	35.06			38.23			21.24			24.21		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	29.34											
Intersection LOS	C											
Intersection V/C	0.403											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	340	0	29	410	50	66	90	0	150	310	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	340	0	29	410	50	66	90	0	150	310	180
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	91	0	8	110	13	20	27	0	40	82	48
Total Analysis Volume [veh/h]	11	365	0	31	441	54	79	108	0	159	329	191
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	33	33	33	33		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.20	0.24	0.04		0.20	0.20
s, saturation flow rate [veh/h]	944	1863	1863	1401		1860	1524
c, Capacity [veh/h]	88	512	512	385		896	734
d1, Uniform Delay [s]	57.14	39.25	41.35	32.83		20.08	20.23
k, delay calibration	0.04	0.15	0.49	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.23	2.56	17.04	0.06		1.39	1.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.71	0.86	0.14		0.41	0.42
d, Delay for Lane Group [s/veh]	57.38	41.82	58.39	32.89		21.47	22.02
Lane Group LOS	E	D	E	C		C	C
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	10.04	14.60	1.19		7.04	6.06
50th-Percentile Queue Length [ft/ln]	8.34	250.91	365.03	29.76		176.09	151.61
95th-Percentile Queue Length [veh/ln]	0.60	15.23	20.87	2.14		11.40	10.10
95th-Percentile Queue Length [ft/ln]	15.02	380.80	521.69	53.57		284.91	252.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.38	41.82	0.00	0.00	58.39	32.89	0.00	0.00	0.00	21.47	21.67	22.02
Movement LOS	E	D			E	C				C	C	C
d_A, Approach Delay [s/veh]	42.27			55.61			0.00			21.72		
Approach LOS	D			E			A			C		
d_I, Intersection Delay [s/veh]	37.53											
Intersection LOS	D											
Intersection V/C	0.441											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	90	60	0	580	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	60	0	580	80
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	30	20	0	160	22
Total Analysis Volume [veh/h]	0	0	0	0	120	80	0	642	89
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	9	9	55	55
g / C, Green / Cycle	0.55	0.55	0.09	0.09	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.07	0.05	0.21	0.21
s, saturation flow rate [veh/h]	736	1900	1810	1583	1900	1642
c, Capacity [veh/h]	370	1046	157	137	1082	904
d1, Uniform Delay [s]	0.00	0.00	44.65	43.90	12.70	12.74
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.92	1.46	0.94	1.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.77	0.58	0.36	0.38
d, Delay for Lane Group [s/veh]	0.00	0.00	47.57	45.36	13.64	13.93
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.99	1.93	4.99	4.42
50th-Percentile Queue Length [ft/ln]	0.00	0.00	74.70	48.28	124.72	110.44
95th-Percentile Queue Length [veh/ln]	0.00	0.00	5.38	3.48	8.65	7.86
95th-Percentile Queue Length [ft/ln]	0.00	0.00	134.46	86.90	216.30	196.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.57	47.57	45.36	13.64	13.76	13.93
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.69			13.78		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	20.85								
Intersection LOS	C								
Intersection V/C	0.274								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	160	60	60	180	40	20	220	20	60	230	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	160	60	60	180	40	20	220	20	60	230	80
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	42	16	17	51	11	6	68	6	16	62	22
Total Analysis Volume [veh/h]	21	168	63	68	204	45	25	272	25	65	249	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	11	11	15	15
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.04	0.06	0.11	0.03	0.18	0.25
s, saturation flow rate [veh/h]	1170	1900	1415	1171	1900	1486	1802	1636
c, Capacity [veh/h]	409	590	439	428	590	462	874	813
d1, Uniform Delay [s]	12.07	8.99	8.57	12.09	9.18	8.45	6.96	7.46
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.10	0.05	0.06	0.13	0.03	0.10	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

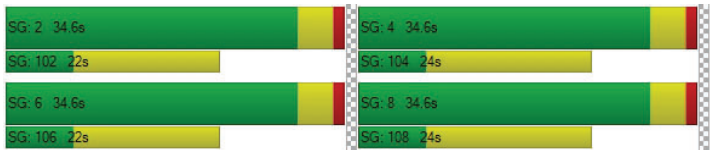
X, volume / capacity	0.05	0.28	0.14	0.16	0.35	0.10	0.37	0.49
d, Delay for Lane Group [s/veh]	12.08	9.08	8.63	12.15	9.31	8.48	7.05	7.64
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.11	0.66	0.24	0.36	0.87	0.18	1.14	1.42
50th-Percentile Queue Length [ft/ln]	2.63	16.40	5.89	9.00	21.67	4.40	28.61	35.48
95th-Percentile Queue Length [veh/ln]	0.19	1.18	0.42	0.65	1.56	0.32	2.06	2.55
95th-Percentile Queue Length [ft/ln]	4.73	29.52	10.61	16.20	39.00	7.92	51.50	63.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.08	9.08	8.63	12.15	9.31	8.48	7.05	7.05	7.05	7.64	7.64	7.64
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.22			9.80			7.05			7.64		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.33											
Intersection LOS	A											
Intersection V/C	0.352											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	80	220	40	20	250	10	10	120	70	40	160	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	220	40	20	250	10	10	120	70	40	160	40
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	65	12	5	67	3	3	35	21	11	44	11
Total Analysis Volume [veh/h]	95	261	47	22	269	11	12	141	82	44	177	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	33	33	33	33	33	33
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	13	13	13	13	11	11
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.02	0.15	0.14	0.15
s, saturation flow rate [veh/h]	1088	1809	1046	1879	1719	1711
c, Capacity [veh/h]	471	713	441	741	680	689
d1, Uniform Delay [s]	10.70	7.36	10.47	7.17	8.65	8.78
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.15	0.02	0.12	0.11	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

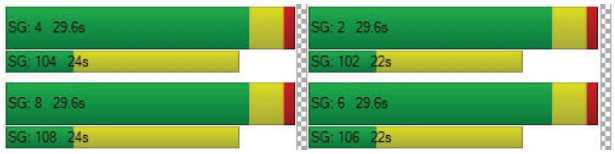
X, volume / capacity	0.20	0.43	0.05	0.38	0.35	0.38
d, Delay for Lane Group [s/veh]	10.78	7.51	10.48	7.29	8.76	8.91
Lane Group LOS	B	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.42	0.94	0.09	0.83	1.29	0.99
50th-Percentile Queue Length [ft/ln]	10.52	23.61	2.37	20.86	32.19	24.65
95th-Percentile Queue Length [veh/ln]	0.76	1.70	0.17	1.50	2.32	1.78
95th-Percentile Queue Length [ft/ln]	18.93	42.49	4.26	37.54	57.94	44.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.78	7.51	7.51	10.48	7.29	7.29	8.76	8.76	8.76	8.91	8.91	8.91
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.28			7.52			8.76			8.91		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.32											
Intersection LOS	A											
Intersection V/C	0.325											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	60	170	170	90	270	10	30	440	100	90	610	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	170	170	90	270	10	30	440	100	90	610	140
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	55	55	24	73	3	8	117	27	25	168	39
Total Analysis Volume [veh/h]	78	220	220	97	291	11	32	468	106	99	673	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.14	0.08	0.15	0.01	0.05	0.31	0.09	0.22	0.23
s, saturation flow rate [veh/h]	1105	1900	1577	1179	1900	1581	673	1831	1053	1900	1759
c, Capacity [veh/h]	102	368	306	152	368	307	169	607	311	844	782
d1, Uniform Delay [s]	49.60	36.83	37.85	47.30	38.46	32.80	38.50	32.66	21.84	19.96	20.02
k, delay calibration	0.04	0.04	0.04	0.04	0.07	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.40	0.58	1.20	1.65	2.64	0.02	2.46	25.47	0.22	2.16	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

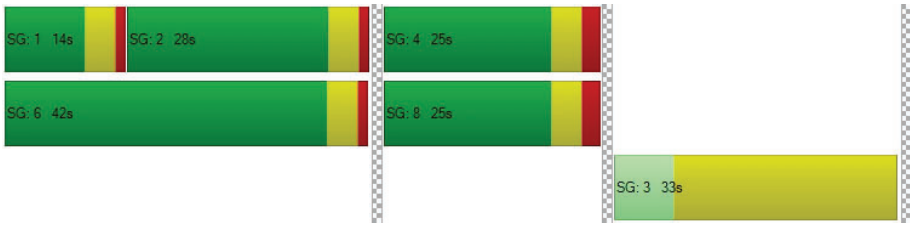
X, volume / capacity	0.76	0.60	0.72	0.64	0.79	0.04	0.19	0.95	0.32	0.51	0.51
d, Delay for Lane Group [s/veh]	53.99	37.41	39.05	48.95	41.10	32.82	40.97	58.13	22.06	22.12	22.41
Lane Group LOS	D	D	D	D	D	C	D	E	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.05	4.86	5.04	2.47	6.91	0.22	0.82	17.42	1.34	7.43	7.03
50th-Percentile Queue Length [ft/ln]	51.29	121.58	125.95	61.65	172.63	5.38	20.45	435.45	33.39	185.83	175.66
95th-Percentile Queue Length [veh/ln]	3.69	8.48	8.72	4.44	11.21	0.39	1.47	24.26	2.40	11.90	11.37
95th-Percentile Queue Length [ft/ln]	92.32	212.00	217.98	110.97	280.37	9.69	36.80	606.56	60.10	297.62	284.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.99	37.41	39.05	48.95	41.10	32.82	40.97	58.13	58.13	22.06	22.22	22.41
Movement LOS	D	D	D	D	D	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	40.60			42.78			57.23			22.24		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	38.13											
Intersection LOS	D											
Intersection V/C	0.502											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	71.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	30	320	60	40	470	40	20	150	210	80	250	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	320	60	40	470	40	20	150	210	80	250	60
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	90	17	13	151	13	6	43	60	22	69	17
Total Analysis Volume [veh/h]	34	361	68	51	603	51	23	170	239	89	277	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	39	39	39	39	39	39	28	28
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.19	0.04	0.05	0.17	0.18	0.26	0.45
s, saturation flow rate [veh/h]	791	1900	1554	1037	1900	1837	1670	956
c, Capacity [veh/h]	260	746	610	304	746	721	513	315
d1, Uniform Delay [s]	30.39	22.77	19.29	31.66	22.34	22.38	34.38	36.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.31	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	2.24	0.37	1.19	1.91	2.01	10.20	185.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

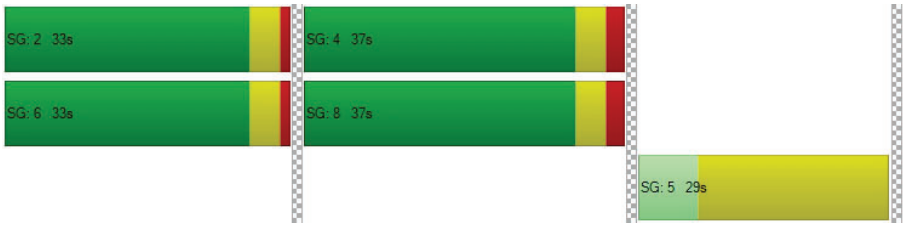
X, volume / capacity	0.13	0.48	0.11	0.17	0.44	0.45	0.84	1.37
d, Delay for Lane Group [s/veh]	31.43	25.01	19.66	32.84	24.25	24.38	44.57	222.17
Lane Group LOS	C	C	B	C	C	C	D	F
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.72	6.59	1.04	1.09	5.91	5.78	11.33	24.03
50th-Percentile Queue Length [ft/ln]	17.91	164.72	26.00	27.21	147.68	144.60	283.37	600.73
95th-Percentile Queue Length [veh/ln]	1.29	10.80	1.87	1.96	9.89	9.73	16.86	37.68
95th-Percentile Queue Length [ft/ln]	32.24	269.96	46.79	48.98	247.33	243.21	421.40	941.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.43	25.01	19.66	32.84	24.31	24.38	44.57	44.57	44.57	222.17	222.17	222.17
Movement LOS	C	C	B	C	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.70			24.93			44.57			222.17		
Approach LOS	C			C			D			F		
d_I, Intersection Delay [s/veh]	70.99											
Intersection LOS	E											
Intersection V/C	0.642											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	120	300	70	170	550	80	0	220	120	0	400	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	300	70	170	550	80	0	220	120	0	400	100
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	91	21	46	148	22	0	59	32	0	114	28
Total Analysis Volume [veh/h]	145	363	85	183	593	86	0	238	130	0	456	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	51	51	51	51	51	51	18	18	18	18
g / C, Green / Cycle	0.51	0.51	0.51	0.51	0.51	0.51	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.05	0.18	0.18	0.18	0.13	0.08	0.15	0.16
s, saturation flow rate [veh/h]	773	1900	1583	1035	1900	1805	1900	1560	1900	1756
c, Capacity [veh/h]	361	976	813	453	976	927	348	286	348	322
d1, Uniform Delay [s]	24.14	14.61	12.49	24.25	14.46	14.49	38.12	36.38	39.23	39.81
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.31	1.09	0.26	2.67	1.01	1.08	0.89	0.42	1.84	3.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.37	0.10	0.40	0.36	0.36	0.68	0.45	0.82	0.89
d, Delay for Lane Group [s/veh]	27.45	15.70	12.75	26.91	15.48	15.57	39.02	36.80	41.07	43.11
Lane Group LOS	C	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.88	4.95	0.99	3.54	4.68	4.50	5.48	2.84	6.82	7.03
50th-Percentile Queue Length [ft/ln]	71.93	123.74	24.75	88.50	116.96	112.45	136.89	71.06	170.48	175.84
95th-Percentile Queue Length [veh/ln]	5.18	8.60	1.78	6.37	8.23	7.98	9.31	5.12	11.10	11.38
95th-Percentile Queue Length [ft/ln]	129.47	214.95	44.55	159.30	205.64	199.40	232.84	127.91	277.55	284.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.45	15.70	12.75	26.91	15.51	15.57	0.00	39.02	36.80	0.00	41.83	43.11
Movement LOS	C	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	18.15			17.94			38.23			42.09		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	26.86											
Intersection LOS	C											
Intersection V/C	0.353											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	45.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	120	510	190	70	580	70	0	270	120	150	400	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	510	190	70	580	70	0	270	120	150	400	110
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	147	55	22	186	22	0	75	33	43	114	31
Total Analysis Volume [veh/h]	139	590	220	90	746	90	0	301	134	172	458	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	44	44	55	39	39	21	37	33	33	33
g / C, Green / Cycle	0.09	0.36	0.36	0.46	0.33	0.33	0.17	0.30	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.08	0.31	0.14	0.09	0.22	0.23	0.16	0.09	0.13	0.24	0.08
s, saturation flow rate [veh/h]	1810	1900	1565	1004	1900	1817	1900	1560	1313	1900	1568
c, Capacity [veh/h]	166	688	566	301	620	593	332	476	283	523	432
d1, Uniform Delay [s]	53.69	35.47	28.45	24.52	35.14	35.21	48.59	31.76	36.55	41.57	34.30
k, delay calibration	0.06	0.50	0.50	0.50	0.50	0.50	0.12	0.04	0.40	0.25	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.47	13.11	2.00	2.52	6.11	6.51	9.88	0.12	7.65	10.10	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

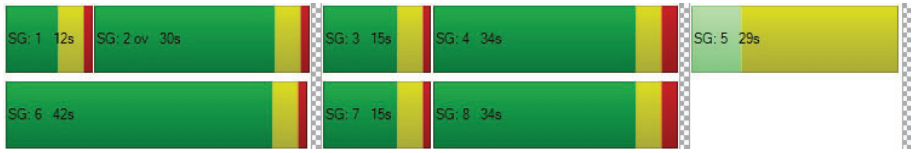
X, volume / capacity	0.84	0.86	0.39	0.30	0.69	0.69	0.91	0.28	0.61	0.88	0.29
d, Delay for Lane Group [s/veh]	60.16	48.58	30.46	27.04	41.25	41.72	58.47	31.87	44.20	51.67	34.44
Lane Group LOS	E	D	C	C	D	D	E	C	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.39	18.03	4.96	1.63	11.68	11.32	9.73	2.99	4.61	14.19	2.90
50th-Percentile Queue Length [ft/ln]	109.73	450.75	123.99	40.82	291.95	283.06	243.17	74.77	115.16	354.66	72.60
95th-Percentile Queue Length [veh/ln]	7.82	24.99	8.61	2.94	17.28	16.84	14.84	5.38	8.13	20.36	5.23
95th-Percentile Queue Length [ft/ln]	195.62	624.85	215.30	73.47	432.05	421.02	371.04	134.59	203.16	509.09	130.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.16	48.58	30.46	27.04	41.45	41.72	0.00	58.47	31.87	44.20	51.67	34.44
Movement LOS	E	D	C	C	D	D		E	C	D	D	C
d_A, Approach Delay [s/veh]	46.07			40.08			50.28			47.10		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.11											
Intersection LOS	D											
Intersection V/C	0.582											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	200	690	0	0	680	130	181	0	84	220	110	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	690	0	0	680	130	181	0	84	220	110	50
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	206	0	0	188	36	52	0	24	60	30	14
Total Analysis Volume [veh/h]	239	825	0	0	750	143	208	0	96	242	121	55
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	73	73	59	59		18	18
g / C, Green / Cycle	0.61	0.61	0.49	0.49		0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.29	0.23	0.24	0.25		0.13	0.11
s, saturation flow rate [veh/h]	830	3618	1900	1769		1810	1627
c, Capacity [veh/h]	478	2188	925	861		274	247
d1, Uniform Delay [s]	13.95	12.14	20.68	21.16		49.87	48.45
k, delay calibration	0.32	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.39	0.50	1.80	2.23		3.68	1.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

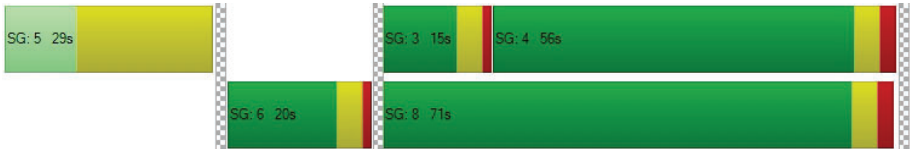
X, volume / capacity	0.50	0.38	0.48	0.52		0.88	0.71
d, Delay for Lane Group [s/veh]	16.34	12.64	22.49	23.39		53.56	49.89
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	3.15	5.64	8.62	8.88		7.44	5.16
50th-Percentile Queue Length [ft/ln]	78.70	141.10	215.50	221.97		186.05	128.95
95th-Percentile Queue Length [veh/ln]	5.67	9.54	13.43	13.77		11.92	8.88
95th-Percentile Queue Length [ft/ln]	141.66	238.50	335.87	344.14		297.90	222.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.34	12.64	0.00	0.00	22.85	23.39	0.00	0.00	0.00	53.56	49.89	49.89
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	13.47			22.94			0.00			52.01		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.81											
Intersection LOS	C											
Intersection V/C	0.452											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	360	0	0	950	910	370
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	0	0	950	910	370
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	0	0	269	250	102
Total Analysis Volume [veh/h]	411	0	0	1075	1000	406
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	37	37
g / C, Green / Cycle	0.62	0.62	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.30	0.28	0.26
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2232	2232	1076	486
d1, Uniform Delay [s]	9.92	12.51	40.30	38.75
k, delay calibration	0.50	0.50	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.75	1.67	5.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

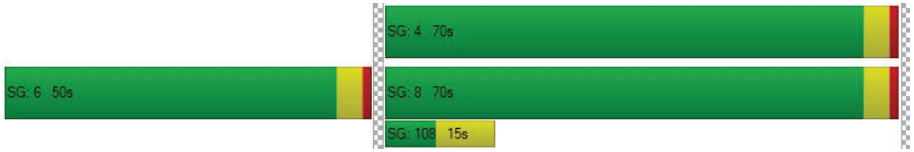
X, volume / capacity	0.18	0.48	0.93	0.84
d, Delay for Lane Group [s/veh]	10.10	13.26	41.97	44.61
Lane Group LOS	B	B	D	D
Critical Lane Group	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.35	7.80	13.58	11.20
50th-Percentile Queue Length [ft/ln]	58.73	194.88	339.41	279.90
95th-Percentile Queue Length [veh/ln]	4.23	12.37	19.62	16.68
95th-Percentile Queue Length [ft/ln]	105.72	309.35	490.48	417.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.10	0.00	0.00	13.26	41.97	44.61
Movement LOS	B			B	D	D
d_A, Approach Delay [s/veh]	10.10		13.26		42.73	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	27.14					
Intersection LOS	C					
Intersection V/C	0.582					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	330	230	330	1290	110	30	380	40	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	330	230	330	1290	110	30	380	40	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	84	59	92	360	31	9	114	12	0	0	0
Total Analysis Volume [veh/h]	31	338	235	369	1442	123	36	454	48	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	24	24	68	88	88	15	15	15
g / C, Green / Cycle	0.03	0.20	0.20	0.56	0.74	0.74	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.13	0.11	0.41	0.43	0.10	0.10	0.10
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1816	1882	1729	1631
c, Capacity [veh/h]	49	378	358	1980	1397	1335	230	212	200
d1, Uniform Delay [s]	57.73	46.78	44.24	12.76	7.14	7.37	51.40	51.38	51.55
k, delay calibration	0.04	0.29	0.10	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.94	17.20	1.93	0.02	1.63	1.89	3.00	3.19	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

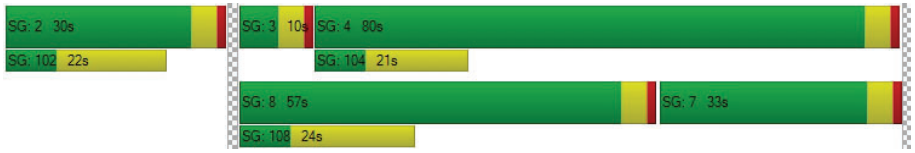
X, volume / capacity	0.63	0.89	0.66	0.19	0.56	0.59	0.83	0.83	0.85
d, Delay for Lane Group [s/veh]	62.67	63.98	46.17	12.78	8.76	9.26	54.40	54.57	55.54
Lane Group LOS	E	E	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.00	11.59	6.63	2.41	8.52	8.85	5.77	5.29	5.20
50th-Percentile Queue Length [ft/ln]	24.97	289.82	165.65	60.20	213.09	221.21	144.35	132.34	129.89
95th-Percentile Queue Length [veh/ln]	1.80	17.18	10.85	4.33	13.31	13.73	9.71	9.07	8.93
95th-Percentile Queue Length [ft/ln]	44.94	429.41	271.19	108.36	332.79	343.17	242.87	226.68	223.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.67	63.98	46.17	12.78	8.99	9.26	54.40	54.78	55.54	0.00	0.00	0.00
Movement LOS	E	E	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	56.98			9.73			54.82			0.00		
Approach LOS	E			A			D			A		
d_I, Intersection Delay [s/veh]	26.89											
Intersection LOS	C											
Intersection V/C	0.553											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.389

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	140	190	140	30	70	20	30	600	60	140	770	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	190	140	30	70	20	30	600	60	140	770	80
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	53	39	8	18	5	8	157	16	37	206	21
Total Analysis Volume [veh/h]	155	211	155	32	74	21	31	626	63	150	824	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.11	0.03	0.05	0.05	0.17	0.04	0.19	0.24	0.26
s, saturation flow rate [veh/h]	1163	1900	1450	1132	1737	620	3618	1424	796	1900	1751
c, Capacity [veh/h]	290	477	364	228	436	358	2231	878	479	1172	1079
d1, Uniform Delay [s]	37.98	31.47	31.32	38.14	29.59	15.30	8.87	7.67	14.68	9.69	9.85
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.57	0.24	0.29	0.10	0.09	0.48	0.31	0.16	1.70	1.00	1.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

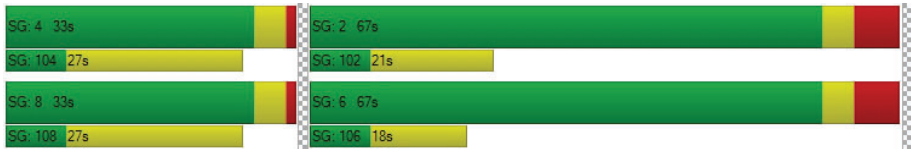
X, volume / capacity	0.53	0.44	0.43	0.14	0.22	0.09	0.28	0.07	0.31	0.39	0.41
d, Delay for Lane Group [s/veh]	38.55	31.71	31.62	38.24	29.69	15.78	9.18	7.83	16.38	10.69	11.02
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.52	4.22	3.09	0.69	1.79	0.44	3.03	0.55	2.20	5.07	5.02
50th-Percentile Queue Length [ft/ln]	87.96	105.57	77.35	17.28	44.64	11.05	75.85	13.75	54.99	126.70	125.40
95th-Percentile Queue Length [veh/ln]	6.33	7.59	5.57	1.24	3.21	0.80	5.46	0.99	3.96	8.76	8.69
95th-Percentile Queue Length [ft/ln]	158.33	189.82	139.23	31.10	80.35	19.89	136.52	24.75	98.98	219.00	217.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.55	31.71	31.62	38.24	29.69	29.69	15.78	9.18	7.83	16.38	10.84	11.02
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	33.72			31.84			9.35			11.64		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	16.75											
Intersection LOS	B											
Intersection V/C	0.389											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	120	400	80	60	140	40	30	190	20	40	280	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	400	80	60	140	40	30	190	20	40	280	70
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	109	22	18	41	12	9	55	6	12	84	21
Total Analysis Volume [veh/h]	131	436	87	71	166	47	35	220	23	48	337	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	60	60	60	60	60	30	30
g / C, Green / Cycle	0.60	0.60	0.60	0.60	0.60	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.12	0.14	0.15	0.08	0.12	0.20	0.28
s, saturation flow rate [veh/h]	1138	1900	1720	880	1764	1414	1666
c, Capacity [veh/h]	674	1150	1041	525	1068	468	544
d1, Uniform Delay [s]	12.51	9.06	9.13	12.77	8.85	28.67	33.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	0.48	0.56	0.53	0.42	1.20	5.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.23	0.24	0.14	0.20	0.59	0.86
d, Delay for Lane Group [s/veh]	13.15	9.53	9.69	13.31	9.27	29.87	38.61
Lane Group LOS	B	A	A	B	A	C	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.60	2.61	2.51	0.88	2.03	5.48	11.34
50th-Percentile Queue Length [ft/ln]	39.91	65.20	62.76	21.96	50.71	136.91	283.61
95th-Percentile Queue Length [veh/ln]	2.87	4.69	4.52	1.58	3.65	9.31	16.87
95th-Percentile Queue Length [ft/ln]	71.83	117.35	112.98	39.52	91.27	232.86	421.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.15	9.59	9.69	13.31	9.27	9.27	29.87	29.87	29.87	38.61	38.61	38.61
Movement LOS	B	A	A	B	A	A	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	10.32			10.28			29.87			38.61		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	21.41											
Intersection LOS	C											
Intersection V/C	0.430											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	100	420	60	80	130	60	20	410	30	30	380	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	420	60	80	130	60	20	410	30	30	380	70
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	120	17	23	37	17	6	120	9	9	119	22
Total Analysis Volume [veh/h]	114	479	68	90	147	68	23	479	35	37	475	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	28	28	28	28	28	59	59	59	59	59	59
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.10	0.15	0.15	0.10	0.13	0.02	0.14	0.14	0.04	0.25	0.06
s, saturation flow rate [veh/h]	1143	1900	1733	862	1678	924	1900	1808	871	1900	1405
c, Capacity [veh/h]	241	532	485	177	470	475	1117	1063	512	1117	826
d1, Uniform Delay [s]	40.32	30.35	30.64	43.05	29.70	16.25	9.82	9.87	12.80	11.31	9.04
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.30	0.37	0.85	0.26	0.19	0.49	0.53	0.27	1.19	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

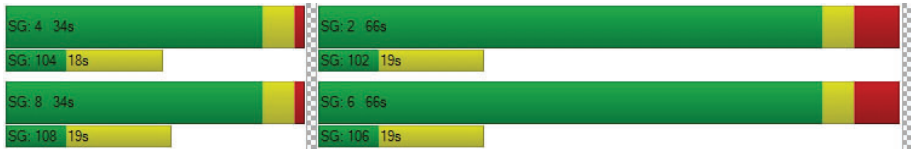
X, volume / capacity	0.47	0.52	0.55	0.51	0.46	0.05	0.23	0.24	0.07	0.43	0.11
d, Delay for Lane Group [s/veh]	40.85	30.65	31.00	43.90	29.96	16.44	10.31	10.40	13.07	12.50	9.30
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.64	5.55	5.40	2.18	4.19	0.33	2.73	2.70	0.46	5.80	0.85
50th-Percentile Queue Length [ft/ln]	65.90	138.85	134.92	54.44	104.77	8.17	68.22	67.46	11.49	145.02	21.36
95th-Percentile Queue Length [veh/ln]	4.74	9.42	9.21	3.92	7.54	0.59	4.91	4.86	0.83	9.75	1.54
95th-Percentile Queue Length [ft/ln]	118.62	235.48	230.16	98.00	188.58	14.70	122.79	121.42	20.68	243.77	38.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.85	30.80	31.00	43.90	29.96	29.96	16.44	10.35	10.40	13.07	12.50	9.30
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.55			34.07			10.62			12.07		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.33											
Intersection LOS	C											
Intersection V/C	0.405											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	80	540	60	20	90	90	30	380	20	30	400	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	540	60	20	90	90	30	380	20	30	400	70
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	142	16	6	25	25	8	101	5	8	111	19
Total Analysis Volume [veh/h]	84	567	63	22	100	100	32	404	21	33	442	77
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	67	67	67	67	67
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.17	0.03	0.12	0.03	0.23	0.03	0.23	0.05
s, saturation flow rate [veh/h]	1175	1900	1771	809	1627	945	1870	957	1900	1445
c, Capacity [veh/h]	192	451	420	110	386	601	1254	610	1274	969
d1, Uniform Delay [s]	43.41	34.96	35.24	46.71	33.15	10.03	7.01	9.91	7.06	5.72
k, delay calibration	0.04	0.04	0.05	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.59	0.78	1.27	0.33	0.40	0.17	0.73	0.17	0.75	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.71	0.74	0.20	0.52	0.05	0.34	0.05	0.35	0.08
d, Delay for Lane Group [s/veh]	43.99	35.74	36.51	47.04	33.55	10.20	7.75	10.08	7.81	5.88
Lane Group LOS	D	D	D	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.00	7.05	6.93	0.54	4.16	0.33	3.59	0.34	3.75	0.54
50th-Percentile Queue Length [ft/ln]	50.09	176.16	173.14	13.45	103.95	8.27	89.68	8.46	93.85	13.40
95th-Percentile Queue Length [veh/ln]	3.61	11.40	11.24	0.97	7.48	0.60	6.46	0.61	6.76	0.96
95th-Percentile Queue Length [ft/ln]	90.16	284.99	281.03	24.21	187.11	14.89	161.43	15.22	168.94	24.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.99	36.08	36.51	47.04	33.55	33.55	10.20	7.75	7.75	10.08	7.81	5.88
Movement LOS	D	D	D	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	37.05			34.88			7.92			7.68		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	21.62											
Intersection LOS	C											
Intersection V/C	0.408											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	600	80	40	10	80	0	0	0	6	260	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	600	80	40	10	80	0	0	0	6	260	50
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	165	22	12	3	24	0	0	0	2	86	17
Total Analysis Volume [veh/h]	15	660	88	47	12	94	0	0	0	6	344	66
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	40	40	5	49		40
g / C, Green / Cycle	0.40	0.40	0.05	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.07	0.03	0.07		0.22
s, saturation flow rate [veh/h]	3618	1344	1810	1578		1840
c, Capacity [veh/h]	1431	532	93	778		745
d1, Uniform Delay [s]	22.32	19.53	46.19	13.78		22.76
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.07	0.67	1.60	0.36		2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

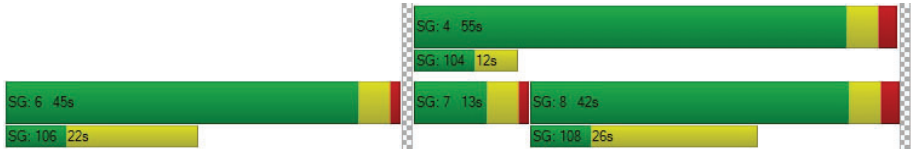
X, volume / capacity	0.46	0.17	0.51	0.14		0.55
d, Delay for Lane Group [s/veh]	23.39	20.20	47.79	14.14		25.67
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.82	1.41	1.16	1.32		7.80
50th-Percentile Queue Length [ft/ln]	145.39	35.15	29.06	33.10		195.09
95th-Percentile Queue Length [veh/ln]	9.77	2.53	2.09	2.38		12.39
95th-Percentile Queue Length [ft/ln]	244.26	63.27	52.32	59.58		309.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.39	20.20	47.79	14.14	14.14	0.00	0.00	0.00	0.00	25.67	25.67
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	23.02			24.48			0.00			25.67		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	24.02											
Intersection LOS	C											
Intersection V/C	0.431											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	200	70	80	150	30	60	370	20	40	350	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	200	70	80	150	30	60	370	20	40	350	160
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	58	20	23	42	8	18	112	6	11	96	44
Total Analysis Volume [veh/h]	12	231	81	90	169	34	73	447	24	44	382	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.41	0.14	0.43	0.06	0.08	0.25	0.05	0.20	0.13
s, saturation flow rate [veh/h]	600	600	600	600	971	1860	918	1900	1325
c, Capacity [veh/h]	273	219	288	219	438	937	379	957	667
d1, Uniform Delay [s]	23.48	16.31	24.19	14.95	16.24	11.55	17.95	10.80	9.94
k, delay calibration	0.38	0.04	0.43	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.43	0.39	29.13	0.12	0.82	1.93	0.62	1.25	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

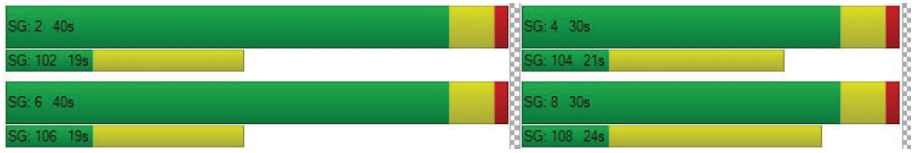
X, volume / capacity	0.89	0.37	0.90	0.16	0.17	0.50	0.12	0.40	0.26
d, Delay for Lane Group [s/veh]	49.91	16.69	53.31	15.07	17.06	13.48	18.57	12.04	10.90
Lane Group LOS	D	B	D	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.88	0.91	6.62	0.35	0.88	4.76	0.56	3.56	1.54
50th-Percentile Queue Length [ft/ln]	146.91	22.78	165.53	8.73	21.90	118.91	13.98	88.92	38.44
95th-Percentile Queue Length [veh/ln]	9.85	1.64	10.84	0.63	1.58	8.33	1.01	6.40	2.77
95th-Percentile Queue Length [ft/ln]	246.30	41.01	271.03	15.71	39.41	208.33	25.16	160.05	69.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.91	49.91	16.69	53.31	53.31	15.07	17.06	13.48	13.48	18.57	12.04	10.90
Movement LOS	D	D	B	D	D	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	41.60			48.88			13.96			12.19		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	24.24											
Intersection LOS	C											
Intersection V/C	0.685											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	90	110	80	30	40	10	30	480	40	40	430	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	110	80	30	40	10	30	480	40	40	430	30
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	31	22	11	15	4	9	151	13	11	117	8
Total Analysis Volume [veh/h]	100	123	89	44	59	15	38	602	50	44	470	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	35	35	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	17	17	17	17
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.04	0.04	0.05	0.35	0.06	0.28
s, saturation flow rate [veh/h]	1285	1662	1138	1794	824	1842	762	1826
c, Capacity [veh/h]	430	436	315	470	395	879	313	872
d1, Uniform Delay [s]	13.00	11.02	14.96	10.03	10.91	7.46	13.75	6.65
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.31	0.07	0.06	0.04	0.47	0.08	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

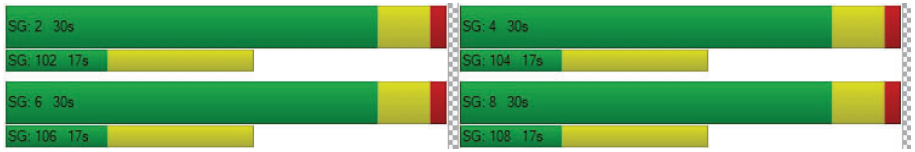
X, volume / capacity	0.23	0.49	0.14	0.16	0.10	0.74	0.14	0.58
d, Delay for Lane Group [s/veh]	13.10	11.33	15.04	10.08	10.95	7.93	13.83	6.88
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.55	1.04	0.27	0.33	0.19	2.39	0.26	1.62
50th-Percentile Queue Length [ft/ln]	13.75	25.94	6.72	8.13	4.74	59.64	6.62	40.42
95th-Percentile Queue Length [veh/ln]	0.99	1.87	0.48	0.59	0.34	4.29	0.48	2.91
95th-Percentile Queue Length [ft/ln]	24.74	46.70	12.10	14.63	8.54	107.36	11.91	72.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.10	11.33	11.33	15.04	10.08	10.08	10.95	7.93	7.93	13.83	6.88	6.88
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.90			11.93			8.10			7.44		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.87											
Intersection LOS	A											
Intersection V/C	0.482											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	210	370	270	40	190	40	20	610	120	160	770	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	370	270	40	190	40	20	610	120	160	770	40
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	98	71	12	59	12	5	160	31	43	205	11
Total Analysis Volume [veh/h]	222	392	286	50	236	50	21	639	126	170	820	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.19	0.05	0.08	0.08	0.03	0.18	0.08	0.17	0.23	0.03
s, saturation flow rate [veh/h]	1309	1900	1525	992	1900	1752	668	3618	1487	976	3618	1443
c, Capacity [veh/h]	494	670	538	114	442	408	266	1590	654	554	2008	801
d1, Uniform Delay [s]	24.17	26.39	25.77	48.25	31.88	32.00	25.96	19.07	17.16	11.82	12.80	10.20
k, delay calibration	0.47	0.08	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.49	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.75	0.60	0.30	0.99	0.16	0.19	0.58	0.76	0.66	1.40	0.62	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.58	0.53	0.44	0.33	0.34	0.08	0.40	0.19	0.31	0.41	0.05
d, Delay for Lane Group [s/veh]	26.92	26.99	26.08	49.24	32.04	32.19	26.54	19.83	17.81	13.23	13.42	10.33
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.19	7.56	5.35	1.26	2.89	2.80	0.41	5.09	1.87	1.95	5.08	0.44
50th-Percentile Queue Length [ft/ln]	104.82	188.99	133.83	31.62	72.15	69.97	10.19	127.34	46.67	48.85	127.06	10.97
95th-Percentile Queue Length [veh/ln]	7.55	12.07	9.15	2.28	5.19	5.04	0.73	8.80	3.36	3.52	8.78	0.79
95th-Percentile Queue Length [ft/ln]	188.68	301.71	228.70	56.92	129.87	125.95	18.34	219.88	84.01	87.93	219.49	19.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.92	26.99	26.08	49.24	32.10	32.19	26.54	19.83	17.81	13.23	13.42	10.33
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	26.68			34.66			19.69			13.26		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.22											
Intersection LOS	C											
Intersection V/C	0.434											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	63.4
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	150	810	70	20	470	40	10	150	130	70	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	810	70	20	470	40	10	150	130	70	190	50
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	213	18	6	139	12	3	40	35	19	52	14
Total Analysis Volume [veh/h]	158	854	74	24	557	47	11	159	138	76	208	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	55	55	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.16	0.25	0.25	0.03	0.16	0.16	0.15	0.09	0.67	0.04
s, saturation flow rate [veh/h]	977	1900	1824	729	1900	1829	1155	1461	422	1508
c, Capacity [veh/h]	650	1052	1010	477	986	950	353	398	161	411
d1, Uniform Delay [s]	7.84	13.22	13.28	7.97	13.76	13.79	29.62	29.17	35.49	27.41
k, delay calibration	0.42	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	1.38	1.47	0.20	0.82	0.87	0.38	0.19	369.92	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

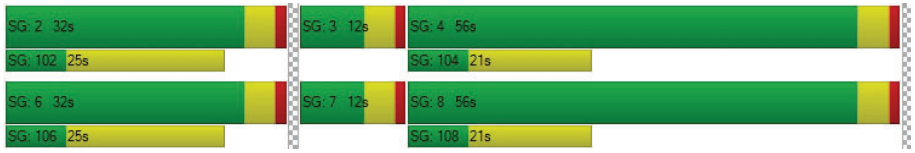
X, volume / capacity	0.24	0.45	0.45	0.05	0.31	0.31	0.48	0.35	1.77	0.13
d, Delay for Lane Group [s/veh]	8.59	14.60	14.75	8.17	14.57	14.66	30.00	29.36	405.41	27.47
Lane Group LOS	A	B	B	A	B	B	C	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	6.34	6.21	0.20	4.04	3.96	3.22	2.62	20.46	0.98
50th-Percentile Queue Length [ft/ln]	34.80	158.58	155.36	5.07	100.89	98.99	80.55	65.52	511.48	24.50
95th-Percentile Queue Length [veh/ln]	2.51	10.47	10.30	0.37	7.26	7.13	5.80	4.72	34.95	1.76
95th-Percentile Queue Length [ft/ln]	62.63	261.83	257.56	9.13	181.61	178.19	145.00	117.94	873.72	44.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.59	14.67	14.75	8.17	14.61	14.66	30.00	30.00	29.36	405.41	405.41	27.47
Movement LOS	A	B	B	A	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	13.79			14.37			29.71			344.09		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	63.45											
Intersection LOS	E											
Intersection V/C	0.930											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	34.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	850	160	70	560	70	20	540	230	80	400	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	850	160	70	560	70	20	540	230	80	400	180
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	219	41	19	148	19	6	150	64	22	110	50
Total Analysis Volume [veh/h]	113	874	165	74	592	74	22	600	256	88	441	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	54	44	44	54	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.54	0.44	0.44	0.54	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.29	0.10	0.18	0.18	0.02	0.24	0.26	0.09	0.23	0.14
s, saturation flow rate [veh/h]	957	1900	1761	753	1900	1797	961	1900	1587	942	1900	1453
c, Capacity [veh/h]	534	833	772	395	822	777	107	480	401	286	689	527
d1, Uniform Delay [s]	11.92	21.95	22.14	13.68	19.61	19.69	47.50	36.62	37.38	24.89	26.46	23.52
k, delay calibration	0.20	0.50	0.50	0.50	0.50	0.50	0.04	0.25	0.30	0.07	0.13	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	3.77	4.31	1.05	1.53	1.67	0.35	17.50	38.00	0.38	1.18	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

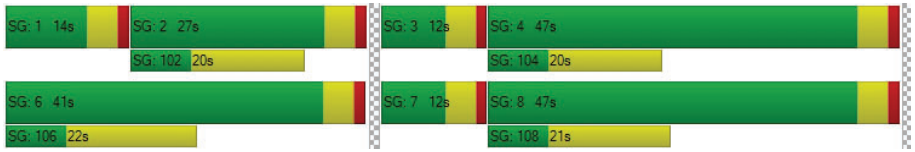
X, volume / capacity	0.21	0.64	0.66	0.19	0.41	0.42	0.21	0.94	1.01	0.31	0.64	0.38
d, Delay for Lane Group [s/veh]	12.27	25.72	26.45	14.73	21.14	21.36	47.84	54.11	75.38	25.27	27.63	23.69
Lane Group LOS	B	C	C	B	C	C	D	D	F	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.23	10.32	9.95	0.87	5.67	5.51	0.55	12.88	13.81	1.40	8.73	3.42
50th-Percentile Queue Length [ft/ln]	30.74	258.06	248.84	21.70	141.87	137.86	13.69	321.89	345.13	35.00	218.20	85.46
95th-Percentile Queue Length [veh/ln]	2.21	15.59	15.13	1.56	9.58	9.37	0.99	18.76	20.04	2.52	13.57	6.15
95th-Percentile Queue Length [ft/ln]	55.33	389.79	378.20	39.06	239.55	234.14	24.64	469.01	501.06	63.00	339.33	153.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.27	26.01	26.45	14.73	21.23	21.36	47.84	59.42	75.38	25.27	27.63	23.69
Movement LOS	B	C	C	B	C	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	24.72			20.60			63.78			26.27		
Approach LOS	C			C			E			C		
d_I, Intersection Delay [s/veh]	33.98											
Intersection LOS	C											
Intersection V/C	0.600											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	140	1000	160	50	810	30	60	260	120	110	290	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1000	160	50	810	30	60	260	120	110	290	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	271	43	14	220	8	16	67	31	30	78	22
Total Analysis Volume [veh/h]	152	1084	174	54	881	33	62	269	124	119	313	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	10	51	51	37	37	37	26	26	26	35	35
g / C, Green / Cycle	0.10	0.51	0.51	0.37	0.37	0.37	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.08	0.34	0.36	0.12	0.24	0.25	0.06	0.14	0.09	0.32	0.06
s, saturation flow rate [veh/h]	1810	1900	1724	448	1900	1850	1083	1900	1352	1335	1366
c, Capacity [veh/h]	183	978	888	108	699	681	72	488	347	460	482
d1, Uniform Delay [s]	44.10	17.75	18.31	47.39	26.36	26.48	50.00	32.17	30.40	30.45	22.33
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.68	3.42	4.46	15.77	4.81	5.13	10.29	0.36	0.23	29.21	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

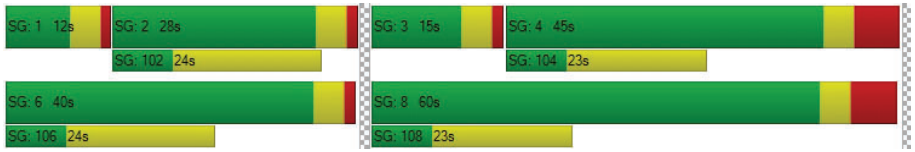
X, volume / capacity	0.83	0.66	0.69	0.50	0.66	0.67	0.86	0.55	0.36	0.94	0.18
d, Delay for Lane Group [s/veh]	47.78	21.18	22.77	63.16	31.17	31.61	60.29	32.53	30.63	59.66	22.40
Lane Group LOS	D	C	C	E	C	C	E	C	C	E	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.85	11.19	11.28	1.82	9.84	9.81	1.74	5.54	2.41	12.07	1.37
50th-Percentile Queue Length [ft/ln]	96.30	279.76	281.95	45.38	246.10	245.16	43.40	138.47	60.35	301.73	34.29
95th-Percentile Queue Length [veh/ln]	6.93	16.68	16.79	3.27	14.99	14.94	3.13	9.40	4.35	17.77	2.47
95th-Percentile Queue Length [ft/ln]	173.35	416.91	419.64	81.69	374.73	373.55	78.13	234.96	108.63	444.17	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.78	21.83	22.77	63.16	31.38	31.61	60.29	32.53	30.63	59.66	59.66	22.40
Movement LOS	D	C	C	E	C	C	E	C	C	E	E	C
d_A, Approach Delay [s/veh]	24.74			33.16			35.79			53.48		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.12											
Intersection LOS	C											
Intersection V/C	0.595											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	45.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	160	1250	50	20	940	30	6	80	140	66	170	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1250	50	20	940	30	6	80	140	66	170	80
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	330	13	5	245	8	2	24	41	18	48	22
Total Analysis Volume [veh/h]	169	1319	53	21	979	31	7	95	165	70	191	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	34	34	3	26	26	40	40
g / C, Green / Cycle	0.11	0.37	0.37	0.03	0.29	0.29	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.37	0.01	0.27	0.27	0.16	0.16
s, saturation flow rate [veh/h]	1810	1900	1861	1810	1900	1865	1663	1783
c, Capacity [veh/h]	205	708	693	60	555	544	735	788
d1, Uniform Delay [s]	39.21	27.96	28.15	42.80	30.96	31.05	16.69	16.72
k, delay calibration	0.04	0.50	0.50	0.04	0.26	0.27	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.14	28.01	30.80	1.31	13.60	14.83	1.33	1.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.97	0.99	0.35	0.92	0.92	0.35	0.36
d, Delay for Lane Group [s/veh]	42.35	55.97	58.95	44.11	44.56	45.88	18.03	17.98
Lane Group LOS	D	E	E	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.79	19.42	19.82	0.48	12.42	12.49	3.70	3.98
50th-Percentile Queue Length [ft/ln]	94.78	485.61	495.44	11.91	310.49	312.14	92.38	99.52
95th-Percentile Queue Length [veh/ln]	6.82	26.65	27.12	0.86	18.20	18.28	6.65	7.17
95th-Percentile Queue Length [ft/ln]	170.60	666.31	677.96	21.44	454.98	457.01	166.29	179.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.35	57.39	58.95	44.11	45.19	45.88	0.00	18.03	18.03	0.00	17.98	17.98
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	55.80			45.19			18.03			17.98		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	45.72											
Intersection LOS	D											
Intersection V/C	0.536											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	43.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.745

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	270	710	0	0	1230	40	0	0	0	650	280	870
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	710	0	0	1230	40	0	0	0	650	280	870
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	204	0	0	324	11	0	0	0	179	77	239
Total Analysis Volume [veh/h]	310	816	0	0	1295	42	0	0	0	715	308	957
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	44	44		40	40	40	40
g / C, Green / Cycle	0.18	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.25	0.24		0.28	0.27	0.33	0.33
s, saturation flow rate [veh/h]	1810	3618	3618	1865		1810	1862	1412	1545
c, Capacity [veh/h]	334	2124	1317	679		608	626	475	520
d1, Uniform Delay [s]	48.10	13.20	32.16	31.84		36.67	36.28	39.20	39.28
k, delay calibration	0.34	0.50	0.50	0.50		0.30	0.28	0.42	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.99	0.53	2.81	4.90		7.92	6.30	31.12	30.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.38	0.68	0.66		0.83	0.81	0.97	0.97
d, Delay for Lane Group [s/veh]	74.09	13.73	34.96	36.75		44.59	42.58	70.33	69.76
Lane Group LOS	E	B	C	D		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.49	5.89	11.35	11.65		14.38	13.99	16.79	18.37
50th-Percentile Queue Length [ft/ln]	287.28	147.20	283.63	291.28		359.4	349.8	419.7	459.1
95th-Percentile Queue Length [veh/ln]	17.05	9.87	16.87	17.25		20.59	20.13	23.51	25.39
95th-Percentile Queue Length [ft/ln]	426.26	246.69	421.73	431.22		514.8	503.2	587.7	634.8

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	74.09	13.73	0.00	0.00	35.52	36.75	0.00	0.00	0.00	43.97	43.50	70.02
Movement LOS	E	B			D	D				D	D	E
d_A, Approach Delay [s/veh]	30.35			35.56			0.00			56.50		
Approach LOS	C			D			A			E		
d_I, Intersection Delay [s/veh]	43.57											
Intersection LOS	D											
Intersection V/C	0.745											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	790	330	540	1330	0	200	180	240	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	790	330	540	1330	0	200	180	240	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	219	92	145	357	0	57	52	69	0	0	0
Total Analysis Volume [veh/h]	0	876	366	580	1428	0	229	206	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	55	88	23	23	23
g / C, Green / Cycle	0.23	0.23	0.23	0.46	0.73	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.21	0.17	0.39	0.13	0.12	0.17
s, saturation flow rate [veh/h]	3618	1504	1464	3514	3618	1810	1729	1577
c, Capacity [veh/h]	849	353	343	1616	2651	344	329	300
d1, Uniform Delay [s]	42.41	44.28	44.59	20.95	7.07	45.00	44.63	47.61
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	2.86	3.67	0.62	0.79	0.83	0.73	15.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.88	0.90	0.36	0.54	0.66	0.63	0.92
d, Delay for Lane Group [s/veh]	42.88	47.14	48.26	21.57	7.86	45.83	45.36	63.36
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.45	9.04	9.17	5.39	7.39	6.34	5.65	9.26
50th-Percentile Queue Length [ft/ln]	211.20	226.06	229.37	134.77	184.78	158.41	141.20	231.57
95th-Percentile Queue Length [veh/ln]	13.21	13.97	14.14	9.20	11.85	10.46	9.55	14.25
95th-Percentile Queue Length [ft/ln]	330.37	349.35	353.55	229.96	296.25	261.61	238.64	356.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	43.11	48.09	21.57	7.86	0.00	45.83	45.36	63.36	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	45.29			11.82			52.48			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.61											
Intersection LOS	C											
Intersection V/C	0.569											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	53.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	760	310	140	800	140	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	760	310	140	800	140	210
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	212	87	44	251	40	60
Total Analysis Volume [veh/h]	848	346	176	1003	161	241
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.23	0.26	0.27	0.28	0.19	0.33
s, saturation flow rate [veh/h]	3618	1353	651	3618	832	734
c, Capacity [veh/h]	2509	938	448	2509	145	128
d1, Uniform Delay [s]	6.14	6.31	12.26	6.50	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	1.12	2.58	0.48	70.75	424.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.37	0.39	0.40	1.11	1.88
d, Delay for Lane Group [s/veh]	6.50	7.43	14.84	6.98	112.02	465.51
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.24	2.91	2.46	4.07	6.34	18.18
50th-Percentile Queue Length [ft/ln]	81.04	72.63	61.43	101.69	158.59	454.51
95th-Percentile Queue Length [veh/ln]	5.83	5.23	4.42	7.32	10.94	30.89
95th-Percentile Queue Length [ft/ln]	145.86	130.73	110.57	183.05	273.58	772.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.50	7.43	14.84	6.98	112.02	465.51
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.77		8.15		323.94	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	53.30					
Intersection LOS	D					
Intersection V/C	0.605					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	60	30	0	10	30	20	0	10	110	20	0	10	170	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	60	30	0	10	30	20	0	10	110	20	0	10	170	20
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	20	10	0	3	9	6	0	3	31	6	0	3	47	6
Total Analysis Volume [veh/h]	0	27	81	40	0	12	37	25	0	11	124	23	0	11	189	22
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	635	743	625	729	673	781	683	792
Degree of Utilization, x	0.17	0.05	0.08	0.03	0.20	0.03	0.29	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.61	0.17	0.25	0.11	0.75	0.09	1.22	0.09
95th-Percentile Queue Length [ft]	15.23	4.26	6.36	2.66	18.64	2.28	30.48	2.14
Approach Delay [s/veh]	9.06		8.57		9.11		9.87	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.31							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.323

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	430	90	0	50	320	0	100	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	430	90	0	50	320	0	100	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	24	0	13	84	0	32	26
Total Analysis Volume [veh/h]	0	451	94	0	52	335	0	128	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.24	0.06	0.05	0.18	0.08	0.09
s, saturation flow rate [veh/h]	1900	1581	954	1900	1538	1208
c, Capacity [veh/h]	1108	867	482	1042	436	342
d1, Uniform Delay [s]	7.32	5.93	11.60	6.78	15.32	15.35
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	0.25	0.45	0.82	0.14	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

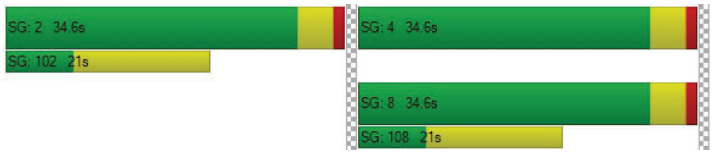
X, volume / capacity	0.41	0.11	0.11	0.32	0.29	0.30
d, Delay for Lane Group [s/veh]	8.43	6.19	12.05	7.59	15.46	15.53
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	0.46	0.43	1.85	1.17	0.94
50th-Percentile Queue Length [ft/ln]	67.15	11.42	10.76	46.21	29.15	23.60
95th-Percentile Queue Length [veh/ln]	4.84	0.82	0.77	3.33	2.10	1.70
95th-Percentile Queue Length [ft/ln]	120.88	20.56	19.36	83.18	52.46	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.43	8.43	6.19	12.05	12.05	7.59	15.46	15.46	15.53
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.04			8.19			15.49		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.57								
Intersection LOS	A								
Intersection V/C	0.323								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.322

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	130	20	10	90	10	20	130	20	10	140	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	130	20	10	90	10	20	130	20	10	140	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	39	6	3	24	3	6	40	6	3	42	6
Total Analysis Volume [veh/h]	47	154	24	11	96	11	24	159	24	12	169	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	699	679	708	709
Degree of Utilization, x	0.32	0.17	0.29	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.39	0.63	1.22	1.20
95th-Percentile Queue Length [ft]	34.75	15.64	30.43	29.96
Approach Delay [s/veh]	10.57	9.42	10.18	10.14
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.16			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	240	20	20	160	10	20	160	30	30	130	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	240	20	20	160	10	20	160	30	30	130	50
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	71	6	5	44	3	6	45	8	8	35	13
Total Analysis Volume [veh/h]	48	286	24	22	176	11	23	181	34	32	139	54
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	631	601	602	605
Degree of Utilization, x	0.57	0.35	0.39	0.37

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.56	1.55	1.88	1.72
95th-Percentile Queue Length [ft]	88.99	38.76	47.01	42.91
Approach Delay [s/veh]	15.91	12.15	12.82	12.44
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	13.67			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	27.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.909

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	100	320	40	20	220	20	20	120	90	30	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	320	40	20	220	20	20	120	90	30	130	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	89	11	6	61	6	6	33	25	9	38	9
Total Analysis Volume [veh/h]	111	356	45	22	245	22	22	133	100	35	152	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	514	584	488	544	518	500
Degree of Utilization, x	0.91	0.08	0.55	0.04	0.49	0.44

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	10.63	0.25	3.25	0.13	2.69	2.25
95th-Percentile Queue Length [ft]	265.81	6.24	81.23	3.16	67.22	56.27
Approach Delay [s/veh]	43.30		17.97		16.50	15.83
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	27.45					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	18.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	10	280	110	170	330	20	30	60	10	120	30	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	280	110	170	330	20	30	60	10	120	30	30
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	79	31	48	93	6	8	16	3	35	9	9
Total Analysis Volume [veh/h]	11	315	124	191	371	22	31	63	10	141	35	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	51	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.56	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.18	0.21	0.03	0.04	0.11	0.05
s, saturation flow rate [veh/h]	1062	1744	1082	1865	1039	1811	1290	1373
c, Capacity [veh/h]	664	902	644	1047	202	330	244	251
d1, Uniform Delay [s]	6.97	14.02	8.46	10.97	36.15	31.36	38.53	31.71
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	1.88	1.18	1.03	0.13	0.12	0.81	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

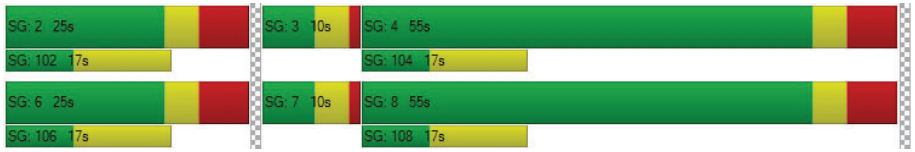
X, volume / capacity	0.02	0.49	0.30	0.38	0.15	0.22	0.58	0.28
d, Delay for Lane Group [s/veh]	6.98	15.89	9.64	11.99	36.28	31.48	39.34	31.93
Lane Group LOS	A	B	A	B	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	5.74	1.59	4.32	0.62	1.35	3.02	1.29
50th-Percentile Queue Length [ft/ln]	1.74	143.43	39.70	107.95	15.51	33.68	75.48	32.36
95th-Percentile Queue Length [veh/ln]	0.13	9.67	2.86	7.73	1.12	2.43	5.43	2.33
95th-Percentile Queue Length [ft/ln]	3.13	241.64	71.47	193.15	27.92	60.63	135.86	58.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.98	15.89	15.89	9.64	11.99	11.99	36.28	31.48	31.48	39.34	31.93	31.93
Movement LOS	A	B	B	A	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.67			11.22			32.91			36.88		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	18.39											
Intersection LOS	B											
Intersection V/C	0.410											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	200	30	10	70	10	10	170	30	20	150	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	200	30	10	70	10	10	170	30	20	150	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	56	8	3	21	3	3	52	9	5	40	5
Total Analysis Volume [veh/h]	79	226	34	12	84	12	12	206	36	21	161	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	671	627	662	647
Degree of Utilization, x	0.50	0.17	0.38	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.86	0.62	1.81	1.34
95th-Percentile Queue Length [ft]	71.57	15.47	45.19	33.49
Approach Delay [s/veh]	13.70	9.94	11.80	11.09
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	12.13			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	210	30	10	240	10	10	70	10	10	120	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	210	30	10	240	10	10	70	10	10	120	40
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	60	9	3	61	3	3	22	3	3	35	12
Total Analysis Volume [veh/h]	23	239	34	10	245	10	13	88	13	12	139	46
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	699	689	631	659
Degree of Utilization, x	0.42	0.39	0.18	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.11	1.82	0.65	1.25
95th-Percentile Queue Length [ft]	52.87	45.40	16.36	31.29
Approach Delay [s/veh]	11.88	11.47	9.96	10.77
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	11.25			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	5.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2750	50	0	2810	70	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2750	50	0	2810	70	40
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	747	14	0	719	19	11
Total Analysis Volume [veh/h]	2989	54	0	2876	77	44
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	70	70	70	70
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	52	52	52	7
g / C, Green / Cycle	0.75	0.75	0.75	0.10
(v / s)_i Volume / Saturation Flow Rate	0.64	0.61	0.47	0.08
s, saturation flow rate [veh/h]	3192	1661	6089	1530
c, Capacity [veh/h]	2398	1248	4574	150
d1, Uniform Delay [s]	5.92	5.54	4.09	30.78
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.50	0.05	3.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.81	0.63	0.81
d, Delay for Lane Group [s/veh]	6.24	6.04	4.14	34.62
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.47	5.19	2.64	2.07
50th-Percentile Queue Length [ft/ln]	136.70	129.75	66.01	51.81
95th-Percentile Queue Length [veh/ln]	9.30	8.93	4.75	3.73
95th-Percentile Queue Length [ft/ln]	232.57	223.15	118.81	93.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.18	6.04	0.00	4.14	34.62	34.62
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.18		4.14		34.62	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	5.78					
Intersection LOS	A					
Intersection V/C	0.715					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	155.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.212

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2340	750	40	370	440	10	568	470	0	0	370	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2340	750	40	370	440	10	568	470	0	0	370	330
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	642	206	11	109	129	3	142	122	0	0	108	96
Total Analysis Volume [veh/h]	2569	823	44	434	516	12	568	490	0	0	432	385
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	181	181	181	181	181	181	181
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	105	105	105	30	30	36	36
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.54	0.58	0.60	0.30	0.30	0.31	0.22
s, saturation flow rate [veh/h]	3192	1479	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1845	855	824	265	264	318	752
d1, Uniform Delay [s]	34.92	38.20	38.20	75.50	75.50	72.50	72.50
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.03	32.03	43.16	382.52	384.86	259.51	40.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	1.01	1.04	1.82	1.82	1.54	1.09
d, Delay for Lane Group [s/veh]	35.95	70.23	81.36	458.02	460.36	332.01	113.37
Lane Group LOS	D	F	F	F	F	F	F
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	34.38	44.73	45.65	40.51	40.56	37.72	14.56
50th-Percentile Queue Length [ft/ln]	859.39	1118.35	1141.27	1012.73	1013.98	942.89	363.89
95th-Percentile Queue Length [veh/ln]	43.99	55.96	58.86	63.12	63.23	57.69	21.72
95th-Percentile Queue Length [ft/ln]	1099.78	1398.94	1471.43	1578.12	1580.67	1442.34	543.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.66	81.26	81.36	458.02	460.36	460.36	0.00	332.01	0.00	0.00	113.37	113.37
Movement LOS	D	F	F	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	55.87			459.19			332.01			113.37		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	155.83											
Intersection LOS	F											
Intersection V/C	1.212											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	120	90	40	0	10	70	20	0	20	120	40	0	20	140	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	120	90	40	0	10	70	20	0	20	120	40	0	20	140	10
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	35	26	12	0	3	21	6	0	6	35	12	0	6	41	3
Total Analysis Volume [veh/h]	0	140	105	47	0	12	83	24	0	23	139	46	0	23	164	12
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	692	669	687	674
Degree of Utilization, x	0.42	0.18	0.30	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.10	0.64	1.27	1.23
95th-Percentile Queue Length [ft]	52.52	16.09	31.86	30.80
Approach Delay [s/veh]	11.94	9.55	10.49	10.57
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.89			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.196

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	70	20	10	60	10	10	30	20	30	80	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	70	20	10	60	10	10	30	20	30	80	30
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	22	6	3	16	3	4	11	7	9	24	9
Total Analysis Volume [veh/h]	38	88	25	11	65	11	14	42	28	36	96	36
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	670	796	672	785	665	785	675	800
Degree of Utilization, x	0.19	0.03	0.11	0.01	0.08	0.04	0.20	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.69	0.10	0.38	0.04	0.27	0.11	0.72	0.14
95th-Percentile Queue Length [ft]	17.20	2.43	9.52	1.07	6.87	2.77	18.04	3.53
Approach Delay [s/veh]	8.99		8.57		8.22		8.92	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.76							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	950	140	270	1420	0	32	1085	209	90	0	120
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	950	140	270	1420	0	32	1085	209	90	0	120
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	255	38	74	391	0	8	271	52	28	0	37
Total Analysis Volume [veh/h]	36	0	1019	150	298	1566	0	32	1085	209	112	0	150
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.09	0.44	0.43		0.09	0.13
s, saturation flow rate [veh/h]	1810	3618	1584	682	3618		1231	1132
c, Capacity [veh/h]	47	2509	1099	536	2625		192	177
d1, Uniform Delay [s]	72.54	9.79	7.77	6.72	9.94		58.69	61.51
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.49	0.26	4.12	1.01		1.04	13.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.41	0.14	0.56	0.60		0.58	0.85
d, Delay for Lane Group [s/veh]	81.74	10.28	8.03	10.84	10.95		59.74	74.88
Lane Group LOS	F	B	A	B	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	7.17	1.71	2.82	12.15		4.03	6.24
50th-Percentile Queue Length [ft/ln]	37.61	179.21	42.84	70.39	303.67		100.77	155.89
95th-Percentile Queue Length [veh/ln]	2.71	11.56	3.08	5.07	17.86		7.26	10.33
95th-Percentile Queue Length [ft/ln]	67.70	288.98	77.11	126.70	446.56		181.38	258.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.28	8.03	10.84	10.95	0.00	0.00	0.00	0.00	59.74	0.00	74.88
Movement LOS	F		B	A	B	B					E		E
d_A, Approach Delay [s/veh]	12.14				10.93			0.00			68.40		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	15.89												
Intersection LOS	B												
Intersection V/C	0.585												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.243

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2130	2	380	2960	20	20	30	30	80	20	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2130	2	380	2960	20	20	30	30	80	20	500
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	618	1	97	757	5	8	12	12	24	6	151
Total Analysis Volume [veh/h]	35	2472	2	389	3028	20	32	48	48	96	24	602
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	213	213	213	213	213	213	213	213
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	103	50	147	147	45	45	100
g / C, Green / Cycle	0.03	0.48	0.24	0.69	0.69	0.21	0.21	0.47
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.21	0.55	0.55	0.55	0.21	0.37
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1894	233	563	1615
c, Capacity [veh/h]	51	2499	429	2499	1308	70	149	756
d1, Uniform Delay [s]	102.47	54.53	78.99	22.73	22.82	77.11	83.59	48.07
k, delay calibration	0.04	0.04	0.16	0.04	0.11	0.50	0.46	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.94	3.20	10.72	0.23	1.23	419.49	33.15	8.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

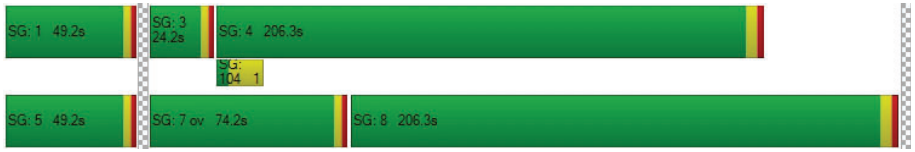
X, volume / capacity	0.69	0.99	0.91	0.80	0.80	1.82	0.80	0.80
d, Delay for Lane Group [s/veh]	108.41	57.73	89.71	22.96	24.05	496.61	116.74	56.60
Lane Group LOS	F	E	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.01	43.38	21.87	32.94	35.11	12.14	8.08	29.44
50th-Percentile Queue Length [ft/ln]	50.19	1084.43	546.80	823.44	877.63	303.62	202.01	735.92
95th-Percentile Queue Length [veh/ln]	3.61	54.18	29.54	42.35	44.82	21.82	12.74	38.33
95th-Percentile Queue Length [ft/ln]	90.35	1354.46	738.55	1058.74	1120.55	545.55	318.55	958.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	108.41	57.73	0.00	89.71	23.33	24.05	496.61	496.61	496.61	116.74	116.74	56.60
Movement LOS	F	E		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	58.44			30.85			496.61			66.60		
Approach LOS	E			C			F			E		
d_I, Intersection Delay [s/veh]	53.60											
Intersection LOS	D											
Intersection V/C	1.243											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	179.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.981

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	380	520	110	40	440	110	100	100	230	0	40	160	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	380	520	110	40	440	110	100	100	230	0	40	160	90
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	101	139	29	11	126	31	27	27	63	0	13	50	28
Total Analysis Volume [veh/h]	405	554	117	46	503	126	110	110	252	0	50	201	113
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	57	57	10	48	48	33	33	19	0	33	33	33
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	50	50	4	43	43	28	47	28	28
g / C, Green / Cycle	0.10	0.50	0.50	0.04	0.43	0.43	0.28	0.47	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.22	0.29	0.10	0.03	0.26	0.10	1.49	0.16	0.48	0.10
s, saturation flow rate [veh/h]	1810	1900	1200	1810	1900	1301	147	1534	524	1094
c, Capacity [veh/h]	189	951	601	67	823	564	96	728	192	311
d1, Uniform Delay [s]	44.75	17.58	13.80	47.56	21.83	17.77	39.10	16.50	31.27	28.55
k, delay calibration	0.50	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	531.83	2.60	0.72	4.63	3.37	0.92	613.68	0.11	170.18	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

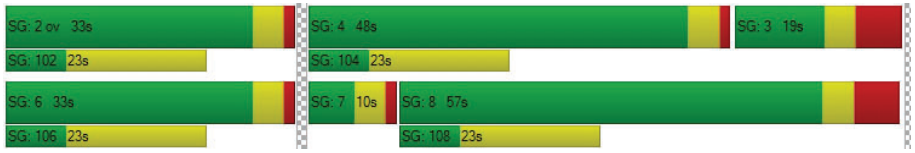
X, volume / capacity	2.14	0.58	0.19	0.69	0.61	0.22	2.29	0.35	1.31	0.36
d, Delay for Lane Group [s/veh]	576.59	20.18	14.52	52.19	25.20	18.69	652.78	16.61	201.45	28.82
Lane Group LOS	F	C	B	D	C	B	F	B	F	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	32.55	9.26	1.54	1.21	9.56	1.94	18.76	3.62	12.67	2.14
50th-Percentile Queue Length [ft/ln]	813.83	231.52	38.55	30.32	238.93	48.38	468.99	90.57	316.70	53.41
95th-Percentile Queue Length [veh/ln]	51.28	14.25	2.78	2.18	14.63	3.48	33.60	6.52	21.09	3.85
95th-Percentile Queue Length [ft/ln]	1281.98	356.29	69.38	54.57	365.68	87.09	840.02	163.03	527.33	96.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	576.59	20.18	14.52	52.19	25.20	18.69	652.78	652.78	16.61	201.4	201.4	201.4	28.82
Movement LOS	F	C	B	D	C	B	F	F	B	F	F	F	C
d_A, Approach Delay [s/veh]	228.99			25.82			313.13			147.86			
Approach LOS	F			C			F			F			
d_I, Intersection Delay [s/veh]	179.92												
Intersection LOS	F												
Intersection V/C	1.981												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	70.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	580	200	0	90	660	0	330	420
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	580	200	0	90	660	0	330	420
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	157	54	0	24	174	0	95	121
Total Analysis Volume [veh/h]	0	627	216	0	95	696	0	380	483
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.16	0.10	0.19	0.23	0.17	0.26
s, saturation flow rate [veh/h]	1900	1729	1372	943	3618	1299	1668	1064
c, Capacity [veh/h]	1142	1007	799	688	2509	226	291	186
d1, Uniform Delay [s]	10.54	10.54	10.35	5.42	5.81	41.27	41.12	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.34	0.15	0.46
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.75	0.83	0.42	0.28	157.61	25.03	256.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.30	0.27	0.14	0.28	1.31	0.98	1.52
d, Delay for Lane Group [s/veh]	11.17	11.29	11.18	5.84	6.09	198.88	66.15	298.16
Lane Group LOS	B	B	B	A	A	F	E	F
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.66	3.35	2.42	0.64	2.52	15.41	8.93	17.75
50th-Percentile Queue Length [ft/ln]	91.41	83.86	60.42	16.09	62.94	385.35	223.34	443.70
95th-Percentile Queue Length [veh/ln]	6.58	6.04	4.35	1.16	4.53	24.53	13.84	29.00
95th-Percentile Queue Length [ft/ln]	164.53	150.96	108.76	28.95	113.29	613.21	345.89	725.05

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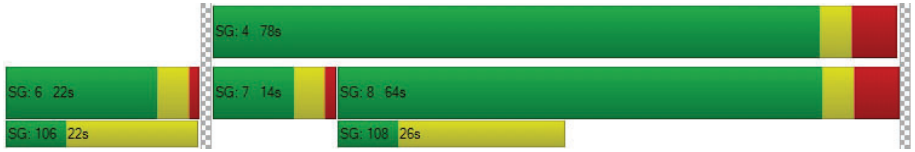
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.17	11.23	11.18	5.84	5.84	6.09	198.88	167.46	203.54
Movement LOS	B	B	B	A	A	A	F	F	F
d_A, Approach Delay [s/veh]	11.22			6.06			187.35		
Approach LOS	B			A			F		
d_I, Intersection Delay [s/veh]	70.46								
Intersection LOS	E								
Intersection V/C	0.458								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.354

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	710	190	130	740	120	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	710	190	130	740	120	80
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	195	52	35	197	35	24
Total Analysis Volume [veh/h]	781	209	138	786	142	94
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.22	0.16	0.20	0.22	0.14
s, saturation flow rate [veh/h]	3618	1339	696	3618	1727
c, Capacity [veh/h]	2236	827	413	2236	431
d1, Uniform Delay [s]	9.29	8.64	16.26	9.31	32.55
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.73	2.18	0.44	0.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

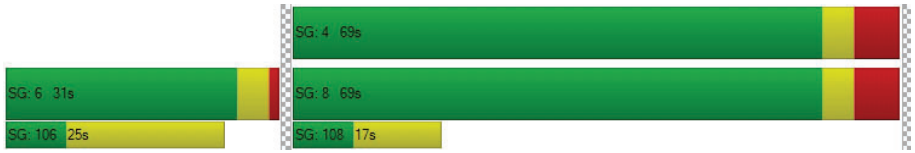
X, volume / capacity	0.35	0.25	0.33	0.35	0.55
d, Delay for Lane Group [s/veh]	9.73	9.37	18.44	9.75	32.95
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.98	2.08	2.19	4.01	4.89
50th-Percentile Queue Length [ft/ln]	99.40	51.98	54.82	100.22	122.29
95th-Percentile Queue Length [veh/ln]	7.16	3.74	3.95	7.22	8.52
95th-Percentile Queue Length [ft/ln]	178.91	93.57	98.67	180.39	212.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.73	9.37	18.44	9.75	32.95	32.95
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.65		11.04		32.95	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.81					
Intersection LOS	B					
Intersection V/C	0.354					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	42.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	750	260	130	760	190	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	750	260	130	760	190	120
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	211	73	37	217	52	33
Total Analysis Volume [veh/h]	845	293	149	869	209	132
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.18	0.24	0.25	0.11
s, saturation flow rate [veh/h]	3618	1296	818	3618	832	1238
c, Capacity [veh/h]	2190	785	621	2618	120	325
d1, Uniform Delay [s]	10.16	10.06	5.07	5.02	42.78	30.42
k, delay calibration	0.50	0.50	0.50	0.50	0.42	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	1.36	0.91	0.34	360.49	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

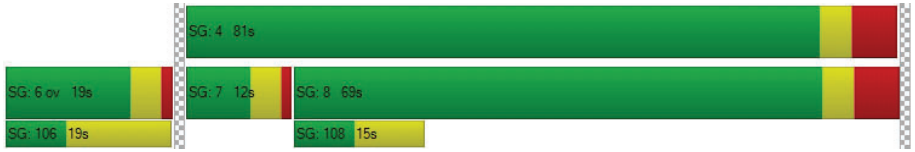
X, volume / capacity	0.39	0.37	0.24	0.33	1.74	0.41
d, Delay for Lane Group [s/veh]	10.67	11.42	5.98	5.36	403.27	30.73
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.62	3.36	0.93	2.86	14.95	2.62
50th-Percentile Queue Length [ft/ln]	115.45	84.01	23.36	71.52	373.83	65.62
95th-Percentile Queue Length [veh/ln]	8.14	6.05	1.68	5.15	25.41	4.72
95th-Percentile Queue Length [ft/ln]	203.56	151.22	42.04	128.73	635.36	118.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.67	11.42	5.98	5.36	403.27	30.73
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.87		5.45		259.06	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	42.55					
Intersection LOS	D					
Intersection V/C	0.516					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	46.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	1040	142	67	890	30	0	13	60	310	50	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1040	142	67	890	30	0	13	60	310	50	210
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	292	41	18	234	8	0	6	18	87	14	59
Total Analysis Volume [veh/h]	22	1167	165	71	935	32	0	24	70	348	56	236
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	75	75	67	67	8	32	32
g / C, Green / Cycle	0.50	0.50	0.45	0.45	0.05	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.32	0.25	0.26	0.04	0.22	0.17
s, saturation flow rate [veh/h]	682	3618	1900	1873	1615	1822	1397
c, Capacity [veh/h]	299	1806	852	840	86	392	301
d1, Uniform Delay [s]	21.90	27.75	30.59	30.74	70.24	58.85	55.58
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.46	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	1.80	2.73	2.86	6.72	51.52	9.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

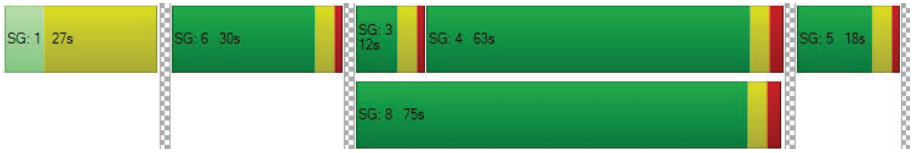
X, volume / capacity	0.07	0.65	0.57	0.58	0.81	1.03	0.79
d, Delay for Lane Group [s/veh]	21.94	29.54	33.32	33.60	76.96	110.37	65.37
Lane Group LOS	C	C	C	C	E	F	E
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.40	15.94	13.68	13.77	2.82	20.60	9.34
50th-Percentile Queue Length [ft/ln]	10.09	398.61	342.07	344.18	70.48	515.03	233.60
95th-Percentile Queue Length [veh/ln]	0.73	22.49	19.75	19.85	5.07	28.55	14.36
95th-Percentile Queue Length [ft/ln]	18.17	562.33	493.73	496.30	126.86	713.67	358.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.94	29.54	0.00	0.00	33.45	33.60	76.96	0.00	76.96	110.37	110.37	65.37
Movement LOS	C	C			C	C	E		E	F	F	E
d_A, Approach Delay [s/veh]	29.40			33.46			76.96			93.78		
Approach LOS	C			C			E			F		
d_I, Intersection Delay [s/veh]	46.31											
Intersection LOS	D											
Intersection V/C	0.588											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	370	890	870	110	230	700
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	370	890	870	110	230	700
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	233	223	28	60	182
Total Analysis Volume [veh/h]	388	934	893	113	240	730
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	70	70	70	20	40
g / C, Green / Cycle	0.13	0.59	0.59	0.59	0.17	0.34
(v / s)_i Volume / Saturation Flow Rate	0.11	0.26	0.25	0.09	0.18	0.26
s, saturation flow rate [veh/h]	3514	3618	3618	1315	1322	2859
c, Capacity [veh/h]	452	2120	2120	770	225	964
d1, Uniform Delay [s]	51.18	13.85	13.64	11.24	49.75	35.38
k, delay calibration	0.04	0.50	0.50	0.50	0.31	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.67	0.62	0.40	65.74	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

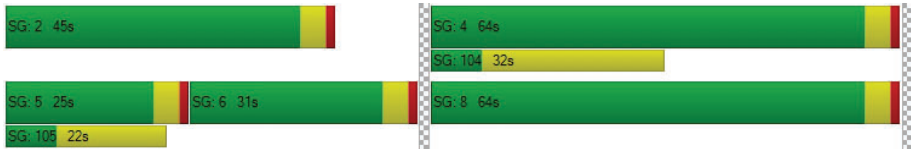
X, volume / capacity	0.86	0.44	0.42	0.15	1.07	0.76
d, Delay for Lane Group [s/veh]	53.07	14.51	14.25	11.64	115.49	35.84
Lane Group LOS	D	B	B	B	F	D
Critical Lane Group	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.82	7.06	6.64	1.43	11.19	10.14
50th-Percentile Queue Length [ft/ln]	145.55	176.48	166.11	35.84	279.73	253.39
95th-Percentile Queue Length [veh/ln]	9.78	11.42	10.87	2.58	17.20	15.36
95th-Percentile Queue Length [ft/ln]	244.48	285.41	271.79	64.51	430.03	383.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.07	14.51	14.25	11.64	115.49	35.84
Movement LOS	D	B	B	B	F	D
d_A, Approach Delay [s/veh]	25.83		13.96		55.55	
Approach LOS	C		B		E	
d_I, Intersection Delay [s/veh]	30.95					
Intersection LOS	C					
Intersection V/C	0.550					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	70	180	90	0	270	0	300	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	180	90	0	270	0	300	350
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	60	30	0	71	0	80	94
Total Analysis Volume [veh/h]	0	0	0	0	93	238	119	0	285	0	322	376
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		47	47	47	59	59	59
g / C, Green / Cycle		0.40	0.40	0.40	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate		0.09	0.10	0.12	0.24	0.17	0.26
s, saturation flow rate [veh/h]		1047	1900	1447	1170	1900	1453
c, Capacity [veh/h]		348	752	573	585	942	720
d1, Uniform Delay [s]		34.61	24.28	24.84	19.49	18.37	20.58
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.88	0.78	1.33	2.89	0.99	2.69
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.27	0.25	0.30	0.49	0.34	0.52
d, Delay for Lane Group [s/veh]		36.49	25.07	26.17	22.39	19.36	23.27
Lane Group LOS		D	C	C	C	B	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.33	3.67	3.52	5.10	5.57	7.49
50th-Percentile Queue Length [ft/ln]		58.27	91.86	87.88	127.58	139.23	187.17
95th-Percentile Queue Length [veh/ln]		4.20	6.61	6.33	8.81	9.44	11.97
95th-Percentile Queue Length [ft/ln]		104.88	165.36	158.18	220.20	235.99	299.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	36.49	25.31	26.17	0.00	22.39	0.00	19.36	23.27
Movement LOS					D	C	C		C		B	C
d_A, Approach Delay [s/veh]	0.00				27.85				21.73			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	30.89											
Intersection LOS	C											
Intersection V/C	0.581											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	640	180	260	930	0	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	640	180	260	930	0	120
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	170	48	72	258	0	31
Total Analysis Volume [veh/h]	0	53	679	191	288	1031	0	125
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	51	51	51
g / C, Green / Cycle	0.26	0.26	0.26	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.15	0.25	0.31	0.32
s, saturation flow rate [veh/h]	494	3618	1246	1130	1900	1770
c, Capacity [veh/h]	60	954	329	440	812	757
d1, Uniform Delay [s]	59.98	40.03	38.40	26.19	28.43	28.98
k, delay calibration	0.04	0.04	0.04	0.11	0.22	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.37	0.61	1.70	2.47	3.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.71	0.58	0.65	0.72	0.75
d, Delay for Lane Group [s/veh]	74.28	40.40	39.01	27.89	30.90	32.50
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	9.10	4.94	5.75	14.29	14.34
50th-Percentile Queue Length [ft/ln]	46.30	227.41	123.46	143.84	357.33	358.46
95th-Percentile Queue Length [veh/ln]	3.33	14.04	8.58	9.69	20.49	20.55
95th-Percentile Queue Length [ft/ln]	83.33	351.06	214.57	242.18	512.33	513.71

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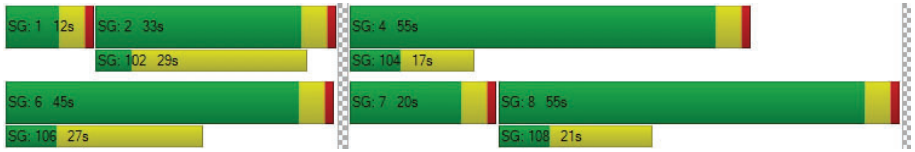
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	40.40	39.01	27.89	31.59	0.00	32.50
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	42.06				30.93			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	30.89							
Intersection LOS	C							
Intersection V/C	0.581							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	119.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.636

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	80	190	180	0	40	80	60	0	20	210	50	0	190	590	90
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	80	190	180	0	40	80	60	0	20	210	50	0	190	590	90
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	21	51	48	0	11	22	16	0	6	60	14	0	49	152	23
Total Analysis Volume [veh/h]	0	85	202	192	0	43	87	65	0	23	242	58	0	196	609	93
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.45	0.03	0.16	0.18	0.19	0.19
s, saturation flow rate [veh/h]	1255	1722	438	757	1828	1096	1900	1795
c, Capacity [veh/h]	73	267	107	315	864	448	898	848
d1, Uniform Delay [s]	50.02	42.26	42.56	23.72	16.65	26.27	17.16	17.20
k, delay calibration	0.04	0.21	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	85.46	222.13	400.72	0.45	1.11	3.08	1.33	1.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.16	1.48	1.81	0.07	0.35	0.44	0.40	0.40
d, Delay for Lane Group [s/veh]	135.48	264.39	443.28	24.17	17.76	29.36	18.49	18.64
Lane Group LOS	F	F	F	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.54	22.92	14.61	0.42	4.48	4.05	5.54	5.32
50th-Percentile Queue Length [ft/ln]	88.45	573.06	365.32	10.43	112.06	101.14	138.39	132.92
95th-Percentile Queue Length [veh/ln]	6.37	35.90	25.07	0.75	7.95	7.28	9.39	9.10
95th-Percentile Queue Length [ft/ln]	159.22	897.60	626.85	18.78	198.87	182.05	234.86	227.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	135.4	135.4	264.3	264.3	443.2	443.2	443.2	443.2	24.17	24.17	17.76	17.76	29.36	29.36	18.55	18.64
Movement LOS	F	F	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	241.51				443.28				18.21				20.92			
Approach LOS	F				F				B				C			
d_I, Intersection Delay [s/veh]	119.68															
Intersection LOS	F															
Intersection V/C	0.636															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	70	330	120	30	120	50	70	180	90	110	150	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	330	120	30	120	50	70	180	90	110	150	140
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	87	32	9	35	15	22	55	28	31	43	40
Total Analysis Volume [veh/h]	74	348	127	35	142	59	86	222	111	125	170	159
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	46	46
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.06	0.18	0.08	0.03	0.11	0.31	0.41
s, saturation flow rate [veh/h]	1200	1900	1546	1049	1777	1367	1100
c, Capacity [veh/h]	226	462	376	130	432	665	546
d1, Uniform Delay [s]	40.48	35.08	31.22	46.15	32.30	20.25	25.29
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.95	0.20	0.41	0.29	4.49	13.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.75	0.34	0.27	0.47	0.63	0.83
d, Delay for Lane Group [s/veh]	40.79	36.02	31.41	46.56	32.60	24.73	39.01
Lane Group LOS	D	D	C	D	C	C	D
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.68	7.76	2.50	0.85	4.10	7.82	11.54
50th-Percentile Queue Length [ft/ln]	42.12	194.05	62.55	21.32	102.48	195.60	288.57
95th-Percentile Queue Length [veh/ln]	3.03	12.33	4.50	1.53	7.38	12.41	17.11
95th-Percentile Queue Length [ft/ln]	75.82	308.27	112.58	38.37	184.46	310.28	427.87

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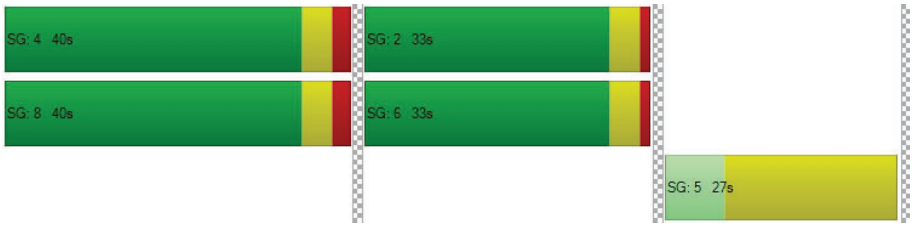
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.79	36.02	31.41	46.56	32.60	32.60	24.73	24.73	24.73	39.01	39.01	39.01
Movement LOS	D	D	C	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	35.60			34.67			24.73			39.01		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	33.65											
Intersection LOS	C											
Intersection V/C	0.596											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	127.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.298

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	300	120	60	210	40	30	330	40	110	280	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	300	120	60	210	40	30	330	40	110	280	230
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	84	34	17	58	11	8	89	11	32	80	66
Total Analysis Volume [veh/h]	34	338	135	67	233	44	32	357	43	126	322	264
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.17	0.06	0.15	0.52	0.03	1.12	0.17
s, saturation flow rate [veh/h]	1120	1900	800	1059	1831	753	1570	400	1581
c, Capacity [veh/h]	109	370	156	75	356	417	789	247	795
d1, Uniform Delay [s]	48.18	39.43	39.00	49.96	38.20	32.98	12.71	29.54	14.83
k, delay calibration	0.04	0.15	0.12	0.04	0.07	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.60	12.04	14.85	13.15	2.30	29.91	0.13	380.99	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

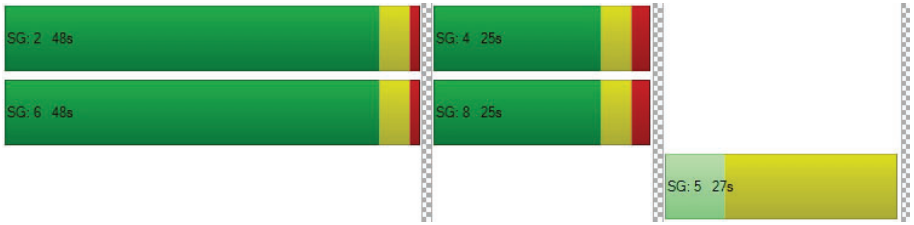
X, volume / capacity	0.31	0.91	0.87	0.90	0.78	0.93	0.05	1.81	0.33
d, Delay for Lane Group [s/veh]	48.78	51.47	53.85	63.11	40.50	62.90	12.84	410.53	15.96
Lane Group LOS	D	D	D	E	D	E	B	F	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.85	9.16	3.77	1.92	6.52	11.57	0.51	32.32	3.70
50th-Percentile Queue Length [ft/ln]	21.27	228.91	94.26	48.12	162.88	289.13	12.78	807.95	92.61
95th-Percentile Queue Length [veh/ln]	1.53	14.12	6.79	3.46	10.70	17.14	0.92	55.62	6.67
95th-Percentile Queue Length [ft/ln]	38.28	352.98	169.67	86.62	267.54	428.56	23.00	1390.47	166.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.78	51.47	53.85	63.11	40.50	40.50	62.90	62.90	12.84	410.53	410.53	15.96
Movement LOS	D	D	D	E	D	D	E	E	B	F	F	B
d_A, Approach Delay [s/veh]	51.92			44.90			57.92			264.23		
Approach LOS	D			D			E			F		
d_I, Intersection Delay [s/veh]	127.78											
Intersection LOS	F											
Intersection V/C	1.298											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	30	200	270	110	320	20	30	220	130	170	290	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	200	270	110	320	20	30	220	130	170	290	160
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	80	29	86	5	8	58	34	49	84	46
Total Analysis Volume [veh/h]	36	237	320	118	342	21	31	230	136	196	335	185
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.03	0.12	0.22	0.10	0.19	0.03	0.21	0.19	0.18	0.12
s, saturation flow rate [veh/h]	1035	1900	1473	1161	1876	1062	1759	1032	1900	1559
c, Capacity [veh/h]	119	464	360	209	459	377	762	340	823	675
d1, Uniform Delay [s]	47.24	32.61	36.46	43.27	35.39	26.17	20.30	33.84	19.52	18.24
k, delay calibration	0.04	0.04	0.18	0.04	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.32	11.41	0.89	3.16	0.43	2.17	6.96	1.49	1.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

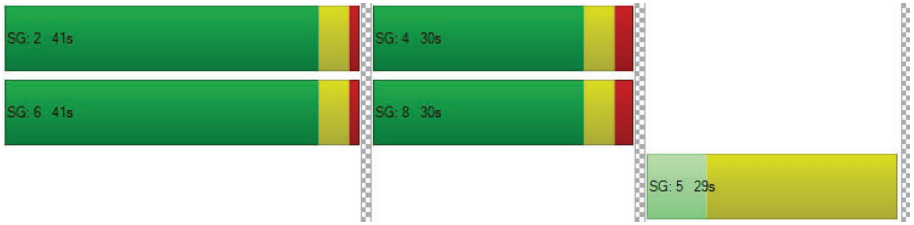
X, volume / capacity	0.30	0.51	0.89	0.56	0.79	0.08	0.48	0.58	0.41	0.27
d, Delay for Lane Group [s/veh]	47.77	32.93	47.87	44.16	38.55	26.60	22.47	40.80	21.01	19.24
Lane Group LOS	D	C	D	D	D	C	C	D	C	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.89	4.88	8.45	2.86	8.45	0.58	6.29	4.88	5.48	2.84
50th-Percentile Queue Length [ft/ln]	22.28	122.10	211.30	71.52	211.28	14.43	157.34	121.94	136.91	70.96
95th-Percentile Queue Length [veh/ln]	1.60	8.51	13.22	5.15	13.22	1.04	10.41	8.50	9.31	5.11
95th-Percentile Queue Length [ft/ln]	40.10	212.70	330.49	128.74	330.47	25.98	260.19	212.49	232.85	127.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.77	32.93	47.87	44.16	38.55	38.55	26.60	22.47	22.47	40.80	21.01	19.24
Movement LOS	D	C	D	D	D	D	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	41.90			39.92			22.79			25.97		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.78											
Intersection LOS	C											
Intersection V/C	0.425											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	43.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	440	0	29	410	100	66	90	0	80	350	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	440	0	29	410	100	66	90	0	80	350	200
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	118	0	8	110	27	20	27	0	21	93	53
Total Analysis Volume [veh/h]	11	472	0	31	441	107	79	108	0	85	372	212
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	33	33	33	33		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.24	0.08		0.19	0.20
s, saturation flow rate [veh/h]	944	1863	1863	1400		1878	1500
c, Capacity [veh/h]	88	509	509	383		907	724
d1, Uniform Delay [s]	57.20	42.41	41.48	34.28		19.92	20.09
k, delay calibration	0.04	0.32	0.49	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.24	18.19	17.46	0.15		1.34	1.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.93	0.87	0.28		0.40	0.42
d, Delay for Lane Group [s/veh]	57.44	60.60	58.94	34.43		21.25	21.87
Lane Group LOS	E	E	E	C		C	C
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	16.06	14.66	2.46		6.96	5.89
50th-Percentile Queue Length [ft/ln]	8.34	401.46	366.59	61.51		174.05	147.17
95th-Percentile Queue Length [veh/ln]	0.60	22.63	20.94	4.43		11.29	9.87
95th-Percentile Queue Length [ft/ln]	15.02	565.75	523.59	110.72		282.23	246.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.44	60.60	0.00	0.00	58.94	34.43	0.00	0.00	0.00	21.25	21.40	21.87
Movement LOS	E	E			E	C				C	C	C
d_A, Approach Delay [s/veh]	60.53			54.15			0.00			21.53		
Approach LOS	E			D			A			C		
d_I, Intersection Delay [s/veh]	43.13											
Intersection LOS	D											
Intersection V/C	0.455											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	90	40	0	800	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	40	0	800	130
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	30	13	0	221	36
Total Analysis Volume [veh/h]	0	0	0	0	120	53	0	885	144
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	9	9	55	55
g / C, Green / Cycle	0.55	0.55	0.09	0.09	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.07	0.03	0.29	0.29
s, saturation flow rate [veh/h]	557	1900	1810	1583	1900	1629
c, Capacity [veh/h]	259	1047	156	136	1083	898
d1, Uniform Delay [s]	0.00	0.00	44.71	43.19	14.19	14.23
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	3.03	0.67	1.71	2.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.77	0.39	0.51	0.53
d, Delay for Lane Group [s/veh]	0.00	0.00	47.74	43.86	15.90	16.48
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.99	1.25	7.95	7.01
50th-Percentile Queue Length [ft/ln]	0.00	0.00	74.86	31.18	198.87	175.26
95th-Percentile Queue Length [veh/ln]	0.00	0.00	5.39	2.24	12.58	11.35
95th-Percentile Queue Length [ft/ln]	0.00	0.00	134.74	56.12	314.51	283.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.74	47.74	43.86	15.90	16.12	16.48
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.55			16.17		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	20.54								
Intersection LOS	C								
Intersection V/C	0.359								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.309

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	100	40	100	160	50	30	260	20	40	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	100	40	100	160	50	30	260	20	40	190	50
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	26	10	28	45	14	9	80	6	11	51	14
Total Analysis Volume [veh/h]	10	105	42	113	181	57	37	322	25	43	206	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	13	13
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.30	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.01	0.06	0.03	0.09	0.10	0.04	0.21	0.18
s, saturation flow rate [veh/h]	1192	1900	1406	1226	1900	1481	1795	1681
c, Capacity [veh/h]	418	560	414	465	560	436	872	830
d1, Uniform Delay [s]	11.31	8.40	8.18	11.38	8.77	8.25	6.83	6.54
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.06	0.04	0.10	0.12	0.05	0.13	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

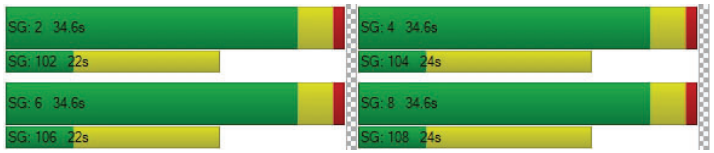
X, volume / capacity	0.02	0.19	0.10	0.24	0.32	0.13	0.44	0.37
d, Delay for Lane Group [s/veh]	11.31	8.46	8.22	11.48	8.89	8.30	6.96	6.64
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.04	0.36	0.14	0.54	0.69	0.20	1.25	0.86
50th-Percentile Queue Length [ft/ln]	1.11	8.90	3.49	13.48	17.21	5.11	31.21	21.50
95th-Percentile Queue Length [veh/ln]	0.08	0.64	0.25	0.97	1.24	0.37	2.25	1.55
95th-Percentile Queue Length [ft/ln]	1.99	16.02	6.28	24.26	30.98	9.20	56.19	38.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.31	8.46	8.22	11.48	8.89	8.30	6.96	6.96	6.96	6.64	6.64	6.64
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.58			9.63			6.96			6.64		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.88											
Intersection LOS	A											
Intersection V/C	0.309											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	120	40	20	230	30	20	210	170	20	210	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	120	40	20	230	30	20	210	170	20	210	50
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	36	12	5	62	8	6	62	50	6	58	14
Total Analysis Volume [veh/h]	83	142	47	22	248	32	24	247	200	22	232	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	14	14	14	14	14
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.02	0.15	0.28	0.17
s, saturation flow rate [veh/h]	1087	1753	1150	1840	1687	1777
c, Capacity [veh/h]	421	653	478	685	741	776
d1, Uniform Delay [s]	12.52	8.14	10.70	8.57	9.84	8.62
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.09	0.01	0.15	0.34	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

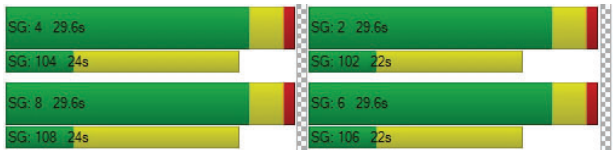
X, volume / capacity	0.20	0.29	0.05	0.41	0.64	0.40
d, Delay for Lane Group [s/veh]	12.61	8.23	10.71	8.71	10.18	8.74
Lane Group LOS	B	A	B	A	B	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.46	0.71	0.11	1.12	3.20	1.24
50th-Percentile Queue Length [ft/ln]	11.44	17.87	2.63	27.92	80.10	31.05
95th-Percentile Queue Length [veh/ln]	0.82	1.29	0.19	2.01	5.77	2.24
95th-Percentile Queue Length [ft/ln]	20.59	32.17	4.73	50.25	144.18	55.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.61	8.23	8.23	10.71	8.71	8.71	10.18	10.18	10.18	8.74	8.74	8.74
Movement LOS	B	A	A	B	A	A	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	9.57			8.86			10.18			8.74		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	9.43											
Intersection LOS	A											
Intersection V/C	0.431											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	43.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	70	150	130	100	260	20	50	510	60	220	750	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	150	130	100	260	20	50	510	60	220	750	110
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	49	42	27	70	5	13	136	16	61	207	30
Total Analysis Volume [veh/h]	91	194	168	108	280	22	53	542	64	243	827	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	24	24	24	24	24	24	0	29	29	14	43	43
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	18	31	31	45	45	45
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.18	0.31	0.31	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.11	0.09	0.15	0.01	0.09	0.33	0.22	0.25	0.26
s, saturation flow rate [veh/h]	1117	1900	1576	1208	1900	1580	601	1860	1089	1900	1802
c, Capacity [veh/h]	97	350	290	158	350	291	133	582	344	863	819
d1, Uniform Delay [s]	49.81	37.17	37.36	47.27	39.14	33.85	44.42	34.43	22.73	20.03	20.10
k, delay calibration	0.04	0.04	0.04	0.04	0.06	0.04	0.50	0.50	0.21	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.71	0.51	0.68	1.94	2.24	0.04	8.75	48.27	5.09	2.63	2.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

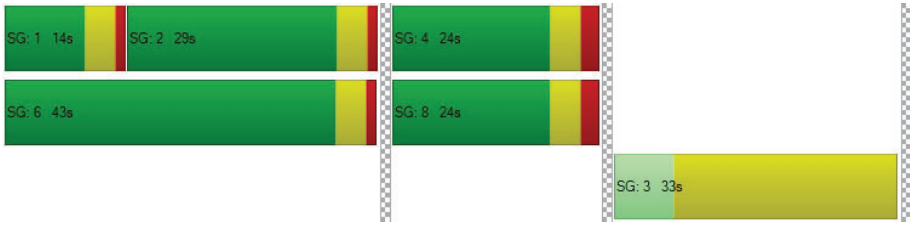
X, volume / capacity	0.94	0.55	0.58	0.68	0.80	0.08	0.40	1.04	0.71	0.56	0.57
d, Delay for Lane Group [s/veh]	64.52	37.68	38.04	49.21	41.38	33.89	53.17	82.70	27.82	22.66	22.93
Lane Group LOS	E	D	D	D	D	C	D	F	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.64	4.28	3.74	2.75	6.65	0.44	1.61	21.55	3.94	8.62	8.32
50th-Percentile Queue Length [ft/ln]	66.11	107.03	93.44	68.83	166.21	11.01	40.19	538.73	98.47	215.49	208.12
95th-Percentile Queue Length [veh/ln]	4.76	7.67	6.73	4.96	10.88	0.79	2.89	29.94	7.09	13.43	13.06
95th-Percentile Queue Length [ft/ln]	119.00	191.87	168.20	123.90	271.93	19.81	72.34	748.43	177.25	335.86	326.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.52	37.68	38.04	49.21	41.38	33.89	53.17	82.70	82.70	27.82	22.77	22.93
Movement LOS	E	D	D	D	D	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	43.21			43.04			80.33			23.82		
Approach LOS	D			D			F			C		
d_I, Intersection Delay [s/veh]	43.69											
Intersection LOS	D											
Intersection V/C	0.563											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	82.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	70	280	70	60	400	60	30	150	160	110	270	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	280	70	60	400	60	30	150	160	110	270	40
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	79	20	19	128	19	9	43	45	30	75	11
Total Analysis Volume [veh/h]	79	316	79	77	513	77	34	170	182	122	299	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	39	39	39	39	39	39	28	28
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.05	0.07	0.16	0.16	0.24	0.48
s, saturation flow rate [veh/h]	839	1900	1554	1080	1900	1796	1619	959
c, Capacity [veh/h]	282	746	610	337	746	705	499	318
d1, Uniform Delay [s]	30.99	22.13	19.43	30.63	21.92	21.98	33.21	38.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.46	1.76	0.44	1.57	1.62	1.76	5.87	224.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

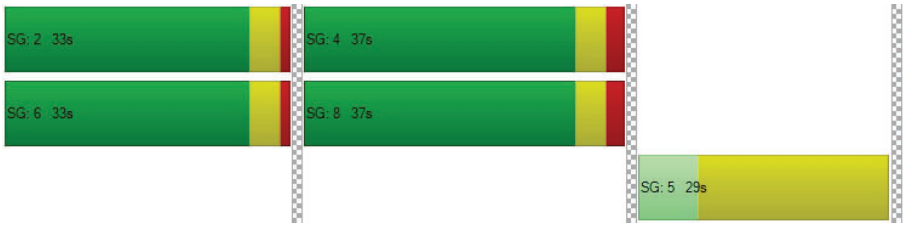
X, volume / capacity	0.28	0.42	0.13	0.23	0.40	0.41	0.77	1.46
d, Delay for Lane Group [s/veh]	33.45	23.89	19.87	32.20	23.54	23.74	39.08	262.28
Lane Group LOS	C	C	B	C	C	C	D	F
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.73	5.57	1.22	1.62	5.25	5.08	9.37	27.67
50th-Percentile Queue Length [ft/ln]	43.37	139.34	30.45	40.62	131.34	126.88	234.33	691.64
95th-Percentile Queue Length [veh/ln]	3.12	9.45	2.19	2.92	9.01	8.77	14.39	43.73
95th-Percentile Queue Length [ft/ln]	78.07	236.13	54.81	73.12	225.31	219.24	359.85	1093.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.45	23.89	19.87	32.20	23.62	23.74	39.08	39.08	39.08	262.28	262.28	262.28
Movement LOS	C	C	B	C	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.81			24.63			39.08			262.28		
Approach LOS	C			C			D			F		
d_I, Intersection Delay [s/veh]	82.95											
Intersection LOS	F											
Intersection V/C	0.651											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	340	100	110	480	80	0	450	170	0	410	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	340	100	110	480	80	0	450	170	0	410	190
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	103	30	30	129	22	0	122	46	0	117	54
Total Analysis Volume [veh/h]	133	412	121	119	518	86	0	487	184	0	467	216
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	44	44	44	44	44	44	25	25	25	25
g / C, Green / Cycle	0.44	0.44	0.44	0.44	0.44	0.44	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.08	0.12	0.16	0.16	0.26	0.12	0.18	0.20
s, saturation flow rate [veh/h]	829	1900	1581	989	1900	1793	1900	1570	1900	1685
c, Capacity [veh/h]	328	842	700	333	842	794	483	399	483	429
d1, Uniform Delay [s]	28.44	19.81	16.80	30.80	18.52	18.56	37.27	31.48	33.88	34.85
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.04	0.09	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.69	2.03	0.54	2.97	1.24	1.33	33.72	0.31	1.55	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.49	0.17	0.36	0.37	0.37	1.01	0.46	0.71	0.80
d, Delay for Lane Group [s/veh]	32.13	21.84	17.33	33.77	19.76	19.90	70.99	31.79	35.42	39.59
Lane Group LOS	C	C	B	C	B	B	F	C	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.88	6.97	1.72	2.62	4.85	4.65	16.09	3.75	7.63	8.20
50th-Percentile Queue Length [ft/ln]	72.06	174.26	43.05	65.46	121.16	116.30	402.20	93.76	190.77	205.03
95th-Percentile Queue Length [veh/ln]	5.19	11.30	3.10	4.71	8.46	8.19	22.77	6.75	12.16	12.90
95th-Percentile Queue Length [ft/ln]	129.70	282.50	77.49	117.82	211.42	204.73	569.21	168.77	304.02	322.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.13	21.84	17.33	33.77	19.82	19.90	0.00	70.99	31.79	0.00	36.54	39.59
Movement LOS	C	C	B	C	B	B		F	C		D	D
d_A, Approach Delay [s/veh]	23.07			22.12			60.24			37.51		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	35.51											
Intersection LOS	D											
Intersection V/C	0.473											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	42.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	60	400	160	120	420	100	0	310	130	70	420	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	400	160	120	420	100	0	310	130	70	420	100
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	116	46	39	135	32	0	86	36	20	120	29
Total Analysis Volume [veh/h]	69	463	185	154	540	129	0	345	145	80	480	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	9	40	40	53	39	39	24	38	35	35	35
g / C, Green / Cycle	0.08	0.33	0.33	0.44	0.32	0.32	0.20	0.31	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.12	0.14	0.18	0.18	0.18	0.09	0.06	0.25	0.07
s, saturation flow rate [veh/h]	1810	1900	1562	1123	1900	1754	1900	1561	1252	1900	1570
c, Capacity [veh/h]	142	633	521	377	616	569	375	490	265	551	456
d1, Uniform Delay [s]	53.01	35.31	30.30	23.99	33.53	33.63	47.31	31.15	33.74	40.49	32.63
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.20	0.04	0.04	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.95	7.30	1.89	3.25	3.67	4.08	15.34	0.12	0.23	10.35	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

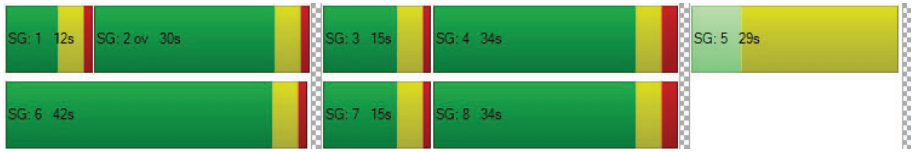
X, volume / capacity	0.48	0.73	0.36	0.41	0.56	0.57	0.92	0.30	0.30	0.87	0.25
d, Delay for Lane Group [s/veh]	53.95	42.61	32.19	27.24	37.19	37.71	62.66	31.27	33.97	50.84	32.74
Lane Group LOS	D	D	C	C	D	D	E	C	C	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.02	12.97	4.28	2.95	8.83	8.34	11.67	3.21	1.74	14.80	2.54
50th-Percentile Queue Length [ft/ln]	50.46	324.35	107.03	73.77	220.71	208.55	291.78	80.32	43.49	370.03	63.57
95th-Percentile Queue Length [veh/ln]	3.63	18.88	7.67	5.31	13.70	13.08	17.27	5.78	3.13	21.11	4.58
95th-Percentile Queue Length [ft/ln]	90.83	472.04	191.87	132.79	342.53	326.97	431.85	144.58	78.28	527.76	114.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.95	42.61	32.19	27.24	37.38	37.71	0.00	62.66	31.27	33.97	50.84	32.74
Movement LOS	D	D	C	C	D	D		E	C	C	D	C
d_A, Approach Delay [s/veh]	41.01			35.54			53.37			45.78		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	42.77											
Intersection LOS	D											
Intersection V/C	0.552											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.414

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	150	590	0	0	640	60	181	0	84	160	290	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	590	0	0	640	60	181	0	84	160	290	40
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	176	0	0	177	17	52	0	24	44	80	11
Total Analysis Volume [veh/h]	179	705	0	0	706	66	208	0	96	176	319	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	70	70	58	58		21	21
g / C, Green / Cycle	0.58	0.58	0.48	0.48		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.21	0.19	0.20	0.21		0.15	0.15
s, saturation flow rate [veh/h]	871	3618	1900	1828		1843	1672
c, Capacity [veh/h]	497	2115	916	881		317	287
d1, Uniform Delay [s]	13.17	12.86	20.22	20.43		48.62	48.65
k, delay calibration	0.11	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.44	0.42	1.43	1.58		3.49	3.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

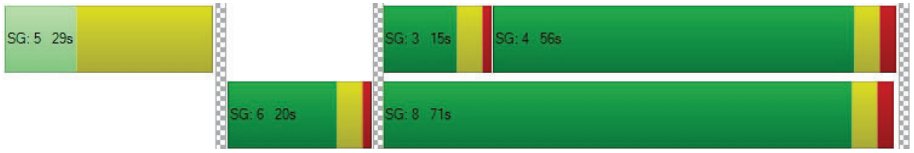
X, volume / capacity	0.36	0.33	0.42	0.44		0.89	0.89
d, Delay for Lane Group [s/veh]	13.61	13.29	21.65	22.01		52.10	52.58
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	2.24	4.92	7.21	7.31		8.62	7.89
50th-Percentile Queue Length [ft/ln]	55.93	123.02	180.29	182.66		215.52	197.27
95th-Percentile Queue Length [veh/ln]	4.03	8.56	11.62	11.74		13.44	12.50
95th-Percentile Queue Length [ft/ln]	100.68	213.97	290.39	293.48		335.90	312.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.61	13.29	0.00	0.00	21.81	22.01	0.00	0.00	0.00	52.10	52.42	52.58
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	13.35			21.83			0.00			52.33		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	25.91											
Intersection LOS	C											
Intersection V/C	0.414											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	390	0	0	820	620	430
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	0	0	820	620	430
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	111	0	0	232	170	118
Total Analysis Volume [veh/h]	446	0	0	927	681	472
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	73	73	38	38
g / C, Green / Cycle	0.61	0.61	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.12	0.26	0.19	0.30
s, saturation flow rate [veh/h]	3618	3618	3514	1587
c, Capacity [veh/h]	2196	2196	1111	501
d1, Uniform Delay [s]	10.55	12.43	34.76	39.89
k, delay calibration	0.50	0.50	0.04	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.60	0.21	18.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

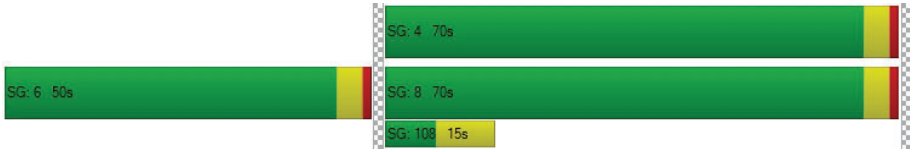
X, volume / capacity	0.20	0.42	0.61	0.94
d, Delay for Lane Group [s/veh]	10.76	13.03	34.96	57.90
Lane Group LOS	B	B	C	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.66	6.55	7.95	15.10
50th-Percentile Queue Length [ft/ln]	66.56	163.73	198.69	377.53
95th-Percentile Queue Length [veh/ln]	4.79	10.75	12.57	21.47
95th-Percentile Queue Length [ft/ln]	119.80	268.65	314.28	536.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.76	0.00	0.00	13.03	34.96	57.90
Movement LOS	B			B	C	E
d_A, Approach Delay [s/veh]	10.76		13.03		44.35	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	26.93					
Intersection LOS	C					
Intersection V/C	0.554					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	55.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	10	350	480	560	740	240	30	510	30	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	350	480	560	740	240	30	510	30	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	90	123	156	207	67	9	152	9	0	0	0
Total Analysis Volume [veh/h]	10	358	491	626	827	268	36	609	36	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	1	25	25	63	87	87	18	18	18
g / C, Green / Cycle	0.01	0.21	0.21	0.53	0.73	0.73	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.19	0.27	0.18	0.29	0.33	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1655	1886	1729	1671
c, Capacity [veh/h]	22	396	375	1858	1378	1200	279	255	247
d1, Uniform Delay [s]	58.81	46.26	47.44	16.20	6.41	6.72	49.96	49.94	50.04
k, delay calibration	0.04	0.33	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.33	19.54	156.62	0.04	0.88	1.21	3.28	3.51	3.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

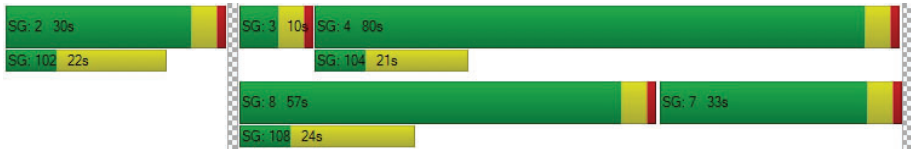
X, volume / capacity	0.45	0.90	1.31	0.34	0.40	0.45	0.87	0.87	0.88
d, Delay for Lane Group [s/veh]	64.15	65.80	204.06	16.24	7.30	7.93	53.23	53.45	54.02
Lane Group LOS	E	E	F	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	12.51	27.47	4.89	5.29	5.40	7.28	6.68	6.58
50th-Percentile Queue Length [ft/ln]	8.37	312.78	686.79	122.32	132.14	135.12	182.01	166.88	164.50
95th-Percentile Queue Length [veh/ln]	0.60	18.31	41.15	8.52	9.06	9.22	11.71	10.91	10.79
95th-Percentile Queue Length [ft/ln]	15.06	457.80	1028.87	213.01	226.40	230.43	292.64	272.81	269.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.15	65.80	204.06	16.24	7.50	7.93	53.23	53.55	54.02	0.00	0.00	0.00
Movement LOS	E	E	F	B	A	A	D	D	D			
d_A, Approach Delay [s/veh]	144.81			10.75			53.55			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	55.00											
Intersection LOS	E											
Intersection V/C	0.581											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	140	140	180	30	60	30	30	670	80	110	1010	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	140	180	30	60	30	30	670	80	110	1010	60
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	39	50	8	16	8	8	175	21	29	270	16
Total Analysis Volume [veh/h]	155	155	200	32	63	32	31	699	83	118	1081	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 2: 2 Future Year Report File: \...\FY_MD_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.13	0.08	0.14	0.03	0.06	0.06	0.19	0.06	0.16	0.30	0.31
s, saturation flow rate [veh/h]	1163	1900	1449	1182	1661	499	3618	1425	746	1900	1810
c, Capacity [veh/h]	285	473	361	263	414	283	2238	882	449	1176	1120
d1, Uniform Delay [s]	38.49	30.66	32.66	36.07	29.86	17.72	9.00	7.71	14.51	10.43	10.57
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.61	0.15	0.50	0.08	0.10	0.78	0.36	0.21	1.42	1.47	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

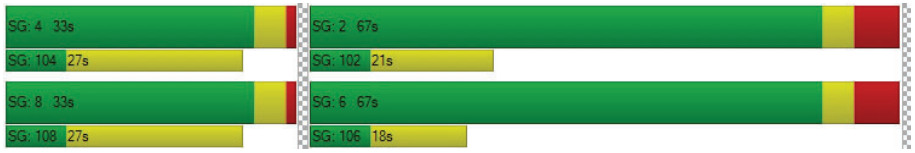
X, volume / capacity	0.54	0.33	0.55	0.12	0.23	0.11	0.31	0.09	0.26	0.49	0.51
d, Delay for Lane Group [s/veh]	39.09	30.81	33.16	36.15	29.97	18.50	9.36	7.92	15.93	11.90	12.21
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.55	3.01	4.16	0.67	1.80	0.50	3.45	0.73	1.70	6.88	6.88
50th-Percentile Queue Length [ft/ln]	88.67	75.26	104.04	16.71	44.94	12.39	86.33	18.29	42.46	171.97	172.04
95th-Percentile Queue Length [veh/ln]	6.38	5.42	7.49	1.20	3.24	0.89	6.22	1.32	3.06	11.18	11.18
95th-Percentile Queue Length [ft/ln]	159.60	135.47	187.28	30.07	80.90	22.30	155.40	32.91	76.43	279.50	279.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.09	30.81	33.16	36.15	29.97	29.97	18.50	9.36	7.92	15.93	12.05	12.21
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	34.25			31.53			9.56			12.42		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	16.56											
Intersection LOS	B											
Intersection V/C	0.452											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	110	320	50	20	130	30	20	450	60	50	300	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	320	50	20	130	30	20	450	60	50	300	90
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	87	14	6	38	9	6	130	17	15	90	27
Total Analysis Volume [veh/h]	120	348	54	24	154	35	23	522	70	60	361	108
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	48	48	48	48	48	43	43
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.11	0.02	0.11	0.36	0.40
s, saturation flow rate [veh/h]	1148	1900	1740	975	1771	1698	1309
c, Capacity [veh/h]	531	914	838	458	853	762	599
d1, Uniform Delay [s]	20.09	15.08	15.17	18.71	15.06	25.03	26.59
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.25	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	0.57	0.66	0.22	0.60	4.73	11.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.22	0.24	0.05	0.22	0.81	0.88
d, Delay for Lane Group [s/veh]	21.08	15.65	15.84	18.93	15.66	29.76	38.28
Lane Group LOS	C	B	B	B	B	C	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	2.74	2.67	0.36	2.54	13.02	13.72
50th-Percentile Queue Length [ft/ln]	49.12	68.56	66.83	9.12	63.45	325.55	342.97
95th-Percentile Queue Length [veh/ln]	3.54	4.94	4.81	0.66	4.57	18.94	19.79
95th-Percentile Queue Length [ft/ln]	88.42	123.41	120.29	16.41	114.21	473.50	494.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.08	15.72	15.84	18.93	15.66	15.66	29.76	29.76	29.76	38.28	38.28	38.28
Movement LOS	C	B	B	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	16.97			16.03			29.76			38.28		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	27.05											
Intersection LOS	C											
Intersection V/C	0.517											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.413

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	210	420	0	140	150	30	110	480	60	30	310	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	420	0	140	150	30	110	480	60	30	310	50
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	120	0	40	42	8	32	140	18	9	97	16
Total Analysis Volume [veh/h]	239	479	0	158	169	34	129	561	70	37	387	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.21	0.13	0.13	0.17	0.11	0.13	0.17	0.18	0.05	0.20	0.04
s, saturation flow rate [veh/h]	1142	1900	1900	905	1779	994	1900	1751	793	1900	1400
c, Capacity [veh/h]	283	559	559	229	524	511	1090	1004	436	1090	803
d1, Uniform Delay [s]	41.84	28.46	28.46	41.33	28.08	17.92	10.93	11.04	15.35	11.41	9.51
k, delay calibration	0.17	0.04	0.04	0.07	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.35	0.19	0.19	2.47	0.17	1.19	0.69	0.80	0.38	0.91	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

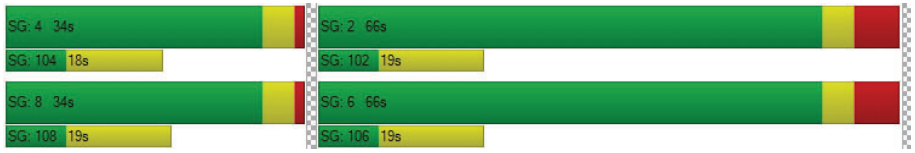
X, volume / capacity	0.85	0.43	0.43	0.69	0.39	0.25	0.29	0.31	0.08	0.36	0.08
d, Delay for Lane Group [s/veh]	52.19	28.65	28.65	43.80	28.25	19.11	11.62	11.83	15.74	12.31	9.69
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.70	4.55	4.55	3.95	3.80	2.04	3.67	3.59	0.52	4.62	0.62
50th-Percentile Queue Length [ft/ln]	167.62	113.69	113.69	98.87	95.07	50.98	91.76	89.71	12.93	115.60	15.56
95th-Percentile Queue Length [veh/ln]	10.95	8.05	8.05	7.12	6.85	3.67	6.61	6.46	0.93	8.15	1.12
95th-Percentile Queue Length [ft/ln]	273.78	201.13	201.13	177.96	171.13	91.77	165.17	161.48	23.28	203.76	28.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.19	28.65	28.65	43.80	28.25	28.25	19.11	11.71	11.83	15.74	12.31	9.69
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	36.49			35.06			12.98			12.24		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.51											
Intersection LOS	C											
Intersection V/C	0.413											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	200	550	50	30	110	60	70	460	40	40	300	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	550	50	30	110	60	70	460	40	40	300	30
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	144	13	8	31	17	19	122	11	11	83	8
Total Analysis Volume [veh/h]	210	577	52	33	123	67	75	490	43	44	332	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	31	31	60	60	60	60	60
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.17	0.04	0.11	0.07	0.29	0.05	0.17	0.02
s, saturation flow rate [veh/h]	1190	1900	1804	807	1718	1035	1849	881	1900	1427
c, Capacity [veh/h]	303	583	553	182	527	591	1112	448	1142	858
d1, Uniform Delay [s]	39.35	28.83	28.97	38.83	26.98	13.41	11.17	17.31	9.63	8.14
k, delay calibration	0.06	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.51	0.30	0.37	0.18	0.15	0.44	1.48	0.44	0.64	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.55	0.56	0.18	0.36	0.13	0.48	0.10	0.29	0.04
d, Delay for Lane Group [s/veh]	40.86	29.13	29.34	39.01	27.13	13.85	12.65	17.75	10.28	8.22
Lane Group LOS	D	C	C	D	C	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.04	6.23	6.10	0.73	3.47	0.94	6.42	0.65	3.41	0.29
50th-Percentile Queue Length [ft/ln]	125.94	155.87	152.44	18.17	86.75	23.52	160.42	16.19	85.15	7.22
95th-Percentile Queue Length [veh/ln]	8.72	10.33	10.15	1.31	6.25	1.69	10.57	1.17	6.13	0.52
95th-Percentile Queue Length [ft/ln]	217.96	258.25	253.68	32.71	156.15	42.33	264.28	29.15	153.27	13.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.86	29.23	29.34	39.01	27.13	27.13	13.85	12.65	12.65	17.75	10.28	8.22
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.15			28.89			12.80			10.92		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.96											
Intersection LOS	C											
Intersection V/C	0.465											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	750	130	60	40	120	0	0	0	6	260	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	750	130	60	40	120	0	0	0	6	260	50
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	206	36	18	12	35	0	0	0	2	86	17
Total Analysis Volume [veh/h]	15	825	143	71	47	142	0	0	0	6	344	66
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.23	0.11	0.04	0.12		0.22
s, saturation flow rate [veh/h]	3618	1338	1810	1620		1840
c, Capacity [veh/h]	1398	517	109	799		745
d1, Uniform Delay [s]	24.36	21.05	45.92	14.54		22.76
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.83	1.32	2.42	0.70		2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

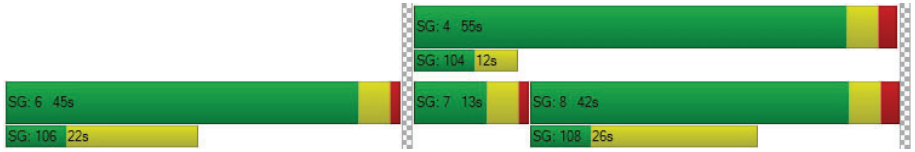
X, volume / capacity	0.59	0.28	0.65	0.24		0.55
d, Delay for Lane Group [s/veh]	26.19	22.38	48.34	15.24		25.68
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	7.91	2.45	1.77	2.50		7.80
50th-Percentile Queue Length [ft/ln]	197.74	61.34	44.30	62.47		195.12
95th-Percentile Queue Length [veh/ln]	12.52	4.42	3.19	4.50		12.39
95th-Percentile Queue Length [ft/ln]	313.05	110.41	79.73	112.45		309.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	26.19	22.38	48.34	15.24	15.24	0.00	0.00	0.00	0.00	25.68	25.68
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	25.63			24.28			0.00			25.68		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	25.43											
Intersection LOS	C											
Intersection V/C	0.490											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	150	50	110	180	40	70	350	30	50	290	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	50	110	180	40	70	350	30	50	290	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	43	14	31	51	11	21	106	9	14	79	33
Total Analysis Volume [veh/h]	12	173	58	124	203	45	85	423	36	55	317	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.31	0.10	0.55	0.08	0.08	0.25	0.06	0.17	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1014	1840	927	1900	1325
c, Capacity [veh/h]	274	219	290	219	479	926	385	957	667
d1, Uniform Delay [s]	20.39	15.62	25.34	15.25	15.13	11.49	17.99	10.35	9.57
k, delay calibration	0.19	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.00	0.24	91.77	0.17	0.81	1.89	0.78	0.93	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

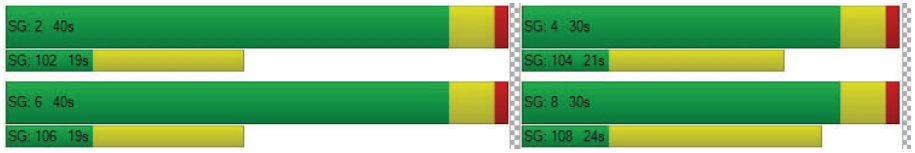
X, volume / capacity	0.68	0.26	1.13	0.21	0.18	0.50	0.14	0.33	0.20
d, Delay for Lane Group [s/veh]	25.40	15.85	117.11	15.42	15.94	13.39	18.77	11.28	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.92	0.62	12.19	0.47	0.97	4.61	0.70	2.81	1.10
50th-Percentile Queue Length [ft/ln]	72.91	15.58	304.83	11.79	24.33	115.33	17.59	70.35	27.57
95th-Percentile Queue Length [veh/ln]	5.25	1.12	19.25	0.85	1.75	8.14	1.27	5.07	1.99
95th-Percentile Queue Length [ft/ln]	131.24	28.04	481.25	21.22	43.79	203.39	31.67	126.63	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.40	25.40	15.85	117.11	117.11	15.42	15.94	13.39	13.39	18.77	11.28	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	23.12			104.81			13.78			11.83		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	34.93											
Intersection LOS	C											
Intersection V/C	0.794											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	150	70	40	60	30	50	390	60	60	360	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	150	70	40	60	30	50	390	60	60	360	40
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	42	20	15	22	11	16	122	19	16	98	11
Total Analysis Volume [veh/h]	67	167	78	59	88	44	63	489	75	66	393	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	37	37	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	17	17	17	17
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.05	0.14	0.05	0.08	0.07	0.31	0.08	0.24
s, saturation flow rate [veh/h]	1231	1723	1111	1739	860	1799	819	1784
c, Capacity [veh/h]	424	509	333	514	397	820	327	813
d1, Uniform Delay [s]	12.97	10.71	14.97	9.94	11.67	7.99	14.13	7.26
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.26	0.09	0.10	0.07	0.39	0.11	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

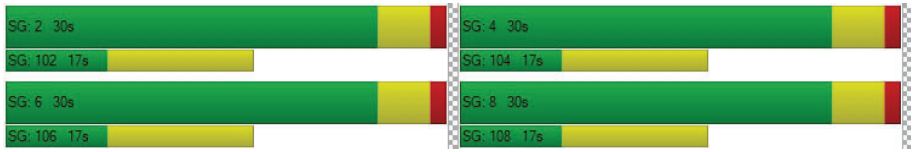
X, volume / capacity	0.16	0.48	0.18	0.26	0.16	0.69	0.20	0.54
d, Delay for Lane Group [s/veh]	13.03	10.97	15.06	10.03	11.74	8.37	14.24	7.47
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.38	1.21	0.37	0.60	0.35	2.31	0.42	1.61
50th-Percentile Queue Length [ft/ln]	9.48	30.31	9.36	15.04	8.63	57.66	10.51	40.23
95th-Percentile Queue Length [veh/ln]	0.68	2.18	0.67	1.08	0.62	4.15	0.76	2.90
95th-Percentile Queue Length [ft/ln]	17.06	54.57	16.85	27.08	15.53	103.80	18.93	72.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.03	10.97	10.97	15.06	10.03	10.03	11.74	8.37	8.37	14.24	7.47	7.47
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.41			11.59			8.71			8.35		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.45											
Intersection LOS	A											
Intersection V/C	0.456											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	250	420	130	50	300	40	20	780	100	170	910	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	420	130	50	300	40	20	780	100	170	910	40
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	111	34	16	93	12	5	204	26	45	242	11
Total Analysis Volume [veh/h]	265	444	138	62	373	50	21	818	105	181	970	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.22	0.23	0.09	0.07	0.11	0.12	0.04	0.23	0.07	0.21	0.27	0.03
s, saturation flow rate [veh/h]	1215	1900	1525	948	1900	1798	584	3618	1487	874	3618	1443
c, Capacity [veh/h]	436	670	538	84	442	418	223	1590	654	483	2008	801
d1, Uniform Delay [s]	26.19	27.33	23.02	49.88	33.19	33.29	28.54	20.31	16.91	12.80	13.52	10.20
k, delay calibration	0.50	0.15	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.16	1.52	0.09	4.57	0.31	0.34	0.84	1.19	0.53	2.22	0.83	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.66	0.26	0.73	0.49	0.50	0.09	0.51	0.16	0.37	0.48	0.05
d, Delay for Lane Group [s/veh]	32.35	28.85	23.12	54.45	33.50	33.63	29.38	21.50	17.43	15.01	14.36	10.33
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.43	9.02	2.30	1.64	4.44	4.32	0.44	6.98	1.53	2.16	6.37	0.44
50th-Percentile Queue Length [ft/ln]	135.71	225.50	57.54	40.91	111.07	108.06	10.96	174.39	38.26	54.00	159.25	10.97
95th-Percentile Queue Length [veh/ln]	9.25	13.95	4.14	2.95	7.90	7.73	0.79	11.31	2.75	3.89	10.51	0.79
95th-Percentile Queue Length [ft/ln]	231.24	348.64	103.58	73.65	197.49	193.30	19.72	282.67	68.87	97.20	262.73	19.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.35	28.85	23.12	54.45	33.56	33.63	29.38	21.50	17.43	15.01	14.36	10.33
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	29.01			36.23			21.22			14.31		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.84											
Intersection LOS	C											
Intersection V/C	0.514											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	41.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.618

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	250	700	40	10	520	20	20	300	190	30	190	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	700	40	10	520	20	20	300	190	30	190	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	184	11	3	154	6	5	80	50	8	52	11
Total Analysis Volume [veh/h]	263	738	42	12	616	24	21	319	202	33	208	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	57	57	63	51	51	27	27	27	27
g / C, Green / Cycle	0.63	0.57	0.57	0.63	0.51	0.51	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.27	0.21	0.21	0.02	0.17	0.17	0.38	0.14	0.34	0.03
s, saturation flow rate [veh/h]	963	1900	1849	784	1900	1865	896	1462	706	1508
c, Capacity [veh/h]	638	1080	1050	525	974	956	283	400	234	413
d1, Uniform Delay [s]	8.59	11.76	11.78	7.40	14.31	14.33	32.54	30.60	31.67	27.16
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.97	0.95	0.99	0.08	0.91	0.94	118.77	0.37	66.50	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

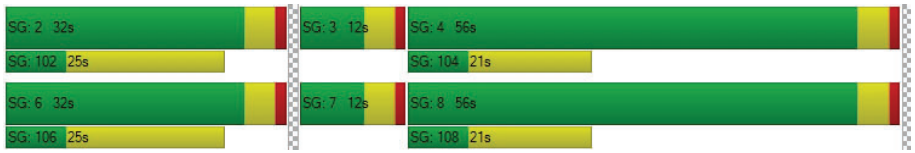
X, volume / capacity	0.41	0.36	0.37	0.02	0.33	0.33	1.20	0.50	1.03	0.11
d, Delay for Lane Group [s/veh]	10.56	12.71	12.78	7.48	15.22	15.26	151.31	30.96	98.16	27.20
Lane Group LOS	B	B	B	A	B	B	F	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.59	4.81	4.74	0.10	4.37	4.33	15.12	4.04	8.88	0.78
50th-Percentile Queue Length [ft/ln]	64.70	120.25	118.47	2.49	109.25	108.23	378.03	100.98	222.10	19.45
95th-Percentile Queue Length [veh/ln]	4.66	8.41	8.31	0.18	7.80	7.74	23.69	7.27	13.99	1.40
95th-Percentile Queue Length [ft/ln]	116.45	210.16	207.72	4.48	194.95	193.54	592.33	181.76	349.79	35.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.56	12.74	12.78	7.48	15.24	15.26	151.31	151.31	30.96	98.16	98.16	27.20
Movement LOS	B	B	B	A	B	B	F	F	C	F	F	C
d_A, Approach Delay [s/veh]	12.19			15.10			106.46			87.21		
Approach LOS	B			B			F			F		
d_I, Intersection Delay [s/veh]	41.68											
Intersection LOS	D											
Intersection V/C	0.618											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	120	820	170	130	560	40	20	540	220	180	310	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	820	170	130	560	40	20	540	220	180	310	250
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	211	44	34	148	11	6	150	61	50	85	69
Total Analysis Volume [veh/h]	123	843	175	137	592	42	22	600	245	198	341	275
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	54	43	43	54	43	43	22	22	22	36	36	36
g / C, Green / Cycle	0.54	0.43	0.43	0.54	0.43	0.43	0.22	0.22	0.22	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.13	0.28	0.28	0.18	0.17	0.17	0.02	0.23	0.25	0.19	0.18	0.19
s, saturation flow rate [veh/h]	978	1900	1750	779	1900	1838	997	1900	1580	1042	1900	1453
c, Capacity [veh/h]	549	818	753	407	821	794	133	423	352	340	689	527
d1, Uniform Delay [s]	11.86	22.39	22.59	14.49	19.42	19.46	45.09	38.89	38.89	25.68	24.76	25.06
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.04	0.24	0.30	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	3.83	4.42	2.22	1.40	1.47	0.22	44.29	82.36	7.13	0.21	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

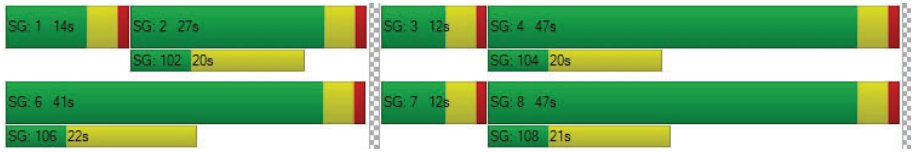
X, volume / capacity	0.22	0.64	0.66	0.34	0.39	0.39	0.17	1.05	1.14	0.58	0.49	0.52
d, Delay for Lane Group [s/veh]	12.31	26.21	27.02	16.71	20.82	20.94	45.30	83.18	121.25	32.80	24.97	25.36
Lane Group LOS	B	C	C	B	C	C	D	F	F	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.36	10.24	9.84	1.70	5.30	5.21	0.53	15.37	16.50	3.96	6.19	5.07
50th-Percentile Queue Length [ft/ln]	33.92	255.91	245.94	42.46	132.50	130.17	13.24	384.16	412.48	99.12	154.82	126.67
95th-Percentile Queue Length [veh/ln]	2.44	15.48	14.98	3.06	9.08	8.95	0.95	22.40	24.83	7.14	10.27	8.76
95th-Percentile Queue Length [ft/ln]	61.06	387.08	374.54	76.43	226.90	223.72	23.83	559.96	620.75	178.41	256.86	218.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.31	26.52	27.02	16.71	20.87	20.94	45.30	93.09	121.25	32.80	24.97	25.36
Movement LOS	B	C	C	B	C	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	25.06			20.14			99.84			27.01		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	42.49											
Intersection LOS	D											
Intersection V/C	0.661											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	210	900	70	40	920	60	90	230	170	80	180	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	900	70	40	920	60	90	230	170	80	180	60
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	244	19	11	250	16	23	60	44	22	49	16
Total Analysis Volume [veh/h]	228	976	76	44	1001	65	93	238	176	86	194	65
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.13	0.28	0.29	0.08	0.28	0.29	0.08	0.13	0.13	0.20	0.05
s, saturation flow rate [veh/h]	1810	1900	1805	544	1900	1816	1161	1900	1352	1404	1366
c, Capacity [veh/h]	194	978	929	151	688	658	113	488	347	499	482
d1, Uniform Delay [s]	44.65	16.34	16.52	39.68	28.40	28.68	49.23	31.57	31.75	24.85	21.97
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	102.83	2.17	2.43	4.80	8.68	9.98	5.62	0.28	0.43	4.50	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

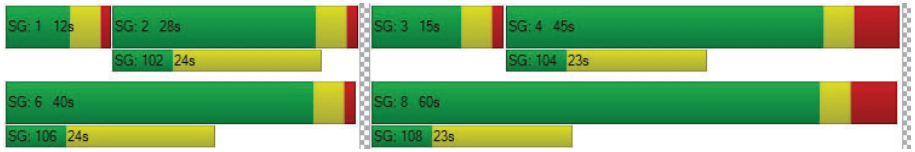
X, volume / capacity	1.18	0.54	0.56	0.29	0.78	0.80	0.82	0.49	0.51	0.56	0.13
d, Delay for Lane Group [s/veh]	147.48	18.51	18.95	44.48	37.08	38.65	54.84	31.85	32.17	29.35	22.02
Lane Group LOS	F	B	B	D	D	D	D	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	10.29	8.42	8.37	1.20	12.80	12.84	2.47	4.80	3.59	5.51	1.02
50th-Percentile Queue Length [ft/ln]	257.21	210.56	209.23	29.97	320.00	320.92	61.75	120.11	89.65	137.84	25.49
95th-Percentile Queue Length [veh/ln]	16.54	13.18	13.11	2.16	18.67	18.71	4.45	8.40	6.45	9.36	1.84
95th-Percentile Queue Length [ft/ln]	413.50	329.55	327.84	53.94	466.69	467.81	111.15	209.98	161.37	234.11	45.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	147.48	18.71	18.95	44.48	37.81	38.65	54.84	31.85	32.17	29.35	29.35	22.02
Movement LOS	F	B	B	D	D	D	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	41.66			38.12			36.18			27.97		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	38.13											
Intersection LOS	D											
Intersection V/C	0.643											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	59.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.863

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	300	1020	180	20	1070	70	6	210	310	66	280	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	1020	180	20	1070	70	6	210	310	66	280	160
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	269	47	5	279	18	2	62	92	18	79	45
Total Analysis Volume [veh/h]	316	1076	190	21	1115	73	7	248	366	70	315	180
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	42	42	3	30	30	40	40
g / C, Green / Cycle	0.15	0.42	0.42	0.03	0.30	0.30	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.17	0.34	0.35	0.01	0.32	0.32	0.37	0.28
s, saturation flow rate [veh/h]	1810	1900	1759	1810	1900	1832	1673	1767
c, Capacity [veh/h]	275	803	743	60	577	556	677	715
d1, Uniform Delay [s]	41.90	24.90	25.50	46.74	34.40	34.40	27.64	24.31
k, delay calibration	0.48	0.50	0.50	0.04	0.46	0.47	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	100.22	8.27	10.88	1.31	46.80	53.19	18.06	5.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.15	0.80	0.84	0.35	1.04	1.06	0.91	0.69
d, Delay for Lane Group [s/veh]	142.12	33.17	36.38	48.06	81.20	87.59	45.70	29.74
Lane Group LOS	F	C	D	D	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	14.25	14.42	14.72	0.52	20.94	21.18	16.44	10.33
50th-Percentile Queue Length [ft/ln]	356.34	360.61	367.99	13.12	523.58	529.45	411.10	258.20
95th-Percentile Queue Length [veh/ln]	21.79	20.65	21.01	0.94	29.18	29.77	23.09	15.60
95th-Percentile Queue Length [ft/ln]	544.68	516.33	525.30	23.62	729.61	744.19	577.36	389.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	142.12	34.46	36.38	48.06	84.15	87.59	0.00	45.70	45.70	0.00	29.74	29.74
Movement LOS	F	C	D	D	F	F		D	D		C	C
d_A, Approach Delay [s/veh]	56.20			83.73			45.70			29.74		
Approach LOS	E			F			D			C		
d_I, Intersection Delay [s/veh]	59.72											
Intersection LOS	E											
Intersection V/C	0.863											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	66.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.880

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	300	710	0	0	1460	30	0	0	0	750	660	790
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	710	0	0	1460	30	0	0	0	750	660	790
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	204	0	0	384	8	0	0	0	206	182	217
Total Analysis Volume [veh/h]	345	816	0	0	1538	32	0	0	0	825	726	869
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.23	0.29	0.28		0.34	0.33	0.36	0.40
s, saturation flow rate [veh/h]	1810	3618	3618	1877		1810	1869	1569	1545
c, Capacity [veh/h]	337	2123	1310	680		609	629	528	520
d1, Uniform Delay [s]	48.76	13.22	34.33	33.83		39.77	39.46	39.77	39.77
k, delay calibration	0.42	0.50	0.50	0.50		0.46	0.43	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	50.87	0.53	5.18	8.22		39.09	29.65	58.18	103.5
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.38	0.80	0.77		1.02	0.98	1.07	1.19
d, Delay for Lane Group [s/veh]	99.63	13.74	39.51	42.05		78.86	69.10	97.95	143.3
Lane Group LOS	F	B	D	D		F	E	F	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.81	5.89	14.47	14.89		23.62	22.33	23.28	29.48
50th-Percentile Queue Length [ft/ln]	370.20	147.26	361.86	372.17		590.5	558.3	582.0	737.0
95th-Percentile Queue Length [veh/ln]	21.37	9.87	20.71	21.21		31.95	30.08	32.57	42.79
95th-Percentile Queue Length [ft/ln]	534.35	246.76	517.85	530.37		798.8	752.0	814.2	1069.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	99.63	13.74	0.00	0.00	40.32	42.05	0.00	0.00	0.00	76.26	81.55	130.43
Movement LOS	F	B			D	D				E	F	F
d_A, Approach Delay [s/veh]	39.27			40.36			0.00			97.29		
Approach LOS	D			D			A			F		
d_I, Intersection Delay [s/veh]	66.86											
Intersection LOS	E											
Intersection V/C	0.880											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	59.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.897

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	980	620	900	1300	0	80	90	450	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	980	620	900	1300	0	80	90	450	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	272	172	242	349	0	23	26	129	0	0	0
Total Analysis Volume [veh/h]	0	1087	688	966	1396	0	92	103	516	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R	
C, Cycle Length [s]	120	120	120	120	120	120	120	120	
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	
g_i, Effective Green Time [s]	38	38	38	42	85	25	25	25	
g / C, Green / Cycle	0.32	0.32	0.32	0.35	0.71	0.21	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.25	0.30	0.30	0.27	0.39	0.06	0.05	0.33	
s, saturation flow rate [veh/h]	3618	1504	1504	3514	3618	1816	1729	1579	
c, Capacity [veh/h]	1158	482	482	1240	2574	385	366	334	
d1, Uniform Delay [s]	36.73	39.32	39.32	34.64	8.13	39.44	39.43	47.28	
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.41	3.22	3.22	4.87	0.83	0.13	0.14	258.90	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.77	0.92	0.92	0.78	0.54	0.26	0.26	1.54	
d, Delay for Lane Group [s/veh]	37.13	42.54	42.54	39.51	8.95	39.57	39.57	306.18	
Lane Group LOS	D	D	D	D	A	D	D	F	
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.56	12.73	12.73	13.28	7.94	2.47	2.34	33.87	
50th-Percentile Queue Length [ft/ln]	288.91	318.30	318.30	332.09	198.56	61.67	58.52	846.79	
95th-Percentile Queue Length [veh/ln]	17.13	18.58	18.58	19.26	12.56	4.44	4.21	52.50	
95th-Percentile Queue Length [ft/ln]	428.29	464.59	464.59	481.52	314.11	111.00	105.33	1312.52	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.13	42.54	39.51	8.95	0.00	39.57	39.57	306.18	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	D	F			
d_A, Approach Delay [s/veh]	39.83			21.45			233.06			0.00		
Approach LOS	D			C			F			A		
d_I, Intersection Delay [s/veh]	59.22											
Intersection LOS	E											
Intersection V/C	0.897											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	61.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	970	220	110	900	250	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	970	220	110	900	250	130
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	271	61	34	282	72	37
Total Analysis Volume [veh/h]	1083	246	138	1128	287	149
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.30	0.18	0.26	0.31	0.34	0.20
s, saturation flow rate [veh/h]	3618	1353	527	3618	832	734
c, Capacity [veh/h]	2509	938	356	2509	145	128
d1, Uniform Delay [s]	6.70	5.74	14.36	6.83	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.68	3.16	0.58	462.90	96.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.26	0.39	0.45	1.98	1.16
d, Delay for Lane Group [s/veh]	7.25	6.42	17.52	7.41	504.17	137.71
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.54	1.87	2.16	4.81	22.17	6.51
50th-Percentile Queue Length [ft/ln]	113.38	46.70	54.09	120.29	554.16	162.78
95th-Percentile Queue Length [veh/ln]	8.03	3.36	3.89	8.41	37.11	11.38
95th-Percentile Queue Length [ft/ln]	200.69	84.06	97.35	210.23	927.67	284.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.25	6.42	17.52	7.41	504.17	137.71
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	7.10		8.51		378.93	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	61.18					
Intersection LOS	E					
Intersection V/C	0.657					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	30	20	0	20	60	30	0	20	290	20	0	20	110	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	30	20	0	20	60	30	0	20	290	20	0	20	110	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	10	7	0	6	19	9	0	6	82	6	0	6	31	8
Total Analysis Volume [veh/h]	0	27	40	27	0	25	74	37	0	23	327	23	0	22	122	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	568	663	581	671	667	771	636	737
Degree of Utilization, x	0.12	0.04	0.17	0.06	0.52	0.03	0.23	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.40	0.13	0.61	0.17	3.08	0.09	0.87	0.14
95th-Percentile Queue Length [ft]	9.96	3.18	15.23	4.36	76.91	2.30	21.65	3.51
Approach Delay [s/veh]	9.44		9.67		13.51		9.60	
Approach LOS	A		A		B		A	
Intersection Delay [s/veh]	11.47							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.419

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	400	100	0	40	550	0	140	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	400	100	0	40	550	0	140	70
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	105	26	0	10	144	0	45	22
Total Analysis Volume [veh/h]	0	420	105	0	42	575	0	179	90
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	16	16
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.22	0.07	0.04	0.30	0.12	0.07
s, saturation flow rate [veh/h]	1900	1581	982	1900	1542	1213
c, Capacity [veh/h]	1101	861	132	1035	444	349
d1, Uniform Delay [s]	7.32	6.11	27.52	8.17	15.79	15.07
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.29	6.20	2.15	0.22	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

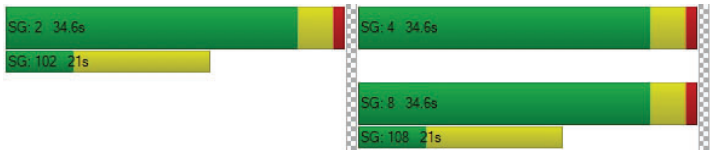
X, volume / capacity	0.38	0.12	0.32	0.56	0.40	0.26
d, Delay for Lane Group [s/veh]	8.32	6.40	33.73	10.32	16.01	15.22
Lane Group LOS	A	A	C	B	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.49	0.52	0.75	3.95	1.69	0.81
50th-Percentile Queue Length [ft/ln]	62.24	13.11	18.70	98.87	42.34	20.35
95th-Percentile Queue Length [veh/ln]	4.48	0.94	1.35	7.12	3.05	1.47
95th-Percentile Queue Length [ft/ln]	112.03	23.61	33.66	177.97	76.22	36.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.32	8.32	6.40	33.73	33.73	10.32	16.01	16.01	15.22
Movement LOS	A	A	A	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	7.94			11.91			15.74		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	11.16								
Intersection LOS	B								
Intersection V/C	0.419								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.218

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	50	10	20	120	10	10	100	30	20	80	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	10	20	120	10	10	100	30	20	80	30
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	3	5	32	3	3	31	9	6	24	9
Total Analysis Volume [veh/h]	12	59	12	21	128	11	12	122	37	24	96	36
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	744	754	785	780
Degree of Utilization, x	0.11	0.21	0.22	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.37	0.80	0.83	0.74
95th-Percentile Queue Length [ft]	9.37	19.99	20.66	18.55
Approach Delay [s/veh]	8.44	9.06	8.86	8.76
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.83			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	150	20	20	250	20	30	70	30	40	100	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	20	20	250	20	30	70	30	40	100	40
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	45	6	5	69	5	8	20	8	11	27	11
Total Analysis Volume [veh/h]	12	178	24	22	275	22	34	79	34	43	107	43
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	677	694	644	654
Degree of Utilization, x	0.32	0.46	0.23	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.36	2.43	0.87	1.23
95th-Percentile Queue Length [ft]	33.88	60.65	21.87	30.74
Approach Delay [s/veh]	10.76	12.52	10.23	10.79
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.32			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	66.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.144

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	110	320	40	20	370	40	40	140	100	80	120	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	320	40	20	370	40	40	140	100	80	120	20
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	89	11	6	103	11	11	39	28	23	35	6
Total Analysis Volume [veh/h]	122	356	45	22	412	45	44	155	111	93	140	23
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	478	465	434	475	432	409
Degree of Utilization, x	1.14	0.10	1.00	0.09	0.72	0.62

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	17.67	0.32	12.82	0.31	5.59	4.11
95th-Percentile Queue Length [ft]	441.73	7.99	320.42	7.81	139.71	102.74
Approach Delay [s/veh]	108.64		66.95		29.87	25.30
Approach LOS	F		F		D	D
Intersection Delay [s/veh]	66.72					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	99.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	20	360	260	140	160	0	30	330	0	160	300	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	360	260	140	160	0	30	330	0	160	300	20
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	101	73	39	45	0	8	86	0	47	88	6
Total Analysis Volume [veh/h]	22	404	292	157	180	0	31	346	0	187	351	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	50	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.55	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.17	0.09	0.03	0.18	0.18	0.21
s, saturation flow rate [veh/h]	1273	1677	902	1900	1024	1900	1051	1814
c, Capacity [veh/h]	857	872	427	1047	80	347	80	331
d1, Uniform Delay [s]	6.48	17.75	13.42	10.04	45.04	36.79	45.04	36.82
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.05
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	7.55	2.43	0.36	1.13	13.02	602.53	62.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

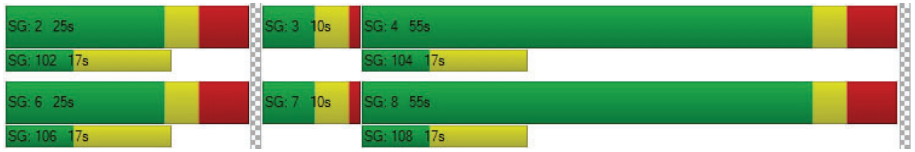
X, volume / capacity	0.03	0.80	0.37	0.17	0.39	1.00	2.33	1.13
d, Delay for Lane Group [s/veh]	6.48	25.30	15.85	10.39	46.17	49.81	647.57	98.84
Lane Group LOS	A	C	B	B	D	D	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.14	12.43	1.40	1.76	0.71	8.69	15.18	12.74
50th-Percentile Queue Length [ft/ln]	3.50	310.73	34.96	44.02	17.78	217.15	379.44	318.48
95th-Percentile Queue Length [veh/ln]	0.25	18.21	2.52	3.17	1.28	13.52	27.01	19.71
95th-Percentile Queue Length [ft/ln]	6.29	455.27	62.92	79.24	32.00	337.98	675.20	492.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.48	25.30	25.30	15.85	10.39	10.39	46.17	49.81	49.81	647.57	98.84	98.84
Movement LOS	A	C	C	B	B	B	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.72			12.94			49.52			281.75		
Approach LOS	C			B			D			F		
d_I, Intersection Delay [s/veh]	99.77											
Intersection LOS	F											
Intersection V/C	0.661											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	50	100	20	10	110	10	10	80	20	20	100	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	100	20	10	110	10	10	80	20	20	100	10
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	28	6	3	33	3	3	24	6	5	27	3
Total Analysis Volume [veh/h]	56	113	23	12	132	12	12	97	24	21	107	11
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	753	748	740	731
Degree of Utilization, x	0.26	0.21	0.18	0.19

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.01	0.78	0.65	0.70
95th-Percentile Queue Length [ft]	25.32	19.56	16.30	17.46
Approach Delay [s/veh]	9.41	9.08	8.93	9.08
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.15			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	90	30	10	270	10	20	100	60	30	70	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	90	30	10	270	10	20	100	60	30	70	20
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	26	9	3	69	3	6	31	19	9	20	6
Total Analysis Volume [veh/h]	23	102	34	10	275	10	25	126	76	35	81	23
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	684	701	697	662
Degree of Utilization, x	0.23	0.42	0.33	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.90	2.09	1.42	0.79
95th-Percentile Queue Length [ft]	22.39	52.31	35.38	19.69
Approach Delay [s/veh]	9.84	11.81	10.64	9.88
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	10.78			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	7.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.669

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2330	90	0	2660	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2330	90	0	2660	140	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	633	24	0	681	38	8
Total Analysis Volume [veh/h]	2533	98	0	2723	154	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	48	48	48	48
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	30	30	30	7
g / C, Green / Cycle	0.63	0.63	0.63	0.15
(v / s)_i Volume / Saturation Flow Rate	0.55	0.53	0.45	0.12
s, saturation flow rate [veh/h]	3192	1644	6089	1563
c, Capacity [veh/h]	2017	1039	3847	233
d1, Uniform Delay [s]	7.21	6.96	5.87	19.70
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.75	0.09	2.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.84	0.71	0.80
d, Delay for Lane Group [s/veh]	7.68	7.71	5.97	22.15
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.04	3.99	2.50	1.95
50th-Percentile Queue Length [ft/ln]	101.00	99.70	62.40	48.66
95th-Percentile Queue Length [veh/ln]	7.27	7.18	4.49	3.50
95th-Percentile Queue Length [ft/ln]	181.80	179.46	112.31	87.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.69	7.71	0.00	5.97	22.15	22.15
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	7.69		5.97		22.15	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.33					
Intersection LOS	A					
Intersection V/C	0.669					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	94.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2050	260	50	220	460	40	568	330	0	0	310	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2050	260	50	220	460	40	568	330	0	0	310	520
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	563	71	14	65	135	12	142	86	0	0	90	152
Total Analysis Volume [veh/h]	2250	285	55	258	540	47	568	344	0	0	362	607
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	156	156	156	156	156	156	156
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	79	79	79	30	30	36	36
g / C, Green / Cycle	0.51	0.51	0.51	0.19	0.19	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.47	0.48	0.24	0.27	0.27	0.22	0.26
s, saturation flow rate [veh/h]	3192	1568	1425	1597	1575	1597	3783
c, Capacity [veh/h]	1627	799	726	307	303	369	874
d1, Uniform Delay [s]	35.34	35.92	24.61	62.89	62.89	58.70	59.89
k, delay calibration	0.04	0.24	0.04	0.50	0.50	0.38	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.02	11.85	0.18	189.44	193.80	27.05	50.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.94	0.47	1.38	1.39	0.93	1.11
d, Delay for Lane Group [s/veh]	36.37	47.77	24.78	252.33	256.68	85.74	110.25
Lane Group LOS	D	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	26.18	29.00	8.22	28.38	28.37	16.08	15.58
50th-Percentile Queue Length [ft/ln]	654.44	724.98	205.60	709.42	709.19	402.10	389.62
95th-Percentile Queue Length [veh/ln]	34.57	37.83	12.93	43.02	43.11	22.66	23.32
95th-Percentile Queue Length [ft/ln]	864.21	945.77	323.18	1075.60	1077.80	566.53	583.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.02	24.78	24.78	252.33	256.68	256.68	0.00	85.74	0.00	0.00	110.25	110.25
Movement LOS	D	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	38.15			254.50			85.74			110.25		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	94.82											
Intersection LOS	F											
Intersection V/C	1.002											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.240

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	70	30	0	20	70	20	0	20	100	40	0	20	100	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	70	30	0	20	70	20	0	20	100	40	0	20	100	20
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	20	9	0	6	21	6	0	6	29	12	0	6	29	6
Total Analysis Volume [veh/h]	0	23	82	35	0	24	83	24	0	23	116	46	0	23	117	23
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	748	740	772	756
Degree of Utilization, x	0.19	0.18	0.24	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.68	0.64	0.93	0.82
95th-Percentile Queue Length [ft]	17.10	16.00	23.37	20.38
Approach Delay [s/veh]	8.91	8.91	9.13	9.06
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.02			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.163

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	10	70	20	10	50	10	10	70	20	30	60	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	70	20	10	50	10	10	70	20	30	60	10
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	22	6	3	14	3	4	25	7	9	18	3
Total Analysis Volume [veh/h]	13	88	25	11	54	11	14	99	28	36	72	12
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	679	794	670	785	693	812	677	809
Degree of Utilization, x	0.15	0.03	0.10	0.01	0.16	0.03	0.16	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	0.10	0.32	0.04	0.58	0.11	0.57	0.05
95th-Percentile Queue Length [ft]	13.01	2.44	8.02	1.07	14.51	2.68	14.13	1.13
Approach Delay [s/veh]	8.62		8.46		8.59		8.85	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.64							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	41.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	20	0	940	130	290	1050	0	32	1085	209	90	0	220
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	940	130	290	1050	0	32	1085	209	90	0	220
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	252	35	80	289	0	8	271	52	28	0	69
Total Analysis Volume [veh/h]	20	0	1009	139	320	1158	0	32	1085	209	112	0	275
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	103	103	117	110		23	23
g / C, Green / Cycle	0.02	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.09	0.46	0.32		0.09	0.24
s, saturation flow rate [veh/h]	1810	3618	1584	694	3618		1231	1132
c, Capacity [veh/h]	34	2495	1093	544	2651		192	177
d1, Uniform Delay [s]	72.93	10.01	7.91	6.97	7.87		58.69	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	5.73	0.49	0.24	4.61	0.53		1.04	275.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.40	0.13	0.59	0.44		0.58	1.56
d, Delay for Lane Group [s/veh]	78.66	10.50	8.15	11.58	8.40		59.74	338.86
Lane Group LOS	E	B	A	B	A		E	F
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.82	7.19	1.60	3.10	7.21		4.03	20.30
50th-Percentile Queue Length [ft/ln]	20.57	179.69	40.03	77.40	180.22		100.77	507.53
95th-Percentile Queue Length [veh/ln]	1.48	11.58	2.88	5.57	11.61		7.26	32.67
95th-Percentile Queue Length [ft/ln]	37.02	289.61	72.06	139.32	290.30		181.38	816.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.66	0.00	10.50	8.15	11.58	8.40	0.00	0.00	0.00	0.00	59.74	0.00	338.86
Movement LOS	E		B	A	B	A					E		F
d_A, Approach Delay [s/veh]	11.39				9.08			0.00			258.08		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	41.74												
Intersection LOS	D												
Intersection V/C	0.574												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FUTURE (2025) PLUS PROJECT CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	67.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.125

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	20	2660	2	380	3570	30	10	10	10	176	20	273
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	2660	2	380	3570	30	10	10	10	176	20	273
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	757	1	101	951	8	3	3	3	48	5	75
Total Analysis Volume [veh/h]	23	3030	2	405	3805	32	12	12	12	192	22	298
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	5	134	55	185	185	36	35	95
g / C, Green / Cycle	0.02	0.56	0.23	0.77	0.77	0.15	0.15	0.40
(v / s)_i Volume / Saturation Flow Rate	0.01	0.59	0.22	0.70	0.70	0.18	0.32	0.19
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1892	200	678	1594
c, Capacity [veh/h]	36	2892	418	2783	1455	50	127	634
d1, Uniform Delay [s]	116.81	53.00	91.56	20.99	21.20	92.60	106.82	53.63
k, delay calibration	0.04	0.50	0.38	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.81	30.97	31.34	5.41	9.84	62.54	341.01	2.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

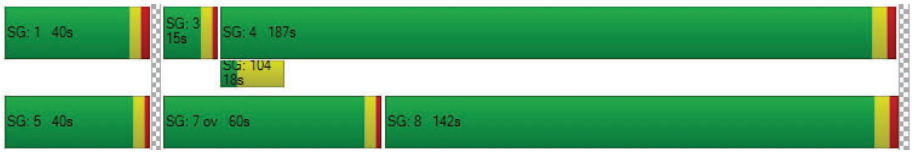
X, volume / capacity	0.64	1.05	0.97	0.90	0.91	0.72	1.69	0.47
d, Delay for Lane Group [s/veh]	123.62	83.97	122.90	26.40	31.04	155.14	447.83	56.12
Lane Group LOS	F	F	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.51	64.79	28.55	50.82	55.67	3.16	20.13	14.20
50th-Percentile Queue Length [ft/ln]	37.71	1619.75	713.71	1270.61	1391.86	79.09	503.34	354.91
95th-Percentile Queue Length [veh/ln]	2.71	81.28	37.31	62.52	67.91	5.69	32.87	20.38
95th-Percentile Queue Length [ft/ln]	67.87	2032.05	932.78	1562.91	1697.79	142.36	821.67	509.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.62	83.97	0.00	122.90	27.97	31.04	155.14	155.14	155.14	447.83	447.83	56.12
Movement LOS	F	F		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	84.27			37.06			155.14			219.84		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	67.91											
Intersection LOS	E											
Intersection V/C	1.125											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	68.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	208	347	53	0	23	377	119	0	40	110	390	0	41	111	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	208	347	53	0	23	377	119	0	40	110	390	0	41	111	50
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	61	102	16	0	6	103	32	0	12	33	117	0	11	29	13
Total Analysis Volume [veh/h]	245	408	62	0	25	411	130	0	48	132	468	0	44	118	53
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	61	61	3	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.61	0.61	0.03	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.14	0.21	0.04	0.01	0.22	0.09	0.37	0.30	0.31	0.04
s, saturation flow rate [veh/h]	1810	1900	1421	1810	1900	1440	486	1542	523	1213
c, Capacity [veh/h]	189	1162	869	46	1012	767	136	579	143	224
d1, Uniform Delay [s]	44.75	9.60	7.89	48.13	13.94	12.01	39.52	27.98	39.36	34.71
k, delay calibration	0.16	0.50	0.50	0.04	0.50	0.50	0.50	0.44	0.45	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	145.45	0.84	0.16	3.69	1.21	0.48	189.61	10.21	113.22	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

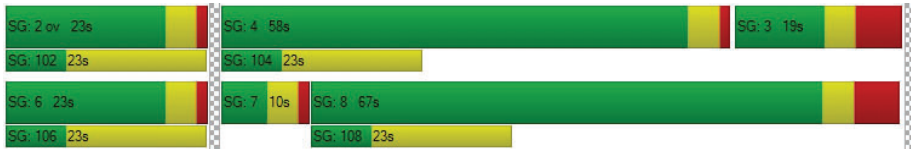
X, volume / capacity	1.30	0.35	0.07	0.54	0.41	0.17	1.33	0.81	1.14	0.24
d, Delay for Lane Group [s/veh]	190.21	10.44	8.05	51.82	15.15	12.48	229.13	38.19	152.57	34.91
Lane Group LOS	F	B	A	D	B	B	F	D	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.27	4.37	0.55	0.66	5.63	1.54	10.54	11.52	8.00	1.10
50th-Percentile Queue Length [ft/ln]	306.85	109.15	13.74	16.50	140.65	38.55	263.51	288.04	199.94	27.38
95th-Percentile Queue Length [veh/ln]	19.78	7.79	0.99	1.19	9.52	2.78	17.83	17.09	13.37	1.97
95th-Percentile Queue Length [ft/ln]	494.48	194.82	24.73	29.71	237.89	69.39	445.68	427.21	334.37	49.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	190.21	10.44	8.05	51.82	51.82	15.15	12.48	229.1	229.1	229.1	38.19	152.5	152.5	152.5	34.91
Movement LOS	F	B	A	D	D	B	B	F	F	F	D	F	F	F	C
d_A, Approach Delay [s/veh]	71.83			16.16				91.23				123.57			
Approach LOS	E			B				F				F			
d_I, Intersection Delay [s/veh]	68.18														
Intersection LOS	E														
Intersection V/C	0.777														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	13.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	441	290	0	288	532	0	185	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	441	290	0	288	532	0	185	154
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	121	80	0	82	152	0	52	43
Total Analysis Volume [veh/h]	0	485	319	0	330	609	0	208	173
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	59	59	59	72	72	15	15	15
g / C, Green / Cycle	0.59	0.59	0.59	0.72	0.72	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.21	0.31	0.17	0.08	0.07	0.08
s, saturation flow rate [veh/h]	1900	1729	1546	1062	3618	1698	1723	1438
c, Capacity [veh/h]	1151	1015	907	808	2596	255	259	216
d1, Uniform Delay [s]	9.85	9.85	10.75	5.22	4.80	39.16	38.96	39.36
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	0.52	1.07	1.53	0.21	0.62	0.54	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

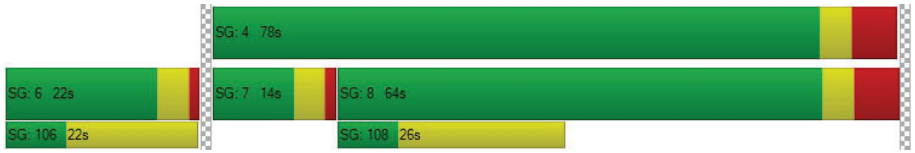
X, volume / capacity	0.22	0.23	0.35	0.41	0.23	0.52	0.49	0.55
d, Delay for Lane Group [s/veh]	10.29	10.37	11.83	6.75	5.01	39.78	39.50	40.19
Lane Group LOS	B	B	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.66	2.44	3.72	2.34	1.89	3.05	2.89	2.76
50th-Percentile Queue Length [ft/ln]	66.44	60.92	93.02	58.60	47.30	76.21	72.28	68.95
95th-Percentile Queue Length [veh/ln]	4.78	4.39	6.70	4.22	3.41	5.49	5.20	4.96
95th-Percentile Queue Length [ft/ln]	119.59	109.66	167.44	105.48	85.14	137.18	130.11	124.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.29	10.33	11.83	6.75	6.75	5.01	39.78	39.68	40.00
Movement LOS	B	B	B	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	10.92			5.62			39.81		
Approach LOS	B			A			D		
d_I, Intersection Delay [s/veh]	13.76								
Intersection LOS	B								
Intersection V/C	0.361								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	780	90	90	587	30	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	780	90	90	587	30	60
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	212	24	25	160	10	20
Total Analysis Volume [veh/h]	849	98	98	642	39	79
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	72	72	72	72	15
g / C, Green / Cycle	0.72	0.72	0.72	0.72	0.15
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.15	0.18	0.07
s, saturation flow rate [veh/h]	3618	1495	657	3618	1674
c, Capacity [veh/h]	2590	1071	467	2590	254
d1, Uniform Delay [s]	5.26	4.30	9.36	4.89	38.62
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.17	1.02	0.23	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

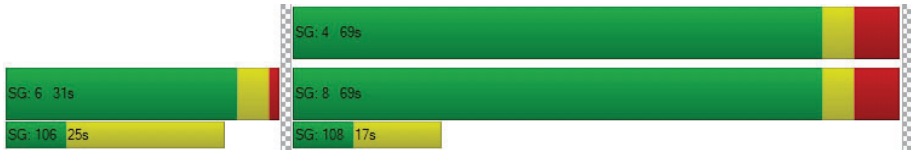
X, volume / capacity	0.33	0.09	0.21	0.25	0.46
d, Delay for Lane Group [s/veh]	5.59	4.47	10.38	5.12	39.11
Lane Group LOS	A	A	B	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.89	0.57	1.08	2.03	2.63
50th-Percentile Queue Length [ft/ln]	72.28	14.35	26.91	50.77	65.68
95th-Percentile Queue Length [veh/ln]	5.20	1.03	1.94	3.66	4.73
95th-Percentile Queue Length [ft/ln]	130.11	25.83	48.44	91.39	118.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.59	4.47	10.38	5.12	39.11	39.11
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	5.48		5.82		39.11	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.82					
Intersection LOS	A					
Intersection V/C	0.305					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	790	190	100	487	80	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	790	190	100	487	80	70
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	214	51	27	131	25	22
Total Analysis Volume [veh/h]	856	206	107	523	102	89
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	66	66	77	77	9	21
g / C, Green / Cycle	0.66	0.66	0.77	0.77	0.09	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.14	0.13	0.14	0.07	0.06
s, saturation flow rate [veh/h]	3618	1486	798	3618	1378	1425
c, Capacity [veh/h]	2384	979	655	2803	128	298
d1, Uniform Delay [s]	7.61	6.75	3.40	2.97	44.38	33.36
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.49	0.54	0.15	4.15	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

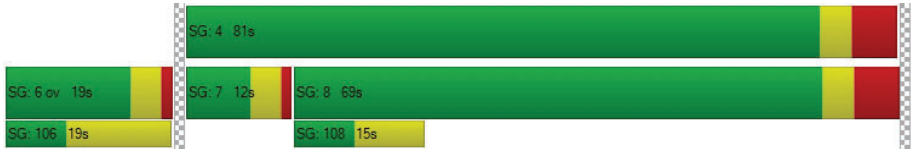
X, volume / capacity	0.36	0.21	0.16	0.19	0.79	0.30
d, Delay for Lane Group [s/veh]	8.03	7.23	3.93	3.11	48.53	33.57
Lane Group LOS	A	A	A	A	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.83	1.71	0.48	1.09	2.60	1.83
50th-Percentile Queue Length [ft/ln]	95.81	42.70	12.02	27.18	65.11	45.72
95th-Percentile Queue Length [veh/ln]	6.90	3.07	0.87	1.96	4.69	3.29
95th-Percentile Queue Length [ft/ln]	172.46	76.86	21.63	48.93	117.21	82.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.03	7.23	3.93	3.11	48.53	33.57
Movement LOS	A	A	A	A	D	C
d_A, Approach Delay [s/veh]	7.88		3.25		41.56	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.75					
Intersection LOS	A					
Intersection V/C	0.330					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	903	142	67	607	20	20	13	20	110	30	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	903	142	67	607	20	20	13	20	110	30	130
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	236	41	18	168	6	7	6	7	32	9	38
Total Analysis Volume [veh/h]	21	946	165	71	673	22	30	24	30	129	35	153
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	64	64	57	57	6	15	15
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.05	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.18	0.19	0.04	0.09	0.10
s, saturation flow rate [veh/h]	845	3618	1900	1874	1707	1828	1458
c, Capacity [veh/h]	449	1941	906	893	87	224	179
d1, Uniform Delay [s]	14.00	17.46	20.11	20.17	56.06	50.76	51.62
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.88	1.23	1.28	3.66	1.73	4.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

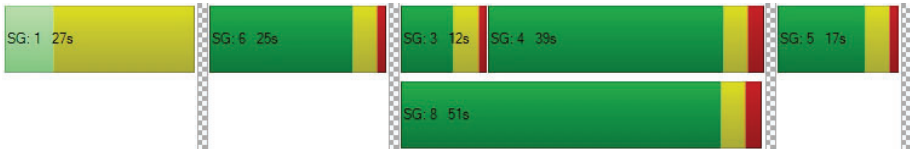
X, volume / capacity	0.05	0.49	0.38	0.39	0.69	0.73	0.86
d, Delay for Lane Group [s/veh]	14.02	18.34	21.34	21.45	59.72	52.49	56.09
Lane Group LOS	B	B	C	C	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	8.28	6.49	6.52	1.86	4.90	4.77
50th-Percentile Queue Length [ft/ln]	6.72	207.02	162.36	163.03	46.58	122.49	119.21
95th-Percentile Queue Length [veh/ln]	0.48	13.00	10.67	10.71	3.35	8.53	8.35
95th-Percentile Queue Length [ft/ln]	12.10	325.00	266.84	267.72	83.84	213.25	208.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.02	18.34	0.00	0.00	21.39	21.45	59.72	0.00	59.72	52.49	52.49	56.09
Movement LOS	B	B			C	C	E		E	D	D	E
d_A, Approach Delay [s/veh]	18.25			21.39			59.72			54.23		
Approach LOS	B			C			E			D		
d_I, Intersection Delay [s/veh]	26.13											
Intersection LOS	C											
Intersection V/C	0.402											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	470	793	707	50	70	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	793	707	50	70	470
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	218	190	13	21	138
Total Analysis Volume [veh/h]	517	872	760	54	82	551
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	80	80	80	7	31
g / C, Green / Cycle	0.16	0.66	0.66	0.66	0.06	0.26
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.21	0.03	0.05	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2670
c, Capacity [veh/h]	569	2405	2405	1074	105	690
d1, Uniform Delay [s]	49.37	8.88	8.53	6.97	55.72	41.54
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.43	0.35	0.09	4.65	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

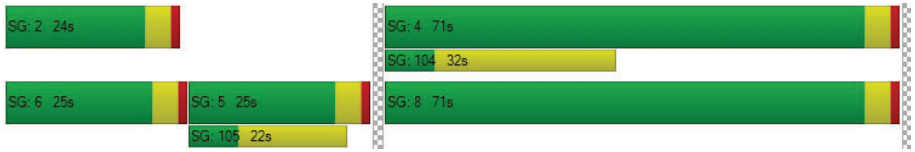
X, volume / capacity	0.91	0.36	0.32	0.05	0.78	0.80
d, Delay for Lane Group [s/veh]	51.74	9.30	8.87	7.06	60.37	42.36
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.78	4.90	4.10	0.49	2.70	8.12
50th-Percentile Queue Length [ft/ln]	194.39	122.49	102.49	12.23	67.49	203.04
95th-Percentile Queue Length [veh/ln]	12.35	8.53	7.38	0.88	4.86	12.80
95th-Percentile Queue Length [ft/ln]	308.72	213.25	184.48	22.01	121.48	319.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.74	9.30	8.87	7.06	60.37	42.36
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	25.10		8.75		44.70	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.78					
Intersection LOS	C					
Intersection V/C	0.447					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	30	80	10	0	200	0	90	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	30	80	10	0	200	0	90	260
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	8	22	3	0	53	0	24	69
Total Analysis Volume [veh/h]	0	0	0	0	32	86	11	0	211	0	95	275
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		18	18	18	30	30	30
g / C, Green / Cycle		0.20	0.20	0.20	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate		0.02	0.03	0.03	0.14	0.05	0.18
s, saturation flow rate [veh/h]		1291	1900	1795	1481	1900	1515
c, Capacity [veh/h]		271	387	366	594	640	511
d1, Uniform Delay [s]		33.51	29.31	29.35	22.44	20.85	24.19
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.19	0.14	0.16	1.66	0.11	0.89
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.12	0.13	0.13	0.36	0.15	0.54
d, Delay for Lane Group [s/veh]		33.70	29.45	29.51	24.10	20.95	25.08
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.61	0.86	0.85	3.50	1.37	4.66
50th-Percentile Queue Length [ft/ln]		15.30	21.42	21.26	87.38	34.19	116.41
95th-Percentile Queue Length [veh/ln]		1.10	1.54	1.53	6.29	2.46	8.20
95th-Percentile Queue Length [ft/ln]		27.54	38.56	38.27	157.29	61.53	204.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	33.70	29.48	29.51	0.00	24.10	0.00	20.95	25.08
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.53				24.05			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.63											
Intersection LOS	C											
Intersection V/C	0.564											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	30	1143	200	160	827	0	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	1143	200	160	827	0	10
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	300	52	43	221	0	3
Total Analysis Volume [veh/h]	0	31	1200	210	171	884	0	10
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	51	51	51
g / C, Green / Cycle	0.44	0.44	0.44	0.56	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.05	0.33	0.14	0.24	0.24	0.24
s, saturation flow rate [veh/h]	631	3618	1536	709	1900	1890
c, Capacity [veh/h]	253	1591	676	382	1066	1060
d1, Uniform Delay [s]	24.90	21.15	16.37	15.40	11.36	11.36
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	3.37	1.20	3.76	1.22	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

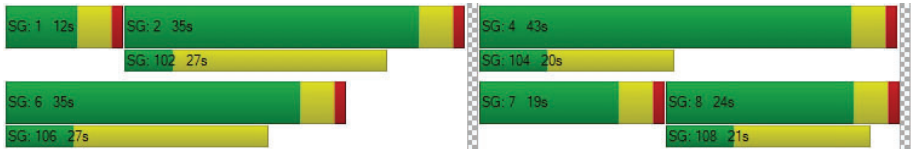
X, volume / capacity	0.12	0.75	0.31	0.45	0.42	0.42
d, Delay for Lane Group [s/veh]	25.89	24.52	17.57	19.16	12.58	12.59
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	10.71	2.92	1.93	5.10	5.08
50th-Percentile Queue Length [ft/ln]	14.15	267.77	73.12	48.16	127.48	127.09
95th-Percentile Queue Length [veh/ln]	1.02	16.08	5.26	3.47	8.80	8.78
95th-Percentile Queue Length [ft/ln]	25.46	401.95	131.62	86.68	220.06	219.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.89	24.52	17.57	19.16	12.59	0.00	12.59
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	23.54				13.64			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.63							
Intersection LOS	C							
Intersection V/C	0.564							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	116.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.718

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	26	56	50	124	99	26	25	283	66	131	314	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	56	50	124	99	26	25	283	66	131	314	112
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	14	39	31	8	9	107	25	34	82	29
Total Analysis Volume [veh/h]	28	61	54	154	123	32	38	427	100	136	326	116
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.02	0.07	0.43	0.04	0.29	0.15	0.12	0.13
s, saturation flow rate [veh/h]	1251	1743	718	962	1832	890	1900	1687
c, Capacity [veh/h]	73	270	158	429	866	278	898	797
d1, Uniform Delay [s]	50.02	38.23	47.75	20.58	19.54	34.83	15.83	15.92
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.23	0.40	451.84	0.41	3.18	6.02	0.69	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.43	1.95	0.09	0.61	0.49	0.26	0.27
d, Delay for Lane Group [s/veh]	51.25	38.62	499.59	20.99	22.72	40.85	16.52	16.74
Lane Group LOS	D	D	F	C	C	D	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.72	2.54	23.74	0.62	9.46	3.42	3.24	3.04
50th-Percentile Queue Length [ft/ln]	17.89	63.47	593.49	15.62	236.45	85.62	80.98	75.93
95th-Percentile Queue Length [veh/ln]	1.29	4.57	38.95	1.12	14.50	6.16	5.83	5.47
95th-Percentile Queue Length [ft/ln]	32.21	114.24	973.68	28.11	362.54	154.12	145.77	136.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.25	38.62	38.62	499.59	499.59	499.59	20.99	22.72	22.72	40.85	16.58	16.74
Movement LOS	D	D	D	F	F	F	C	C	C	D	B	B
d_A, Approach Delay [s/veh]	41.10			499.59			22.60			22.33		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	116.57											
Intersection LOS	F											
Intersection V/C	0.718											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.280

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	40	162	40	20	56	60	50	80	80	30	80	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	162	40	20	56	60	50	80	80	30	80	60
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	49	12	6	17	18	14	23	23	9	23	17
Total Analysis Volume [veh/h]	48	195	48	24	67	72	56	90	90	34	92	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	16	54	54
g / C, Green / Cycle	0.16	0.16	0.16	0.16	0.16	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.03	0.02	0.08	0.15	0.18
s, saturation flow rate [veh/h]	1270	1900	1542	1207	1710	1584	1100
c, Capacity [veh/h]	150	303	246	120	273	897	634
d1, Uniform Delay [s]	45.76	39.34	36.44	47.04	38.43	12.33	12.96
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	0.85	0.14	0.30	0.55	0.71	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.64	0.19	0.20	0.51	0.26	0.31
d, Delay for Lane Group [s/veh]	46.21	40.19	36.58	47.34	38.97	13.04	14.21
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.16	4.47	1.01	0.59	3.10	2.83	2.58
50th-Percentile Queue Length [ft/ln]	29.11	111.74	25.31	14.68	77.59	70.64	64.39
95th-Percentile Queue Length [veh/ln]	2.10	7.94	1.82	1.06	5.59	5.09	4.64
95th-Percentile Queue Length [ft/ln]	52.40	198.42	45.56	26.43	139.66	127.15	115.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.21	40.19	36.58	47.34	38.97	38.97	13.04	13.04	13.04	14.21	14.21	14.21
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	40.59			40.21			13.04			14.21		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.36											
Intersection LOS	C											
Intersection V/C	0.280											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	40	132	20	20	116	40	40	210	40	50	150	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	132	20	20	116	40	40	210	40	50	150	130
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	37	6	7	38	13	10	54	10	14	41	36
Total Analysis Volume [veh/h]	45	149	23	26	151	52	41	218	41	55	165	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	52	52	52	52
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.52	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.03	0.02	0.11	0.26	0.03	0.27	0.09
s, saturation flow rate [veh/h]	1198	1900	900	1258	1801	1014	1566	821	1584
c, Capacity [veh/h]	138	345	163	185	327	565	809	469	818
d1, Uniform Delay [s]	46.38	36.34	34.37	42.31	37.75	16.55	12.01	18.18	12.86
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.32	0.14	0.13	0.72	2.66	0.12	3.34	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

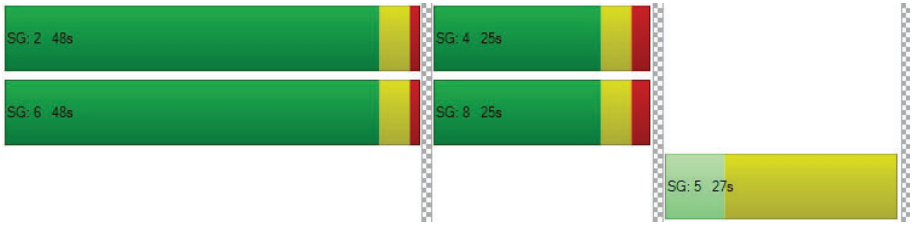
X, volume / capacity	0.33	0.43	0.14	0.14	0.62	0.46	0.05	0.47	0.17
d, Delay for Lane Group [s/veh]	46.88	36.66	34.51	42.44	38.47	19.21	12.13	21.53	13.32
Lane Group LOS	D	D	C	D	D	B	B	C	B
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.10	3.20	0.47	0.59	4.55	3.59	0.47	3.07	1.77
50th-Percentile Queue Length [ft/ln]	27.50	79.99	11.73	14.87	113.75	89.71	11.79	76.65	44.19
95th-Percentile Queue Length [veh/ln]	1.98	5.76	0.84	1.07	8.05	6.46	0.85	5.52	3.18
95th-Percentile Queue Length [ft/ln]	49.50	143.98	21.11	26.76	201.20	161.47	21.23	137.97	79.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.88	36.66	34.51	42.44	38.47	38.47	19.21	19.21	12.13	21.53	21.53	13.32
Movement LOS	D	D	C	D	D	D	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	38.55			38.92			18.24			18.29		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.50											
Intersection LOS	C											
Intersection V/C	0.381											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	10	161	170	64	192	20	20	140	80	130	238	71
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	161	170	64	192	20	20	140	80	130	238	71
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	47	49	19	56	6	6	39	22	42	77	23
Total Analysis Volume [veh/h]	12	186	197	75	224	23	22	157	90	167	307	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	49	49	49	49	49
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.49	0.49	0.49	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.13	0.06	0.13	0.02	0.14	0.15	0.16	0.06
s, saturation flow rate [veh/h]	1151	1900	1539	1217	1858	1089	1759	1151	1900	1556
c, Capacity [veh/h]	125	366	296	172	358	474	854	514	922	755
d1, Uniform Delay [s]	45.99	36.14	37.39	44.87	37.61	20.34	15.40	22.22	15.79	14.06
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.41	0.96	0.65	0.90	0.19	0.86	1.68	0.97	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

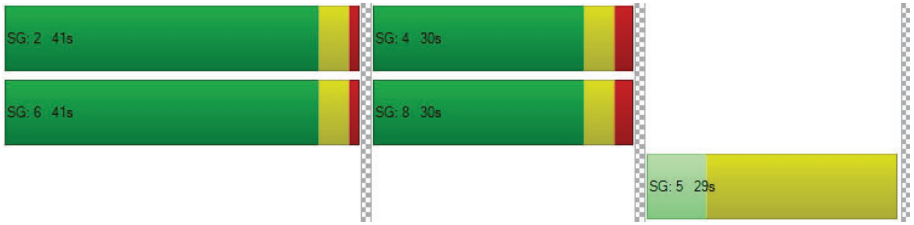
X, volume / capacity	0.10	0.51	0.67	0.44	0.69	0.05	0.29	0.33	0.33	0.12
d, Delay for Lane Group [s/veh]	46.12	36.55	38.35	45.52	38.50	20.52	16.26	23.90	16.76	14.39
Lane Group LOS	D	D	D	D	D	C	B	C	B	B
Critical Lane Group	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	4.03	4.44	1.82	5.59	0.35	3.42	2.98	4.34	1.15
50th-Percentile Queue Length [ft/ln]	7.20	100.64	111.11	45.50	139.85	8.70	85.38	74.39	108.54	28.72
95th-Percentile Queue Length [veh/ln]	0.52	7.25	7.90	3.28	9.47	0.63	6.15	5.36	7.76	2.07
95th-Percentile Queue Length [ft/ln]	12.96	181.15	197.55	81.90	236.82	15.67	153.69	133.90	193.98	51.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	36.55	38.35	45.52	38.50	38.50	20.52	16.26	16.26	23.90	16.76	14.39
Movement LOS	D	D	D	D	D	D	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	37.74			40.14			16.61			18.49		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.56											
Intersection LOS	C											
Intersection V/C	0.295											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	381	0	29	212	30	66	90	0	50	220	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	381	0	29	212	30	66	90	0	50	220	170
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	108	0	8	54	8	20	27	0	14	61	47
Total Analysis Volume [veh/h]	11	432	0	31	218	31	79	108	0	55	244	189
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	29	29	29	29		61	61
g / C, Green / Cycle	0.25	0.25	0.25	0.25		0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.12	0.02		0.14	0.15
s, saturation flow rate [veh/h]	1158	1863	1863	1556		1881	1477
c, Capacity [veh/h]	209	457	457	382		959	753
d1, Uniform Delay [s]	45.98	44.41	38.63	34.80		16.76	16.90
k, delay calibration	0.04	0.25	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.04	19.18	0.29	0.03		0.72	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.94	0.48	0.08		0.28	0.29
d, Delay for Lane Group [s/veh]	46.02	63.59	38.92	34.83		17.49	17.88
Lane Group LOS	D	E	D	C		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	14.94	5.47	0.70		4.45	3.74
50th-Percentile Queue Length [ft/ln]	7.31	373.56	136.75	17.49		111.36	93.58
95th-Percentile Queue Length [veh/ln]	0.53	21.28	9.31	1.26		7.92	6.74
95th-Percentile Queue Length [ft/ln]	13.16	532.04	232.65	31.48		197.89	168.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.02	63.59	0.00	0.00	38.92	34.83	0.00	0.00	0.00	17.49	17.54	17.88
Movement LOS	D	E			D	C				B	B	B
d_A, Approach Delay [s/veh]	63.15			38.41			0.00			17.67		
Approach LOS	E			D			A			B		
d_I, Intersection Delay [s/veh]	39.12											
Intersection LOS	D											
Intersection V/C	0.381											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	60	30	0	20	603	0	477	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	60	30	0	20	603	0	477	110
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	9	0	5	161	0	126	29
Total Analysis Volume [veh/h]	0	69	34	0	21	645	0	503	116
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	57	57	57	57
g / C, Green / Cycle	0.07	0.07	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.03	0.34	0.18	0.18
s, saturation flow rate [veh/h]	1810	1547	817	1900	1900	1597
c, Capacity [veh/h]	120	103	442	1085	1121	912
d1, Uniform Delay [s]	45.28	44.54	15.38	13.92	11.15	11.20
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.60	0.69	0.20	2.40	0.68	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.33	0.05	0.59	0.30	0.31
d, Delay for Lane Group [s/veh]	46.88	45.23	15.59	16.32	11.83	12.09
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.69	0.81	0.29	9.53	3.86	3.36
50th-Percentile Queue Length [ft/ln]	42.27	20.33	7.26	238.17	96.41	84.07
95th-Percentile Queue Length [veh/ln]	3.04	1.46	0.52	14.59	6.94	6.05
95th-Percentile Queue Length [ft/ln]	76.08	36.59	13.06	364.71	173.53	151.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.88	46.88	45.23	15.59	15.59	16.32	11.83	11.92	12.09
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	46.34			16.30			11.95		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	16.59								
Intersection LOS	B								
Intersection V/C	0.378								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	111	60	80	161	40	30	223	10	30	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	111	60	80	161	40	30	223	10	30	190	50
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	31	17	21	43	11	8	61	3	9	54	14
Total Analysis Volume [veh/h]	11	124	67	85	171	42	33	243	11	34	216	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	10	10
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.27	0.27	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.05	0.07	0.09	0.03	0.16	0.18
s, saturation flow rate [veh/h]	1215	1900	1482	1253	1900	1518	1807	1726
c, Capacity [veh/h]	425	514	401	458	514	411	851	819
d1, Uniform Delay [s]	10.30	7.68	7.52	10.40	7.89	7.39	5.96	6.09
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.09	0.07	0.07	0.14	0.04	0.09	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

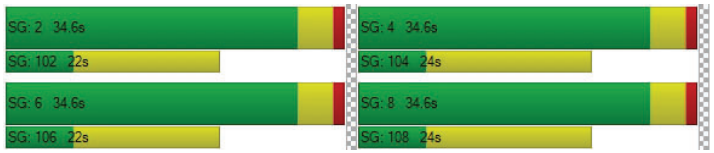
X, volume / capacity	0.03	0.24	0.17	0.19	0.33	0.10	0.34	0.37
d, Delay for Lane Group [s/veh]	10.31	7.77	7.60	10.47	8.03	7.43	6.04	6.20
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.04	0.32	0.17	0.32	0.50	0.12	0.67	0.65
50th-Percentile Queue Length [ft/ln]	0.97	8.06	4.30	8.09	12.53	2.88	16.83	16.37
95th-Percentile Queue Length [veh/ln]	0.07	0.58	0.31	0.58	0.90	0.21	1.21	1.18
95th-Percentile Queue Length [ft/ln]	1.74	14.51	7.73	14.56	22.56	5.18	30.30	29.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.31	7.77	7.60	10.47	8.03	7.43	6.04	6.04	6.04	6.20	6.20	6.20
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.85			8.64			6.04			6.20		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.13											
Intersection LOS	A											
Intersection V/C	0.268											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.354

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	210	30	10	320	21	12	88	70	40	128	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	210	30	10	320	21	12	88	70	40	128	30
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	58	8	3	97	6	4	27	22	12	37	9
Total Analysis Volume [veh/h]	33	232	33	12	387	25	15	108	86	47	149	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	28	28	28	28	28	28
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	8	8
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.01	0.22	0.12	0.13
s, saturation flow rate [veh/h]	963	1838	1106	1865	1710	1732
c, Capacity [veh/h]	385	697	486	707	640	663
d1, Uniform Delay [s]	10.92	6.34	8.93	6.96	7.97	8.04
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.13	0.01	0.28	0.11	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

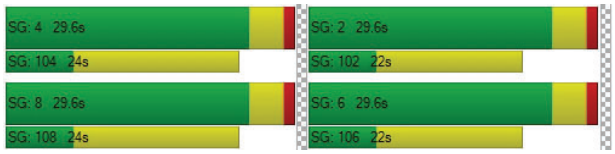
X, volume / capacity	0.09	0.38	0.02	0.58	0.33	0.35
d, Delay for Lane Group [s/veh]	10.95	6.47	8.93	7.25	8.08	8.16
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.13	0.56	0.04	0.96	0.96	0.66
50th-Percentile Queue Length [ft/ln]	3.19	13.90	0.95	24.09	24.07	16.44
95th-Percentile Queue Length [veh/ln]	0.23	1.00	0.07	1.73	1.73	1.18
95th-Percentile Queue Length [ft/ln]	5.75	25.03	1.71	43.36	43.33	29.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.95	6.47	6.47	8.93	7.25	7.25	8.08	8.08	8.08	8.16	8.16	8.16
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.96			7.30			8.08			8.16		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.52											
Intersection LOS	A											
Intersection V/C	0.354											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	48.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	54	220	100	70	290	10	39	517	86	90	553	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	220	100	70	290	10	39	517	86	90	553	101
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	71	32	19	78	3	11	140	23	24	145	26
Total Analysis Volume [veh/h]	70	286	130	75	312	11	42	560	93	94	579	106
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.15	0.08	0.07	0.16	0.01	0.05	0.35	0.09	0.18	0.19
s, saturation flow rate [veh/h]	1084	1900	1579	1110	1900	1586	769	1848	1004	1900	1781
c, Capacity [veh/h]	88	368	306	106	368	308	211	613	292	844	792
d1, Uniform Delay [s]	49.96	38.34	35.49	49.44	38.97	32.80	35.56	33.49	22.33	18.98	19.04
k, delay calibration	0.04	0.07	0.04	0.04	0.11	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.11	2.17	0.35	3.28	5.48	0.02	2.11	54.77	0.23	1.51	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

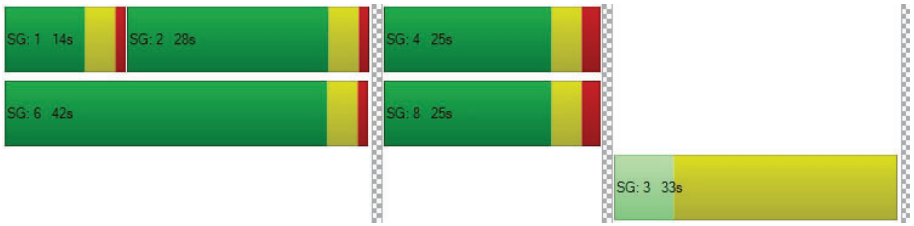
X, volume / capacity	0.80	0.78	0.42	0.71	0.85	0.04	0.20	1.06	0.32	0.42	0.42
d, Delay for Lane Group [s/veh]	56.07	40.52	35.84	52.72	44.45	32.81	37.67	88.27	22.56	20.49	20.68
Lane Group LOS	E	D	D	D	D	C	D	F	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.88	6.72	2.76	1.95	7.77	0.22	1.01	23.73	1.27	5.78	5.52
50th-Percentile Queue Length [ft/ln]	46.95	168.08	69.12	48.72	194.22	5.38	25.17	593.17	31.64	144.43	138.04
95th-Percentile Queue Length [veh/ln]	3.38	10.98	4.98	3.51	12.34	0.39	1.81	33.07	2.28	9.72	9.38
95th-Percentile Queue Length [ft/ln]	84.51	274.38	124.41	87.70	308.50	9.69	45.30	826.69	56.96	242.97	234.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.07	40.52	35.84	52.72	44.45	32.81	37.67	88.27	88.27	22.56	20.57	20.68
Movement LOS	E	D	D	D	D	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	41.51			45.69			85.21			20.82		
Approach LOS	D			D			F			C		
d_I, Intersection Delay [s/veh]	48.26											
Intersection LOS	D											
Intersection V/C	0.551											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	40	414	70	10	397	10	10	110	40	70	160	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	414	70	10	397	10	10	110	40	70	160	10
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	116	20	3	108	3	3	33	12	21	48	3
Total Analysis Volume [veh/h]	45	465	79	11	434	11	12	133	48	83	191	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	46	46	46	46	46	46	22	22
g / C, Green / Cycle	0.46	0.46	0.46	0.46	0.46	0.46	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.05	0.01	0.12	0.12	0.11	0.20
s, saturation flow rate [veh/h]	960	1900	1557	942	1900	1880	1765	1440
c, Capacity [veh/h]	425	873	715	321	873	864	423	361
d1, Uniform Delay [s]	21.00	19.34	15.39	27.37	16.55	16.56	34.21	38.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	2.32	0.31	0.20	0.71	0.72	0.29	8.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

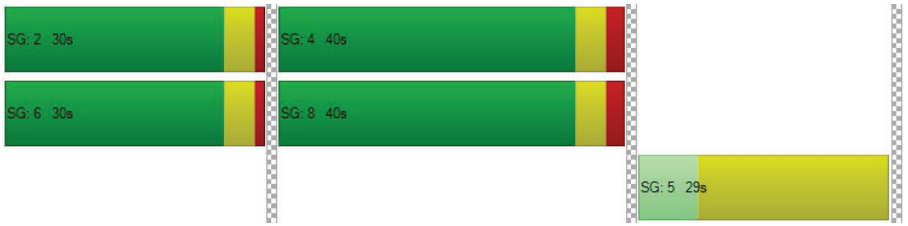
X, volume / capacity	0.11	0.53	0.11	0.03	0.26	0.26	0.46	0.79
d, Delay for Lane Group [s/veh]	21.50	21.66	15.70	27.57	17.25	17.28	34.50	46.66
Lane Group LOS	C	C	B	C	B	B	C	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.74	7.89	1.05	0.21	3.18	3.16	4.10	7.52
50th-Percentile Queue Length [ft/ln]	18.55	197.23	26.31	5.26	79.51	79.11	102.57	187.96
95th-Percentile Queue Length [veh/ln]	1.34	12.50	1.89	0.38	5.72	5.70	7.38	12.01
95th-Percentile Queue Length [ft/ln]	33.39	312.38	47.35	9.47	143.12	142.39	184.62	300.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.50	21.66	15.70	27.57	17.26	17.28	34.50	34.50	34.50	46.66	46.66	46.66
Movement LOS	C	C	B	C	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	20.85			17.51			34.50			46.66		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	26.42											
Intersection LOS	C											
Intersection V/C	0.443											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	70	574	50	40	387	40	0	210	50	0	230	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	574	50	40	387	40	0	210	50	0	230	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	171	15	11	108	11	0	58	14	0	61	13
Total Analysis Volume [veh/h]	83	683	60	44	430	44	0	234	56	0	243	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	55	55	55	55	14	14	14	14
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.55	0.55	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.04	0.06	0.13	0.13	0.12	0.04	0.08	0.08
s, saturation flow rate [veh/h]	934	1900	1587	770	1900	1833	1900	1568	1900	1770
c, Capacity [veh/h]	504	1053	880	283	1053	1016	272	224	272	253
d1, Uniform Delay [s]	15.85	15.50	10.32	27.98	11.36	11.38	41.87	38.07	39.82	40.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	3.09	0.15	1.17	0.50	0.53	3.14	0.21	0.63	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.65	0.07	0.16	0.23	0.23	0.86	0.25	0.54	0.58
d, Delay for Lane Group [s/veh]	16.55	18.59	10.47	29.15	11.87	11.91	45.01	38.29	40.45	40.87
Lane Group LOS	B	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.17	10.77	0.61	0.89	2.69	2.63	5.82	1.23	3.41	3.44
50th-Percentile Queue Length [ft/ln]	29.34	269.24	15.34	22.19	67.23	65.77	145.53	30.71	85.16	85.89
95th-Percentile Queue Length [veh/ln]	2.11	16.15	1.10	1.60	4.84	4.74	9.78	2.21	6.13	6.18
95th-Percentile Queue Length [ft/ln]	52.81	403.79	27.61	39.94	121.01	118.38	244.45	55.28	153.28	154.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.55	18.59	10.47	29.15	11.88	11.91	0.00	45.01	38.29	0.00	40.61	40.87
Movement LOS	B	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	17.79			13.35			43.71			40.66		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.00											
Intersection LOS	C											
Intersection V/C	0.483											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	39.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	78	634	220	30	357	40	0	233	41	30	311	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	634	220	30	357	40	0	233	41	30	311	70
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	173	60	8	92	10	0	64	11	8	88	20
Total Analysis Volume [veh/h]	85	693	241	31	368	41	0	256	45	34	351	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	7	51	51	60	49	49	18	30	27	27	27
g / C, Green / Cycle	0.06	0.43	0.43	0.50	0.40	0.40	0.15	0.25	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.15	0.03	0.11	0.11	0.13	0.03	0.03	0.18	0.05
s, saturation flow rate [veh/h]	1810	1900	1571	887	1900	1819	1900	1588	1321	1900	1591
c, Capacity [veh/h]	109	809	669	279	767	734	287	397	244	436	365
d1, Uniform Delay [s]	55.64	31.15	23.38	22.21	23.96	24.02	49.99	34.78	37.39	43.72	37.51
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.09	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.50	11.30	1.51	0.80	0.87	0.93	3.82	0.05	0.10	2.98	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

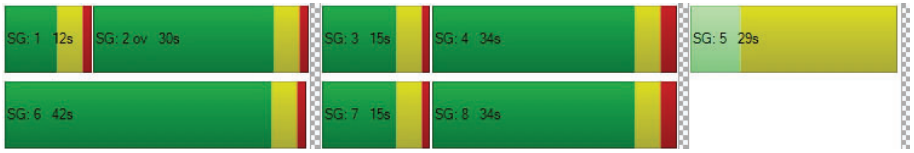
X, volume / capacity	0.78	0.86	0.36	0.11	0.27	0.28	0.89	0.11	0.14	0.81	0.22
d, Delay for Lane Group [s/veh]	60.14	42.45	24.88	23.02	24.83	24.95	53.81	34.83	37.48	46.70	37.62
Lane Group LOS	E	D	C	C	C	C	D	C	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.65	20.01	4.84	0.49	4.08	4.00	7.83	1.03	0.79	10.09	1.89
50th-Percentile Queue Length [ft/ln]	66.35	500.19	120.96	12.18	101.95	99.92	195.68	25.76	19.74	252.22	47.23
95th-Percentile Queue Length [veh/ln]	4.78	27.34	8.45	0.88	7.34	7.19	12.42	1.86	1.42	15.30	3.40
95th-Percentile Queue Length [ft/ln]	119.43	683.59	211.14	21.93	183.51	179.85	310.39	46.38	35.52	382.45	85.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.14	42.45	24.88	23.02	24.88	24.95	0.00	53.81	34.83	37.48	46.70	37.62
Movement LOS	E	D	C	C	C	C		D	C	D	D	D
d_A, Approach Delay [s/veh]	39.77			24.75			50.97			44.48		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	39.30											
Intersection LOS	D											
Intersection V/C	0.559											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	320	982	0	0	439	30	181	0	84	110	130	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	982	0	0	439	30	181	0	84	110	130	40
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	285	0	0	122	8	52	0	24	30	36	11
Total Analysis Volume [veh/h]	372	1140	0	0	488	33	208	0	96	120	142	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	78	78	60	60		13	13
g / C, Green / Cycle	0.65	0.65	0.50	0.50		0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.34	0.32	0.14	0.14		0.09	0.09
s, saturation flow rate [veh/h]	1082	3618	1900	1848		1832	1630
c, Capacity [veh/h]	716	2351	950	924		196	174
d1, Uniform Delay [s]	10.04	10.75	17.39	17.47		52.49	52.56
k, delay calibration	0.34	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.83	0.72	0.71	0.76		3.29	3.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

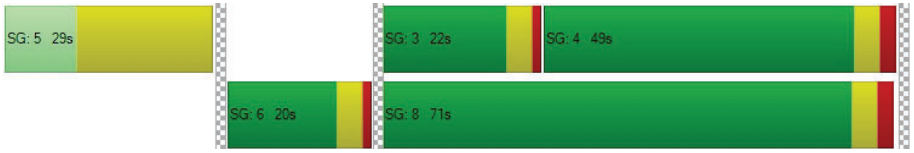
X, volume / capacity	0.52	0.48	0.27	0.28		0.82	0.83
d, Delay for Lane Group [s/veh]	11.87	11.47	18.11	18.23		55.78	56.53
Lane Group LOS	B	B	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	4.48	7.55	4.27	4.30		4.96	4.51
50th-Percentile Queue Length [ft/ln]	111.95	188.63	106.86	107.50		124.04	112.84
95th-Percentile Queue Length [veh/ln]	7.95	12.05	7.66	7.70		8.61	8.00
95th-Percentile Queue Length [ft/ln]	198.71	301.25	191.62	192.52		215.36	199.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.87	11.47	0.00	0.00	18.16	18.23	0.00	0.00	0.00	55.78	56.31	56.53
Movement LOS	B	B			B	B				E	E	E
d_A, Approach Delay [s/veh]	11.57			18.17			0.00			56.14		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	18.87											
Intersection LOS	B											
Intersection V/C	0.404											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	532	0	0	649	910	510
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	532	0	0	649	910	510
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	147	0	0	195	237	133
Total Analysis Volume [veh/h]	588	0	0	780	947	531
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_AM_LOS.pdf

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.38	0.48
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	493
d1, Uniform Delay [s]	16.24	17.34	22.06	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.62	1.01	0.70	63.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.48	0.85	1.08
d, Delay for Lane Group [s/veh]	16.86	18.35	22.77	88.04
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.96	5.63	7.55	17.35
50th-Percentile Queue Length [ft/ln]	98.94	140.86	188.75	433.86
95th-Percentile Queue Length [veh/ln]	7.12	9.53	12.06	25.49
95th-Percentile Queue Length [ft/ln]	178.09	238.18	301.41	637.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.86	0.00	0.00	18.35	22.77	88.04
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.86		18.35		46.22	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	32.51					
Intersection LOS	C					
Intersection V/C	0.698					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	60.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	492	500	395	784	150	40	450	30	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	492	500	395	784	150	40	450	30	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	138	140	108	214	41	13	145	10	0	0	0
Total Analysis Volume [veh/h]	34	551	560	432	858	164	52	580	39	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	37	59	59	14	14	14
g / C, Green / Cycle	0.03	0.28	0.28	0.42	0.66	0.66	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.29	0.37	0.12	0.27	0.29	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1725	1880	1729	1664
c, Capacity [veh/h]	59	528	426	1459	1255	1139	289	266	256
d1, Uniform Delay [s]	42.90	32.50	32.50	17.54	7.16	7.31	36.92	36.90	36.99
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	51.10	157.58	0.04	1.02	1.23	2.31	2.46	2.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

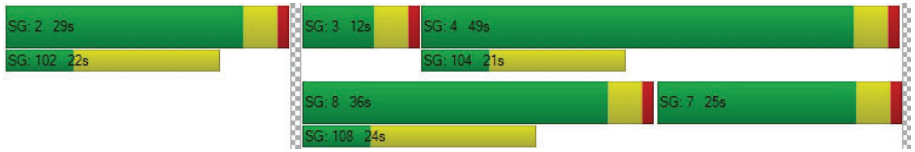
X, volume / capacity	0.57	1.04	1.31	0.30	0.42	0.44	0.83	0.82	0.84
d, Delay for Lane Group [s/veh]	46.12	83.60	190.07	17.58	8.18	8.55	39.23	39.36	39.77
Lane Group LOS	D	F	F	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.79	18.58	27.59	2.90	4.38	4.33	5.12	4.70	4.63
50th-Percentile Queue Length [ft/ln]	19.78	464.49	689.69	72.41	109.43	108.16	127.91	117.54	115.68
95th-Percentile Queue Length [veh/ln]	1.42	26.34	41.91	5.21	7.81	7.74	8.83	8.26	8.16
95th-Percentile Queue Length [ft/ln]	35.61	658.50	1047.73	130.35	195.22	193.44	220.65	206.44	203.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	83.60	190.07	17.58	8.32	8.55	39.23	39.44	39.77	0.00	0.00	0.00
Movement LOS	D	F	F	B	A	A	D	D	D			
d_A, Approach Delay [s/veh]	134.56			11.10			39.44			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	60.15											
Intersection LOS	E											
Intersection V/C	0.617											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.304

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	135	126	60	40	90	20	10	542	20	110	619	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	126	60	40	90	20	10	542	20	110	619	40
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	33	16	12	28	6	3	146	5	29	165	11
Total Analysis Volume [veh/h]	140	130	62	50	112	25	11	582	21	117	661	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	23	23	23	23	23	64	64	64	64	64	64
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.04	0.04	0.08	0.01	0.16	0.01	0.14	0.19	0.19
s, saturation flow rate [veh/h]	1229	1900	1538	1254	1813	748	3618	1537	838	1900	1833
c, Capacity [veh/h]	253	442	358	264	421	470	2299	977	531	1207	1165
d1, Uniform Delay [s]	41.03	31.60	30.67	37.30	31.84	11.13	7.92	6.73	11.92	8.17	8.20
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	0.14	0.08	0.13	0.16	0.09	0.27	0.04	0.96	0.62	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

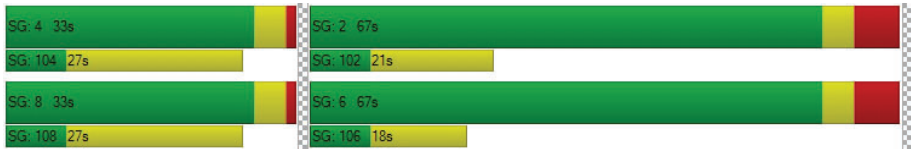
X, volume / capacity	0.55	0.29	0.17	0.19	0.33	0.02	0.25	0.02	0.22	0.29	0.30
d, Delay for Lane Group [s/veh]	41.73	31.73	30.76	37.43	32.01	11.22	8.18	6.77	12.88	8.79	8.86
Lane Group LOS	D	C	C	D	C	B	A	A	B	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.30	2.56	1.18	1.07	2.72	0.12	2.59	0.16	1.46	3.37	3.32
50th-Percentile Queue Length [ft/ln]	82.53	63.94	29.62	26.80	67.95	3.12	64.82	4.12	36.46	84.34	83.07
95th-Percentile Queue Length [veh/ln]	5.94	4.60	2.13	1.93	4.89	0.22	4.67	0.30	2.63	6.07	5.98
95th-Percentile Queue Length [ft/ln]	148.56	115.09	53.31	48.23	122.30	5.62	116.68	7.42	65.63	151.81	149.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.73	31.73	30.76	37.43	32.01	32.01	11.22	8.18	6.77	12.88	8.82	8.86
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	35.77			33.46			8.19			9.40		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	15.80											
Intersection LOS	B											
Intersection V/C	0.304											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	262	50	30	120	30	20	130	40	20	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	262	50	30	120	30	20	130	40	20	130	30
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	73	14	9	35	9	6	40	12	6	38	9
Total Analysis Volume [veh/h]	89	293	56	35	140	35	25	160	49	24	154	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	71	71	71	71	71	20	20
g / C, Green / Cycle	0.71	0.71	0.71	0.71	0.71	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.07	0.09	0.10	0.03	0.10	0.13	0.12
s, saturation flow rate [veh/h]	1216	1900	1764	1043	1815	1737	1715
c, Capacity [veh/h]	857	1342	1246	745	1282	390	385
d1, Uniform Delay [s]	6.76	4.74	4.76	6.49	4.76	36.59	36.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.20	0.23	0.12	0.22	1.49	1.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.13	0.14	0.05	0.14	0.60	0.55
d, Delay for Lane Group [s/veh]	7.00	4.95	4.99	6.61	4.98	38.07	37.37
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.70	1.07	1.03	0.27	1.05	5.29	4.74
50th-Percentile Queue Length [ft/ln]	17.58	26.63	25.83	6.71	26.36	132.27	118.55
95th-Percentile Queue Length [veh/ln]	1.27	1.92	1.86	0.48	1.90	9.06	8.31
95th-Percentile Queue Length [ft/ln]	31.65	47.93	46.50	12.07	47.44	226.58	207.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.00	4.96	4.99	6.61	4.98	4.98	38.07	38.07	38.07	37.37	37.37	37.37
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	5.38			5.25			38.07			37.37		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	18.57											
Intersection LOS	B											
Intersection V/C	0.232											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	60	402	70	20	90	20	40	240	10	10	230	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	402	70	20	90	20	40	240	10	10	230	110
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	105	18	6	27	6	11	66	3	3	62	29
Total Analysis Volume [veh/h]	63	421	73	24	106	24	44	264	11	11	246	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	20	20	20	20	20	67	67	67	67	67	67
g / C, Green / Cycle	0.20	0.20	0.20	0.20	0.20	0.67	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.14	0.03	0.07	0.04	0.07	0.07	0.01	0.13	0.08
s, saturation flow rate [veh/h]	1188	1900	1742	899	1779	1122	1900	1858	1084	1900	1498
c, Capacity [veh/h]	205	378	347	113	354	749	1271	1243	749	1271	1002
d1, Uniform Delay [s]	41.60	36.98	37.24	46.75	34.60	8.21	5.91	5.91	7.09	6.29	5.95
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.76	0.95	0.34	0.24	0.15	0.17	0.18	0.04	0.34	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

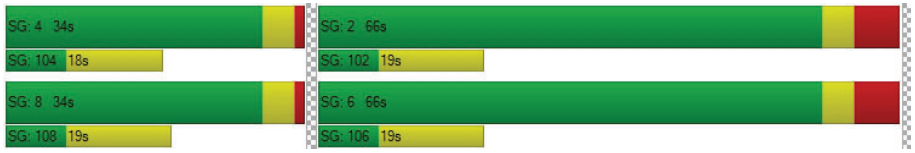
X, volume / capacity	0.31	0.67	0.70	0.21	0.37	0.06	0.11	0.11	0.01	0.19	0.12
d, Delay for Lane Group [s/veh]	41.91	37.74	38.19	47.09	34.83	8.36	6.08	6.09	7.13	6.63	6.19
Lane Group LOS	D	D	D	D	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.45	5.65	5.46	0.59	2.71	0.40	1.00	1.00	0.09	1.90	0.88
50th-Percentile Queue Length [ft/ln]	36.27	141.13	136.55	14.68	67.66	10.11	25.02	24.89	2.28	47.60	21.89
95th-Percentile Queue Length [veh/ln]	2.61	9.54	9.29	1.06	4.87	0.73	1.80	1.79	0.16	3.43	1.58
95th-Percentile Queue Length [ft/ln]	65.28	238.55	232.37	26.43	121.79	18.20	45.03	44.80	4.10	85.68	39.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.91	37.92	38.19	47.09	34.83	34.83	8.36	6.09	6.09	7.13	6.63	6.19
Movement LOS	D	D	D	D	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	38.41			36.74			6.40			6.51		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	22.44											
Intersection LOS	C											
Intersection V/C	0.268											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	90	522	70	30	50	20	60	243	10	20	301	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	522	70	30	50	20	60	243	10	20	301	50
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	153	21	9	14	6	16	64	3	6	85	14
Total Analysis Volume [veh/h]	106	614	82	34	57	23	64	257	11	23	340	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	26	26	65	65	65	65	65
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.65	0.65	0.65	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.08	0.19	0.19	0.04	0.05	0.06	0.14	0.02	0.18	0.04
s, saturation flow rate [veh/h]	1302	1900	1770	761	1743	1042	1881	1111	1900	1518
c, Capacity [veh/h]	331	494	460	115	453	654	1219	711	1232	984
d1, Uniform Delay [s]	34.93	33.69	33.93	46.64	28.71	10.40	7.22	9.19	7.54	6.43
k, delay calibration	0.04	0.09	0.10	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	1.58	2.24	0.53	0.07	0.30	0.42	0.08	0.56	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.72	0.74	0.30	0.18	0.10	0.22	0.03	0.28	0.06
d, Delay for Lane Group [s/veh]	35.14	35.27	36.17	47.17	28.78	10.70	7.63	9.27	8.09	6.54
Lane Group LOS	D	D	D	D	C	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.23	7.83	7.65	0.84	1.47	0.68	2.22	0.22	2.95	0.43
50th-Percentile Queue Length [ft/ln]	55.67	195.79	191.31	20.98	36.78	16.99	55.62	5.51	73.80	10.64
95th-Percentile Queue Length [veh/ln]	4.01	12.42	12.19	1.51	2.65	1.22	4.00	0.40	5.31	0.77
95th-Percentile Queue Length [ft/ln]	100.20	310.52	304.73	37.76	66.20	30.59	100.12	9.93	132.84	19.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.14	35.65	36.17	47.17	28.78	28.78	10.70	7.63	7.63	9.27	8.09	6.54
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	35.63			34.26			8.22			7.95		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	23.11											
Intersection LOS	C											
Intersection V/C	0.372											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	602	50	30	10	30	0	0	0	6	230	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	602	50	30	10	30	0	0	0	6	230	30
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	169	14	10	3	10	0	0	0	2	69	9
Total Analysis Volume [veh/h]	15	676	56	38	13	38	0	0	0	6	274	36
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	40	40	5	49		40
g / C, Green / Cycle	0.40	0.40	0.05	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.04	0.02	0.03		0.17
s, saturation flow rate [veh/h]	3618	1336	1810	1619		1856
c, Capacity [veh/h]	1451	536	83	798		752
d1, Uniform Delay [s]	22.05	18.71	46.48	13.27		21.23
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.08	0.39	1.47	0.15		1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

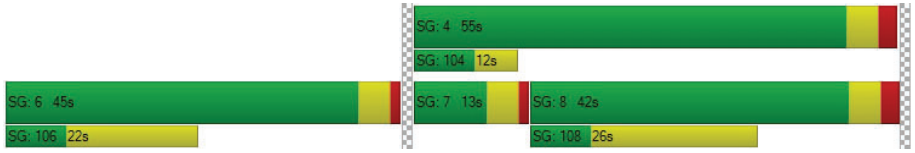
X, volume / capacity	0.47	0.10	0.46	0.06		0.41
d, Delay for Lane Group [s/veh]	23.13	19.11	47.95	13.43		22.89
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.93	0.86	0.94	0.61		5.43
50th-Percentile Queue Length [ft/ln]	148.13	21.52	23.54	15.28		135.69
95th-Percentile Queue Length [veh/ln]	9.92	1.55	1.70	1.10		9.25
95th-Percentile Queue Length [ft/ln]	247.93	38.74	42.38	27.51		231.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.13	19.11	47.95	13.43	13.43	0.00	0.00	0.00	0.00	22.89	22.89
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.82			28.17			0.00			22.89		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.26											
Intersection LOS	C											
Intersection V/C	0.375											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	31.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	151	50	100	180	39	70	393	20	50	270	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	151	50	100	180	39	70	393	20	50	270	120
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	40	13	28	50	11	20	113	6	14	75	34
Total Analysis Volume [veh/h]	11	161	53	112	201	44	81	452	23	56	302	134
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.29	0.09	0.52	0.07	0.08	0.26	0.06	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1024	1861	914	1900	1296
c, Capacity [veh/h]	274	219	289	219	488	937	376	957	652
d1, Uniform Delay [s]	19.77	15.47	25.30	15.22	14.78	11.58	18.30	10.26	9.62
k, delay calibration	0.15	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.19	0.21	77.02	0.17	0.73	1.96	0.83	0.87	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.24	1.08	0.20	0.17	0.51	0.15	0.32	0.21
d, Delay for Lane Group [s/veh]	22.96	15.68	102.32	15.39	15.51	13.54	19.14	11.12	10.33
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.53	0.56	10.96	0.46	0.91	4.81	0.73	2.65	1.14
50th-Percentile Queue Length [ft/ln]	63.22	14.10	274.08	11.51	22.75	120.32	18.16	66.32	28.43
95th-Percentile Queue Length [veh/ln]	4.55	1.02	17.21	0.83	1.64	8.41	1.31	4.77	2.05
95th-Percentile Queue Length [ft/ln]	113.79	25.38	430.23	20.71	40.96	210.27	32.69	119.37	51.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.96	22.96	15.68	102.32	102.32	15.39	15.51	13.54	13.54	19.14	11.12	10.33
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	21.25			91.61			13.83			11.82		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	31.28											
Intersection LOS	C											
Intersection V/C	0.777											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	140	60	30	70	30	60	423	50	70	340	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	140	60	30	70	30	60	423	50	70	340	40
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	45	19	11	26	11	16	115	14	20	98	12
Total Analysis Volume [veh/h]	77	179	77	45	104	45	65	460	54	81	394	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	44	44	44	44	44	44	44	44
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	15	15	19	19	19	19
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.07	0.15	0.04	0.09	0.07	0.29	0.10	0.25
s, saturation flow rate [veh/h]	1070	1710	1074	1640	888	1760	829	1792
c, Capacity [veh/h]	429	607	377	582	343	763	290	777
d1, Uniform Delay [s]	13.33	10.65	14.64	9.96	15.03	9.86	17.42	9.25
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.17	0.05	0.09	0.10	0.39	0.19	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

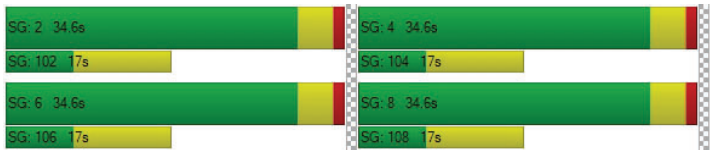
X, volume / capacity	0.18	0.42	0.12	0.26	0.19	0.67	0.28	0.57
d, Delay for Lane Group [s/veh]	13.41	10.82	14.69	10.04	15.13	10.25	17.61	9.49
Lane Group LOS	B	B	B	B	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.51	1.44	0.32	0.78	0.49	2.96	0.68	2.36
50th-Percentile Queue Length [ft/ln]	12.70	36.10	7.89	19.60	12.14	74.05	16.98	59.12
95th-Percentile Queue Length [veh/ln]	0.91	2.60	0.57	1.41	0.87	5.33	1.22	4.26
95th-Percentile Queue Length [ft/ln]	22.86	64.97	14.20	35.27	21.86	133.28	30.57	106.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.41	10.82	10.82	14.69	10.04	10.04	15.13	10.25	10.25	17.61	9.49	9.49
Movement LOS	B	B	B	B	B	B	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	11.42			11.12			10.80			10.75		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.95											
Intersection LOS	B											
Intersection V/C	0.442											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	145	320	240	75	352	50	20	645	152	200	640	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	320	240	75	352	50	20	645	152	200	640	23
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	88	66	20	96	14	6	185	43	53	171	6
Total Analysis Volume [veh/h]	160	354	265	82	383	54	23	738	174	214	683	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.13	0.19	0.17	0.08	0.12	0.12	0.03	0.20	0.11	0.23	0.19	0.02
s, saturation flow rate [veh/h]	1206	1900	1560	1034	1900	1796	765	3618	1551	926	3618	1542
c, Capacity [veh/h]	431	670	551	136	442	418	311	1574	675	517	2008	856
d1, Uniform Delay [s]	23.65	25.74	25.23	47.56	33.34	33.44	24.33	20.05	17.98	12.68	12.20	10.06
k, delay calibration	0.27	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.34	0.24	0.24	1.58	0.33	0.36	0.46	1.01	0.93	2.43	0.46	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.53	0.48	0.60	0.50	0.51	0.07	0.47	0.26	0.41	0.34	0.03
d, Delay for Lane Group [s/veh]	24.99	25.98	25.47	49.14	33.67	33.80	24.79	21.06	18.91	15.11	12.66	10.12
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.81	6.61	4.85	2.08	4.62	4.48	0.42	6.16	2.69	2.60	4.03	0.25
50th-Percentile Queue Length [ft/ln]	70.19	165.13	121.27	52.07	115.44	111.98	10.61	154.11	67.16	64.93	100.69	6.26
95th-Percentile Queue Length [veh/ln]	5.05	10.82	8.46	3.75	8.14	7.95	0.76	10.24	4.84	4.68	7.25	0.45
95th-Percentile Queue Length [ft/ln]	126.34	270.50	211.57	93.73	203.55	198.76	19.09	255.90	120.90	116.88	181.24	11.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.99	25.98	25.47	49.14	33.72	33.80	24.79	21.06	18.91	15.11	12.66	10.12
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	25.60			36.17			20.75			13.16		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.27											
Intersection LOS	C											
Intersection V/C	0.455											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.806

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	706	70	10	704	10	10	70	60	70	140	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	706	70	10	704	10	10	70	60	70	140	50
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	193	19	3	186	3	3	24	20	19	38	14
Total Analysis Volume [veh/h]	88	773	77	11	744	11	14	95	82	76	153	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	57	57	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.57	0.57	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.23	0.01	0.20	0.20	0.14	0.06	0.57	0.04
s, saturation flow rate [veh/h]	875	1900	1809	740	1900	1881	800	1325	400	1413
c, Capacity [veh/h]	575	1081	1029	489	995	985	260	363	158	387
d1, Uniform Delay [s]	7.90	12.02	12.09	7.66	14.17	14.18	29.19	28.06	40.44	27.39
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	1.10	1.19	0.08	1.11	1.13	0.40	0.12	235.34	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

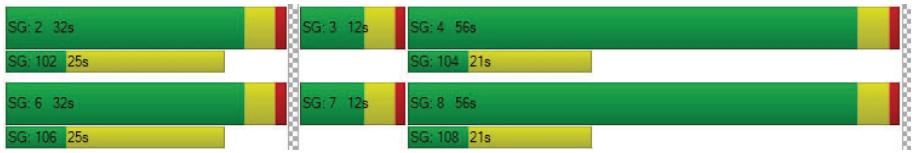
X, volume / capacity	0.15	0.40	0.41	0.02	0.38	0.38	0.42	0.23	1.45	0.14
d, Delay for Lane Group [s/veh]	8.02	13.13	13.28	7.75	15.27	15.31	29.59	28.18	275.79	27.45
Lane Group LOS	A	B	B	A	B	B	C	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	5.40	5.28	0.09	5.19	5.18	2.00	1.50	14.19	0.98
50th-Percentile Queue Length [ft/ln]	17.32	135.12	132.00	2.30	129.80	129.42	50.01	37.55	354.86	24.56
95th-Percentile Queue Length [veh/ln]	1.25	9.22	9.05	0.17	8.93	8.91	3.60	2.70	24.10	1.77
95th-Percentile Queue Length [ft/ln]	31.18	230.44	226.21	4.15	223.22	222.71	90.01	67.58	602.48	44.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.02	13.19	13.28	7.75	15.29	15.31	29.59	29.59	28.18	275.79	275.79	27.45
Movement LOS	A	B	B	A	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	12.72			15.18			28.99			227.69		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	43.03											
Intersection LOS	D											
Intersection V/C	0.806											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	726	200	60	664	10	30	300	60	100	342	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	726	200	60	664	10	30	300	60	100	342	100
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	193	53	17	188	3	8	81	16	26	90	26
Total Analysis Volume [veh/h]	117	773	213	68	750	11	33	326	65	105	359	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	57	46	46	57	45	45	23	23	23	34	34	34
g / C, Green / Cycle	0.57	0.46	0.46	0.57	0.45	0.45	0.23	0.23	0.23	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.27	0.09	0.20	0.20	0.03	0.10	0.11	0.09	0.19	0.07
s, saturation flow rate [veh/h]	896	1900	1730	767	1900	1887	1015	1900	1746	1227	1900	1516
c, Capacity [veh/h]	518	876	797	423	863	857	125	433	398	428	648	517
d1, Uniform Delay [s]	11.13	19.89	20.03	12.15	18.66	18.67	46.42	33.31	33.49	23.60	26.80	23.35
k, delay calibration	0.26	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	2.84	3.26	0.81	1.64	1.66	0.41	0.28	0.34	0.11	0.28	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

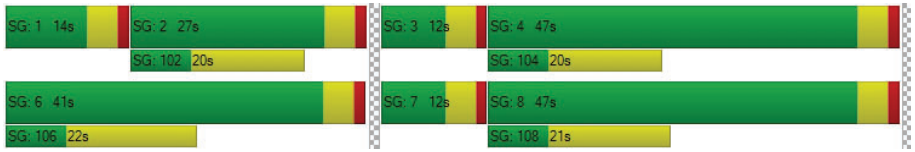
X, volume / capacity	0.23	0.58	0.60	0.16	0.44	0.44	0.26	0.46	0.48	0.25	0.55	0.20
d, Delay for Lane Group [s/veh]	11.66	22.73	23.29	12.96	20.30	20.32	46.83	33.59	33.82	23.71	27.07	23.42
Lane Group LOS	B	C	C	B	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.22	9.15	8.63	0.74	6.26	6.24	0.81	4.17	4.03	1.73	6.88	1.75
50th-Percentile Queue Length [ft/ln]	30.53	228.77	215.67	18.55	156.53	155.89	20.34	104.19	100.74	43.31	171.94	43.76
95th-Percentile Queue Length [veh/ln]	2.20	14.11	13.44	1.34	10.36	10.33	1.46	7.50	7.25	3.12	11.18	3.15
95th-Percentile Queue Length [ft/ln]	54.95	352.79	336.09	33.38	259.12	258.27	36.61	187.54	181.33	77.96	279.47	78.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.66	22.92	23.29	12.96	20.31	20.32	46.83	33.68	33.82	23.71	27.07	23.42
Movement LOS	B	C	C	B	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	21.80			19.71			34.73			25.78		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	23.85											
Intersection LOS	C											
Intersection V/C	0.483											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	43.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	110	936	150	30	854	50	80	283	100	100	281	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	936	150	30	854	50	80	283	100	100	281	50
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	240	38	8	225	13	24	83	29	28	80	14
Total Analysis Volume [veh/h]	113	959	154	32	901	53	94	333	118	114	320	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	8	51	51	39	39	39	26	26	26	35	35
g / C, Green / Cycle	0.08	0.51	0.51	0.39	0.39	0.39	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.31	0.06	0.25	0.26	0.09	0.18	0.08	0.37	0.04
s, saturation flow rate [veh/h]	1810	1900	1753	514	1900	1838	1076	1900	1481	1179	1486
c, Capacity [veh/h]	142	978	902	151	742	718	72	488	380	387	524
d1, Uniform Delay [s]	45.29	16.79	17.05	38.28	24.88	24.99	50.00	33.48	30.00	29.87	21.76
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.15	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	2.52	2.97	3.20	4.37	4.68	142.81	2.31	0.17	82.43	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

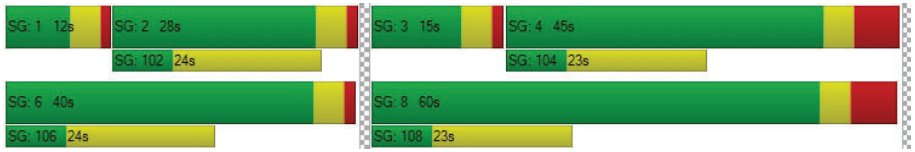
X, volume / capacity	0.80	0.58	0.60	0.21	0.65	0.66	1.30	0.68	0.31	1.12	0.11
d, Delay for Lane Group [s/veh]	49.10	19.32	20.03	41.48	29.25	29.68	192.80	35.79	30.17	112.30	21.80
Lane Group LOS	D	B	C	D	C	C	F	D	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.89	9.30	9.10	0.84	9.97	9.87	4.65	7.39	2.26	16.12	0.89
50th-Percentile Queue Length [ft/ln]	72.22	232.48	227.60	20.97	249.17	246.64	116.37	184.67	56.60	403.11	22.13
95th-Percentile Queue Length [veh/ln]	5.20	14.30	14.05	1.51	15.14	15.02	8.38	11.84	4.08	24.36	1.59
95th-Percentile Queue Length [ft/ln]	129.99	357.51	351.30	37.74	378.60	375.42	209.47	296.11	101.89	608.99	39.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.10	19.61	20.03	41.48	29.45	29.68	192.80	35.79	30.17	112.30	112.30	21.80
Movement LOS	D	B	C	D	C	C	F	D	C	F	F	C
d_A, Approach Delay [s/veh]	22.38			29.85			61.66			101.80		
Approach LOS	C			C			E			F		
d_I, Intersection Delay [s/veh]	43.24											
Intersection LOS	D											
Intersection V/C	0.591											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	83.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	1236	190	10	1114	10	6	90	100	66	90	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1236	190	10	1114	10	6	90	100	66	90	30
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	336	52	3	305	3	2	29	33	18	27	9
Total Analysis Volume [veh/h]	11	1345	207	11	1222	11	7	118	131	70	109	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	30	30	2	30	30	40	40
g / C, Green / Cycle	0.02	0.35	0.35	0.02	0.35	0.35	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.01	0.41	0.43	0.01	0.32	0.33	0.15	0.08
s, saturation flow rate [veh/h]	1810	1900	1781	1810	1900	1891	1709	1802
c, Capacity [veh/h]	36	666	625	36	666	663	799	843
d1, Uniform Delay [s]	41.31	27.76	27.76	41.31	26.70	26.72	14.18	13.18
k, delay calibration	0.04	0.50	0.50	0.04	0.36	0.37	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.70	96.62	114.40	1.70	16.52	16.83	1.02	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

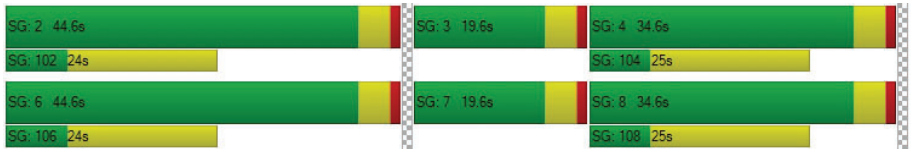
X, volume / capacity	0.30	1.18	1.22	0.30	0.93	0.93	0.31	0.17
d, Delay for Lane Group [s/veh]	43.00	124.38	142.16	43.00	43.22	43.55	15.20	13.62
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.24	30.74	31.91	0.24	14.51	14.53	3.07	1.64
50th-Percentile Queue Length [ft/ln]	6.07	768.57	797.73	6.07	362.81	363.29	76.65	41.01
95th-Percentile Queue Length [veh/ln]	0.44	44.32	46.67	0.44	20.76	20.78	5.52	2.95
95th-Percentile Queue Length [ft/ln]	10.93	1107.88	1166.81	10.93	518.99	519.59	137.96	73.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.00	131.75	142.16	43.00	43.39	43.55	0.00	15.20	15.20	0.00	13.62	13.62
Movement LOS	D	F	F	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	132.50			43.38			15.20			13.62		
Approach LOS	F			D			B			B		
d_I, Intersection Delay [s/veh]	83.36											
Intersection LOS	F											
Intersection V/C	0.581											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	99.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	280	649	0	0	1164	40	0	0	0	760	280	787
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	649	0	0	1164	40	0	0	0	760	280	787
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	187	0	0	326	11	0	0	0	201	74	208
Total Analysis Volume [veh/h]	322	746	0	0	1303	45	0	0	0	804	296	833
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	18	50	28	28		30	30	30	30
g / C, Green / Cycle	0.20	0.56	0.31	0.31		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.18	0.21	0.25	0.24		0.55	0.27	0.30	0.55
s, saturation flow rate [veh/h]	1810	3618	3618	1865		900	1843	1501	900
c, Capacity [veh/h]	355	2026	1130	583		304	622	507	304
d1, Uniform Delay [s]	35.35	10.97	28.30	28.02		29.80	26.99	28.16	29.80
k, delay calibration	0.28	0.50	0.50	0.50		0.50	0.25	0.33	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.99	0.52	5.81	9.52		297.3	5.41	14.31	294.9
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.37	0.79	0.77		1.63	0.80	0.89	1.62
d, Delay for Lane Group [s/veh]	54.34	11.49	34.11	37.54		327.1	32.40	42.47	324.7
Lane Group LOS	D	B	C	D		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	8.61	3.96	9.46	10.01		31.07	9.73	10.35	30.87
50th-Percentile Queue Length [ft/ln]	215.33	98.97	236.59	250.22		776.7	243.3	258.7	771.7
95th-Percentile Queue Length [veh/ln]	13.43	7.13	14.51	15.20		50.70	14.85	15.62	50.36
95th-Percentile Queue Length [ft/ln]	335.66	178.15	362.72	379.93		1267.	371.2	390.6	1259.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.34	11.49	0.00	0.00	35.17	37.54	0.00	0.00	0.00	209.49	36.13	212.57
Movement LOS	D	B			D	D				F	D	F
d_A, Approach Delay [s/veh]	24.41			35.25			0.00			184.81		
Approach LOS	C			D			A			F		
d_I, Intersection Delay [s/veh]	99.06											
Intersection LOS	F											
Intersection V/C	0.976											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	719	690	818	1036	0	140	380	260	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	719	690	818	1036	0	140	380	260	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	197	237	300	0	47	127	87	0	0	0
Total Analysis Volume [veh/h]	0	819	786	948	1200	0	187	509	348	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	27	27	27	27	59	22	22	22
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.65	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.22	0.26	0.26	0.27	0.33	0.19	0.19	0.22
s, saturation flow rate [veh/h]	3618	1515	1515	3514	3618	1852	1729	1584
c, Capacity [veh/h]	1078	451	451	1062	2356	457	426	391
d1, Uniform Delay [s]	28.52	30.20	30.20	30.04	8.20	31.73	31.73	32.76
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.39	2.44	2.44	11.42	0.79	1.16	1.24	2.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

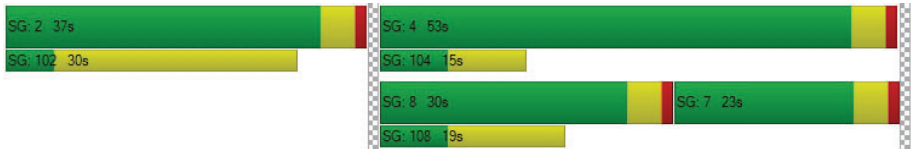
X, volume / capacity	0.74	0.89	0.89	0.89	0.51	0.79	0.79	0.89
d, Delay for Lane Group [s/veh]	28.91	32.64	32.64	41.46	8.99	32.89	32.97	35.61
Lane Group LOS	C	C	C	D	A	C	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.51	8.20	8.20	11.13	5.49	7.18	6.71	7.33
50th-Percentile Queue Length [ft/ln]	187.78	204.89	204.89	278.34	137.37	179.51	167.81	183.22
95th-Percentile Queue Length [veh/ln]	12.01	12.89	12.89	16.61	9.34	11.57	10.96	11.77
95th-Percentile Queue Length [ft/ln]	300.14	322.26	322.26	415.15	233.48	289.37	274.03	294.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.91	32.64	41.46	8.99	0.00	32.89	32.94	35.61	0.00	0.00	0.00
Movement LOS		C	C	D	A		C	C	D			
d_A, Approach Delay [s/veh]	30.77			23.32			33.82			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	28.10											
Intersection LOS	C											
Intersection V/C	0.754											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	783	160	90	477	100	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	783	160	90	477	100	178
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	224	46	24	129	30	53
Total Analysis Volume [veh/h]	897	183	97	516	120	213
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.25	0.12	0.15	0.14	0.08	0.16
s, saturation flow rate [veh/h]	3618	1554	629	3618	1563	1337
c, Capacity [veh/h]	2510	1078	431	2510	272	233
d1, Uniform Delay [s]	6.23	5.31	10.87	5.47	36.93	40.55
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.34	1.21	0.19	0.42	5.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.17	0.22	0.21	0.44	0.91
d, Delay for Lane Group [s/veh]	6.63	5.65	12.07	5.65	37.35	46.33
Lane Group LOS	A	A	B	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.49	1.27	1.18	1.76	2.61	5.40
50th-Percentile Queue Length [ft/ln]	87.24	31.69	29.48	43.88	65.22	134.94
95th-Percentile Queue Length [veh/ln]	6.28	2.28	2.12	3.16	4.70	9.21
95th-Percentile Queue Length [ft/ln]	157.03	57.04	53.06	78.99	117.40	230.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.63	5.65	12.07	5.65	37.35	46.33
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	6.47		6.67		43.09	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.55					
Intersection LOS	B					
Intersection V/C	0.407					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	30	20	0	20	50	30	0	20	120	30	0	20	120	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	30	20	0	20	50	30	0	20	120	30	0	20	120	30
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	9	6	0	7	18	11	0	7	40	10	0	5	32	8
Total Analysis Volume [veh/h]	0	24	35	24	0	29	72	43	0	27	162	40	0	22	130	32
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	719	623	730	670	783	665	775
Degree of Utilization, x	0.10	0.03	0.16	0.06	0.28	0.05	0.23	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	0.10	0.58	0.19	1.16	0.16	0.88	0.13
95th-Percentile Queue Length [ft]	8.01	2.59	14.38	4.68	28.91	4.03	21.95	3.23
Approach Delay [s/veh]	8.85		9.10		9.71		9.34	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.35							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	422	101	0	50	530	0	140	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	422	101	0	50	530	0	140	80
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	124	30	0	14	148	0	37	21
Total Analysis Volume [veh/h]	0	496	119	0	56	594	0	149	85
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.26	0.07	0.06	0.31	0.09	0.06
s, saturation flow rate [veh/h]	1899	1615	916	1900	1711	1352
c, Capacity [veh/h]	1191	952	142	1120	393	310
d1, Uniform Delay [s]	5.80	4.63	25.44	6.23	16.54	16.11
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	0.27	8.02	1.80	0.22	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

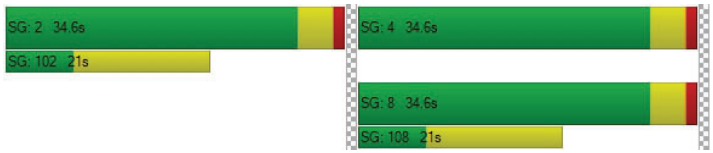
X, volume / capacity	0.42	0.12	0.39	0.53	0.38	0.27
d, Delay for Lane Group [s/veh]	6.87	4.90	33.46	8.03	16.76	16.29
Lane Group LOS	A	A	C	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.30	0.44	0.95	3.06	1.37	0.76
50th-Percentile Queue Length [ft/ln]	57.52	11.09	23.63	76.60	34.20	19.04
95th-Percentile Queue Length [veh/ln]	4.14	0.80	1.70	5.52	2.46	1.37
95th-Percentile Queue Length [ft/ln]	103.53	19.96	42.54	137.88	61.55	34.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.87	6.87	4.90	33.46	33.46	8.03	16.76	16.76	16.29
Movement LOS	A	A	A	C	C	A	B	B	B
d_A, Approach Delay [s/veh]	6.49			10.22			16.59		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	9.69								
Intersection LOS	A								
Intersection V/C	0.400								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	50	10	20	110	10	10	118	20	10	83	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	10	20	110	10	10	118	20	10	83	30
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	3	6	30	3	3	40	7	3	24	9
Total Analysis Volume [veh/h]	11	57	11	22	122	11	14	161	27	12	97	35
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	737	747	782	780
Degree of Utilization, x	0.11	0.21	0.26	0.18

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.36	0.78	1.03	0.67
95th-Percentile Queue Length [ft]	8.96	19.43	25.75	16.82
Approach Delay [s/veh]	8.47	9.07	9.20	8.65
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.93			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	170	40	20	230	20	31	107	30	40	92	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	170	40	20	230	20	31	107	30	40	92	40
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	65	15	6	67	6	10	36	10	11	26	11
Total Analysis Volume [veh/h]	31	260	61	23	268	23	42	145	41	44	102	44
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	623	609	577	570
Degree of Utilization, x	0.57	0.52	0.40	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.54	2.95	1.88	1.46
95th-Percentile Queue Length [ft]	88.39	73.80	47.04	36.43
Approach Delay [s/veh]	16.04	15.01	13.27	12.45
Approach LOS	C	C	B	B
Intersection Delay [s/veh]	14.53			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	82.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.144

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	122	270	40	40	370	40	20	90	107	70	160	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	270	40	40	370	40	20	90	107	70	160	40
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	78	12	11	104	11	6	27	32	25	58	14
Total Analysis Volume [veh/h]	140	311	46	45	418	45	24	109	130	101	232	58
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	451	443	463	443	400	421
Degree of Utilization, x	1.13	0.10	1.14	0.10	0.66	0.93

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	16.57	0.35	17.30	0.34	4.55	10.39
95th-Percentile Queue Length [ft]	414.35	8.64	432.52	8.43	113.77	259.68
Approach Delay [s/veh]	104.31		109.36		27.69	57.50
Approach LOS	F		F		D	F
Intersection Delay [s/veh]	82.68					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	108.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	10	301	430	120	182	20	40	410	10	150	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	301	430	120	182	20	40	410	10	150	30	40
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	77	110	34	52	6	13	128	3	39	8	10
Total Analysis Volume [veh/h]	10	308	441	136	206	23	50	513	13	157	31	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	37	46	41	16	16	16	16
g / C, Green / Cycle	0.58	0.46	0.58	0.51	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.45	0.15	0.12	0.04	0.28	0.18	0.05
s, saturation flow rate [veh/h]	1221	1653	895	1846	1199	1884	891	1537
c, Capacity [veh/h]	758	767	334	939	261	387	90	316
d1, Uniform Delay [s]	7.32	21.06	16.75	11.04	30.73	31.84	40.06	26.56
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.14	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	27.32	3.66	0.62	0.13	166.63	338.12	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

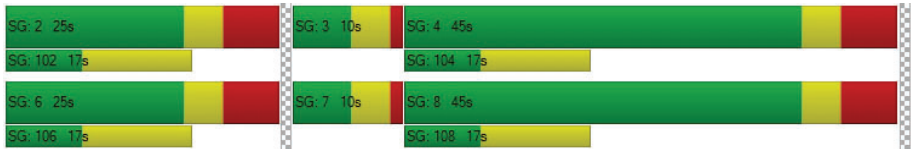
X, volume / capacity	0.01	0.98	0.41	0.24	0.19	1.36	1.74	0.23
d, Delay for Lane Group [s/veh]	7.32	48.39	20.40	11.65	30.87	198.46	378.18	26.70
Lane Group LOS	A	D	C	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	17.90	1.29	2.26	0.85	25.11	10.18	1.13
50th-Percentile Queue Length [ft/ln]	1.58	447.53	32.21	56.48	21.36	627.77	254.56	28.21
95th-Percentile Queue Length [veh/ln]	0.11	24.84	2.32	4.07	1.54	38.49	18.33	2.03
95th-Percentile Queue Length [ft/ln]	2.84	621.00	57.98	101.66	38.44	962.17	458.21	50.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.32	48.39	48.39	20.40	11.65	11.65	30.87	198.46	198.46	378.18	26.70	26.70
Movement LOS	A	D	D	C	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	47.84			14.91			183.91			266.62		
Approach LOS	D			B			F			F		
d_I, Intersection Delay [s/veh]	108.30											
Intersection LOS	F											
Intersection V/C	0.771											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.269

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	56	100	20	10	100	10	10	108	20	10	103	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	100	20	10	100	10	10	108	20	10	103	10
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	28	6	3	27	3	3	37	7	3	29	3
Total Analysis Volume [veh/h]	63	112	22	11	110	11	14	149	28	11	117	11
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	733	723	741	724
Degree of Utilization, x	0.27	0.18	0.26	0.19

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09	0.66	1.03	0.71
95th-Percentile Queue Length [ft]	27.17	16.60	25.68	17.65
Approach Delay [s/veh]	9.72	9.09	9.54	9.15
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.42			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	21	181	40	10	251	10	10	90	60	40	60	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	181	40	10	251	10	10	90	60	40	60	20
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	50	11	3	71	3	3	26	17	13	19	6
Total Analysis Volume [veh/h]	23	201	44	11	284	11	12	104	69	50	75	25
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	682	681	653	625
Degree of Utilization, x	0.39	0.45	0.28	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.87	2.33	1.16	0.93
95th-Percentile Queue Length [ft]	46.87	58.26	29.09	23.30
Approach Delay [s/veh]	11.66	12.52	10.68	10.56
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.57			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2693	90	0	3910	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2693	90	0	3910	140	30
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	775	26	0	1003	46	10
Total Analysis Volume [veh/h]	3099	104	0	4010	184	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	93	93	93	93
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	73	73	73	10
g / C, Green / Cycle	0.78	0.78	0.78	0.11
(v / s)_i Volume / Saturation Flow Rate	0.67	0.65	0.66	0.14
s, saturation flow rate [veh/h]	3192	1648	6089	1564
c, Capacity [veh/h]	2489	1285	4748	168
d1, Uniform Delay [s]	6.82	6.41	6.61	41.55
k, delay calibration	0.04	0.20	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	2.63	0.16	182.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

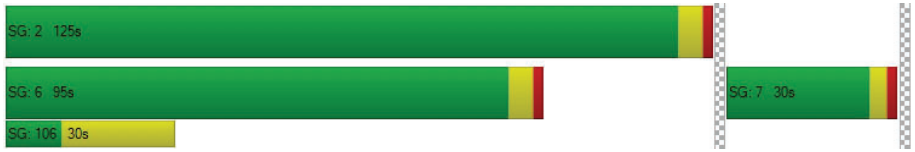
X, volume / capacity	0.86	0.83	0.84	1.33
d, Delay for Lane Group [s/veh]	7.17	9.04	6.77	224.13
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.18	9.46	8.31	12.32
50th-Percentile Queue Length [ft/ln]	229.60	236.45	207.64	307.89
95th-Percentile Queue Length [veh/ln]	14.15	14.50	13.03	19.99
95th-Percentile Queue Length [ft/ln]	353.85	362.55	325.81	499.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.75	9.04	0.00	6.77	224.13	224.13
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.79		6.77		224.13	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	13.73					
Intersection LOS	B					
Intersection V/C	0.812					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	155.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.173

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2063	630	30	240	520	10	568	540	0	0	420	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2063	630	30	240	520	10	568	540	0	0	420	240
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	607	185	9	70	151	3	142	138	0	0	130	74
Total Analysis Volume [veh/h]	2427	741	35	279	605	12	568	554	0	0	520	297
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	83	83	83	25	25	25	25
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.51	0.54	0.54	0.28	0.28	0.35	0.22
s, saturation flow rate [veh/h]	3192	1486	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1846	859	824	279	278	279	660
d1, Uniform Delay [s]	25.82	27.95	27.95	59.14	59.14	59.14	59.14
k, delay calibration	0.04	0.38	0.38	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	16.06	16.58	290.11	291.74	457.48	108.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.94	0.94	1.61	1.61	1.99	1.24
d, Delay for Lane Group [s/veh]	26.37	44.00	44.53	349.24	350.87	516.62	167.18
Lane Group LOS	C	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	22.93	28.51	27.47	32.56	32.58	45.51	14.59
50th-Percentile Queue Length [ft/ln]	573.37	712.68	686.73	813.97	814.49	1137.79	364.70
95th-Percentile Queue Length [veh/ln]	30.79	37.26	36.06	50.62	50.68	71.47	22.95
95th-Percentile Queue Length [ft/ln]	769.72	931.59	901.61	1265.59	1266.98	1786.69	573.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.49	44.53	44.53	349.24	350.87	350.87	0.00	516.62	0.00	0.00	167.18	167.18
Movement LOS	C	D	D	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	35.22			350.06			516.62			167.18		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	155.26											
Intersection LOS	F											
Intersection V/C	1.173											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	40	42	37	0	20	69	30	0	20	112	38	0	32	99	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	42	37	0	20	69	30	0	20	112	38	0	32	99	20
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	12	12	11	0	6	20	9	0	6	32	11	0	9	29	6
Total Analysis Volume [veh/h]	0	47	49	43	0	24	82	35	0	23	129	44	0	37	116	23
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	735	735	761	746
Degree of Utilization, x	0.19	0.19	0.26	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.69	0.70	1.03	0.92
95th-Percentile Queue Length [ft]	17.32	17.62	25.66	22.89
Approach Delay [s/veh]	9.03	9.05	9.37	9.32
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.21			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	42	20	10	59	10	10	60	20	30	51	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	42	20	10	59	10	10	60	20	30	51	10
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	6	3	16	3	4	21	7	9	15	3
Total Analysis Volume [veh/h]	25	53	25	11	64	11	14	85	28	36	61	12
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	675	805	683	801	698	821	682	818
Degree of Utilization, x	0.12	0.03	0.11	0.01	0.14	0.03	0.14	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.39	0.10	0.37	0.04	0.49	0.11	0.49	0.04
95th-Percentile Queue Length [ft]	9.76	2.40	9.20	1.04	12.31	2.65	12.37	1.12
Approach Delay [s/veh]	8.39		8.44		8.38		8.67	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.47							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	32	0	1183	260	310	907	0	32	1085	209	60	0	50
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	1183	260	310	907	0	32	1085	209	60	0	50
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	324	71	80	233	0	8	271	52	18	0	15
Total Analysis Volume [veh/h]	32	0	1295	285	318	932	0	32	1085	209	73	0	61
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	53	53	66	58		15	15
g / C, Green / Cycle	0.03	0.59	0.59	0.73	0.65		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.36	0.18	0.49	0.26		0.04	0.04
s, saturation flow rate [veh/h]	1810	3618	1615	644	3618		1730	1501
c, Capacity [veh/h]	56	2148	959	489	2335		294	255
d1, Uniform Delay [s]	43.00	11.57	9.02	12.08	7.61		32.37	32.31
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.32	1.26	0.79	6.58	0.51		0.16	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

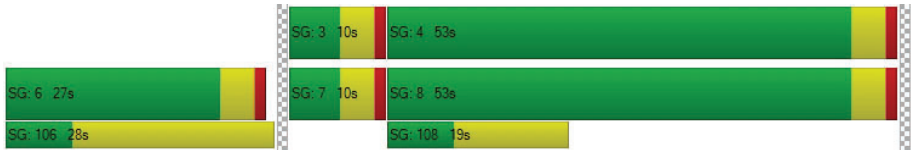
X, volume / capacity	0.57	0.60	0.30	0.65	0.40		0.25	0.24
d, Delay for Lane Group [s/veh]	46.32	12.83	9.81	18.66	8.13		32.53	32.49
Lane Group LOS	D	B	A	B	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	7.70	2.72	2.40	3.91		1.38	1.15
50th-Percentile Queue Length [ft/ln]	18.68	192.44	68.07	60.08	97.71		34.39	28.73
95th-Percentile Queue Length [veh/ln]	1.34	12.25	4.90	4.33	7.03		2.48	2.07
95th-Percentile Queue Length [ft/ln]	33.62	306.19	122.53	108.14	175.87		61.90	51.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.32	0.00	12.83	9.81	18.66	8.13	0.00	0.00	0.00	0.00	32.53	0.00	32.49
Movement LOS	D		B	A	B	A					C		C
d_A, Approach Delay [s/veh]	12.96				10.81			0.00			32.51		
Approach LOS	B				B			A			C		
d_I, Intersection Delay [s/veh]	12.94												
Intersection LOS	B												
Intersection V/C	0.468												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	49.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2560	2	341	2310	10	20	10	20	14	10	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2560	2	341	2310	10	20	10	20	14	10	390
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	743	1	87	591	3	8	4	8	4	3	117
Total Analysis Volume [veh/h]	35	2971	2	349	2363	10	32	16	32	17	12	470
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	270	270	270	270	270	270	270	270
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	7	156	55	204	204	45	45	104
g / C, Green / Cycle	0.03	0.58	0.20	0.75	0.75	0.17	0.17	0.38
(v / s)_i Volume / Saturation Flow Rate	0.02	0.57	0.19	0.43	0.43	0.06	0.02	0.29
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1896	1406	1334	1615
c, Capacity [veh/h]	45	2988	365	2728	1430	252	243	620
d1, Uniform Delay [s]	131.10	56.69	106.73	14.35	14.36	101.71	95.94	72.43
k, delay calibration	0.04	0.04	0.24	0.04	0.10	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.64	3.52	23.72	0.07	0.35	0.27	0.08	8.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

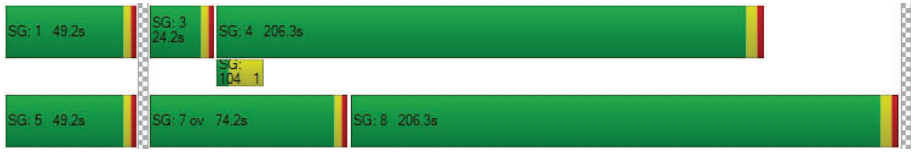
X, volume / capacity	0.78	0.99	0.96	0.57	0.57	0.32	0.12	0.76
d, Delay for Lane Group [s/veh]	141.74	60.21	130.45	14.42	14.72	101.98	96.02	80.89
Lane Group LOS	F	E	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.62	66.48	26.78	20.38	21.53	5.15	1.79	30.37
50th-Percentile Queue Length [ft/ln]	65.46	1661.92	669.60	509.48	538.32	128.82	44.64	759.29
95th-Percentile Queue Length [veh/ln]	4.71	79.85	35.27	27.78	29.14	8.88	3.21	39.41
95th-Percentile Queue Length [ft/ln]	117.83	1996.20	881.79	694.57	728.57	221.89	80.35	985.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	141.74	60.21	0.00	130.45	14.52	14.72	101.98	101.98	101.98	96.02	96.02	80.89
Movement LOS	F	E		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	61.16			29.38			101.98			81.77		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	49.59											
Intersection LOS	D											
Intersection V/C	0.949											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	127.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.062

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	323	555	78	23	389	38	40	80	251	0	52	164	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	323	555	78	23	389	38	40	80	251	0	52	164	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	86	148	21	7	111	11	11	22	69	0	16	52	22
Total Analysis Volume [veh/h]	344	591	83	26	445	43	44	88	275	0	65	206	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	57	57	10	48	48	33	33	19	0	33	33	33
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	51	51	3	43	43	28	47	28	28
g / C, Green / Cycle	0.10	0.51	0.51	0.03	0.43	0.43	0.28	0.47	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.19	0.31	0.07	0.01	0.23	0.03	0.48	0.18	0.64	0.08
s, saturation flow rate [veh/h]	1810	1900	1210	1810	1900	1303	275	1534	425	1091
c, Capacity [veh/h]	189	975	621	47	827	567	126	725	165	308
d1, Uniform Delay [s]	44.78	17.18	12.71	48.09	20.81	16.48	34.18	16.94	32.22	27.97
k, delay calibration	0.39	0.50	0.50	0.04	0.50	0.50	0.50	0.09	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	386.71	2.79	0.45	3.65	2.50	0.26	94.04	0.26	316.17	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

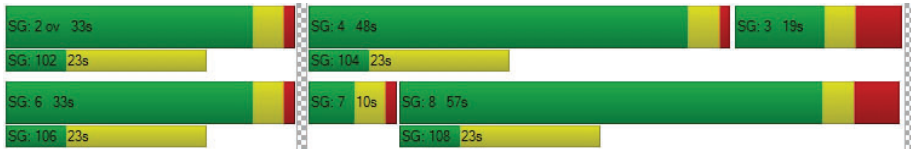
X, volume / capacity	1.82	0.61	0.13	0.55	0.54	0.08	1.05	0.38	1.65	0.28
d, Delay for Lane Group [s/veh]	431.48	19.97	13.15	51.74	23.31	16.74	128.22	17.20	348.40	28.16
Lane Group LOS	F	B	B	D	C	B	F	B	F	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	24.89	9.89	1.03	0.69	8.02	0.61	6.45	4.06	17.49	1.60
50th-Percentile Queue Length [ft/ln]	622.16	247.22	25.64	17.14	200.57	15.27	161.14	101.58	437.27	40.10
95th-Percentile Queue Length [veh/ln]	39.50	15.05	1.85	1.23	12.67	1.10	10.88	7.31	30.00	2.89
95th-Percentile Queue Length [ft/ln]	987.62	376.15	46.16	30.85	316.71	27.49	271.97	182.85	750.02	72.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	431.48	19.97	13.15	51.74	23.31	16.74	128.22	128.22	17.20	348.4	348.4	348.4	28.16
Movement LOS	F	B	B	D	C	B	F	F	B	F	F	F	C
d_A, Approach Delay [s/veh]	158.47			24.20			53.21			270.57			
Approach LOS	F			C			D			F			
d_I, Intersection Delay [s/veh]	127.25												
Intersection LOS	F												
Intersection V/C	1.062												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	52.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	542	282	0	183	480	0	323	354
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	542	282	0	183	480	0	323	354
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	147	76	0	48	127	0	93	102
Total Analysis Volume [veh/h]	0	586	305	0	193	506	0	372	408
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.22	0.20	0.14	0.21	0.15	0.24
s, saturation flow rate [veh/h]	1900	1729	1370	976	3618	1299	1686	1064
c, Capacity [veh/h]	1134	999	791	714	2509	226	294	186
d1, Uniform Delay [s]	10.63	10.63	11.47	5.71	5.46	41.27	40.24	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.27	0.09	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.59	0.70	1.42	0.93	0.18	109.20	7.13	182.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

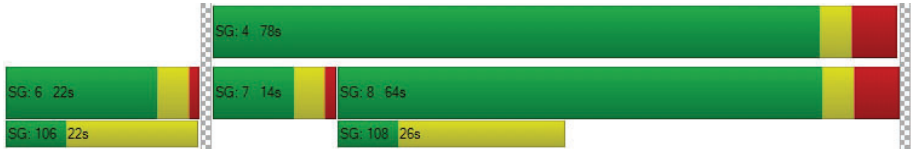
X, volume / capacity	0.27	0.28	0.39	0.27	0.20	1.19	0.88	1.35
d, Delay for Lane Group [s/veh]	11.22	11.33	12.88	6.64	5.64	150.47	47.37	223.73
Lane Group LOS	B	B	B	A	A	F	D	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.42	3.14	3.78	1.40	1.72	12.37	6.70	13.91
50th-Percentile Queue Length [ft/ln]	85.45	78.39	94.46	34.97	42.90	309.22	167.51	347.79
95th-Percentile Queue Length [veh/ln]	6.15	5.64	6.80	2.52	3.09	19.65	10.95	22.70
95th-Percentile Queue Length [ft/ln]	153.81	141.10	170.03	62.94	77.23	491.31	273.64	567.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.22	11.27	12.88	6.64	6.64	5.64	150.47	120.43	158.58
Movement LOS	B	B	B	A	A	A	F	F	F
d_A, Approach Delay [s/veh]	11.82			5.91			139.90		
Approach LOS	B			A			F		
d_I, Intersection Delay [s/veh]	52.23								
Intersection LOS	D								
Intersection V/C	0.501								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	753	100	60	813	50	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	753	100	60	813	50	120
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	207	27	16	216	15	35
Total Analysis Volume [veh/h]	828	110	64	864	59	142
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.23	0.08	0.10	0.24	0.12
s, saturation flow rate [veh/h]	3618	1339	668	3618	1668
c, Capacity [veh/h]	2236	827	393	2236	417
d1, Uniform Delay [s]	9.45	7.94	14.88	9.57	31.96
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.33	0.89	0.51	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

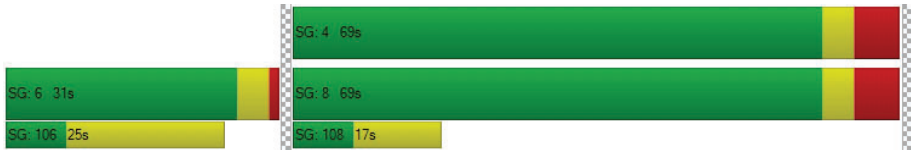
X, volume / capacity	0.37	0.13	0.16	0.39	0.48
d, Delay for Lane Group [s/veh]	9.92	8.27	15.77	10.08	32.28
Lane Group LOS	A	A	B	B	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	4.29	1.00	0.91	4.53	4.09
50th-Percentile Queue Length [ft/ln]	107.19	25.02	22.80	113.36	102.18
95th-Percentile Queue Length [veh/ln]	7.68	1.80	1.64	8.03	7.36
95th-Percentile Queue Length [ft/ln]	192.08	45.04	41.04	200.67	183.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.92	8.27	15.77	10.08	32.28	32.28
Movement LOS	A	A	B	B	C	C
d_A, Approach Delay [s/veh]	9.73		10.47		32.28	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.25					
Intersection LOS	B					
Intersection V/C	0.359					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	33.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	773	200	100	773	170	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	773	200	100	773	170	100
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	218	56	29	221	47	28
Total Analysis Volume [veh/h]	871	225	114	883	187	110
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.24	0.17	0.14	0.24	0.22	0.09
s, saturation flow rate [veh/h]	3618	1296	804	3618	832	1238
c, Capacity [veh/h]	2190	785	610	2618	120	325
d1, Uniform Delay [s]	10.25	9.42	5.00	5.05	42.78	29.83
k, delay calibration	0.50	0.50	0.50	0.50	0.33	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.92	0.68	0.35	275.91	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

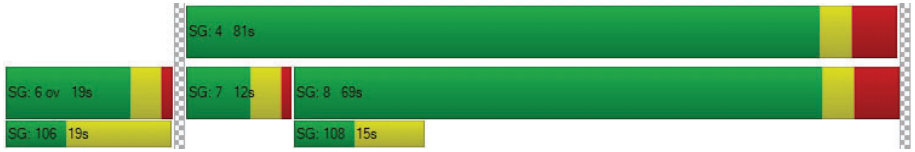
X, volume / capacity	0.40	0.29	0.19	0.34	1.56	0.34
d, Delay for Lane Group [s/veh]	10.80	10.34	5.68	5.40	318.69	30.06
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.81	2.40	0.70	2.92	12.13	2.14
50th-Percentile Queue Length [ft/ln]	120.17	60.10	17.42	73.05	303.31	53.57
95th-Percentile Queue Length [veh/ln]	8.40	4.33	1.25	5.26	20.75	3.86
95th-Percentile Queue Length [ft/ln]	210.06	108.18	31.36	131.49	518.80	96.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.80	10.34	5.68	5.40	318.69	30.06
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.70		5.43		211.79	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	33.49					
Intersection LOS	C					
Intersection V/C	0.489					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	40	835	142	67	843	90	50	13	120	160	50	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	835	142	67	843	90	50	13	120	160	50	170
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	234	41	18	221	24	15	6	35	45	14	48
Total Analysis Volume [veh/h]	45	937	165	71	885	95	59	24	141	180	56	191
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	78	78	69	69	13	24	24
g / C, Green / Cycle	0.52	0.52	0.46	0.46	0.09	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.27	0.12	0.13	0.14
s, saturation flow rate [veh/h]	691	3618	1900	1825	1668	1830	1325
c, Capacity [veh/h]	314	1882	876	841	149	289	209
d1, Uniform Delay [s]	20.99	23.28	29.33	29.76	68.27	61.02	62.10
k, delay calibration	0.06	0.50	0.50	0.50	0.50	0.09	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.94	2.57	2.94	191.57	4.66	18.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

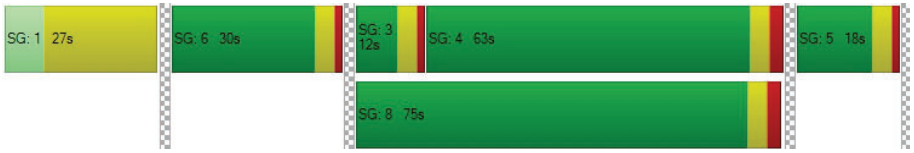
X, volume / capacity	0.14	0.50	0.56	0.58	1.34	0.82	0.91
d, Delay for Lane Group [s/veh]	21.11	24.23	31.90	32.69	259.84	65.68	80.30
Lane Group LOS	C	C	C	C	F	E	F
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	11.06	13.54	13.79	13.64	9.16	8.29
50th-Percentile Queue Length [ft/ln]	19.98	276.38	338.41	344.63	340.96	228.93	207.31
95th-Percentile Queue Length [veh/ln]	1.44	16.51	19.57	19.87	21.75	14.12	13.02
95th-Percentile Queue Length [ft/ln]	35.96	412.70	489.26	496.85	543.72	353.00	325.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.11	24.23	0.00	0.00	32.26	32.69	259.84	0.00	259.84	65.68	65.68	80.30
Movement LOS	C	C			C	C	F		F	E	E	F
d_A, Approach Delay [s/veh]	24.08			32.30			259.84			72.22		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	53.34											
Intersection LOS	D											
Intersection V/C	0.546											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	320	725	1023	80	120	670
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	725	1023	80	120	670
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	190	262	21	31	175
Total Analysis Volume [veh/h]	336	761	1050	82	125	698
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	79	79	79	14	32
g / C, Green / Cycle	0.11	0.66	0.66	0.66	0.12	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.21	0.29	0.06	0.10	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1344	1231	2859
c, Capacity [veh/h]	401	2372	2372	881	142	765
d1, Uniform Delay [s]	52.04	9.00	10.01	7.57	52.25	42.56
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.82	0.36	0.60	0.21	6.75	1.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

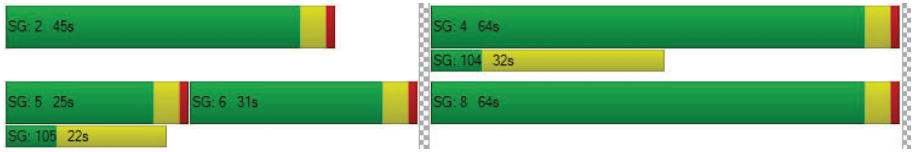
X, volume / capacity	0.84	0.32	0.44	0.09	0.88	0.91
d, Delay for Lane Group [s/veh]	53.86	9.36	10.61	7.78	59.01	44.44
Lane Group LOS	D	A	B	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.05	4.26	6.55	0.80	4.15	10.76
50th-Percentile Queue Length [ft/ln]	126.25	106.40	163.75	20.03	103.83	268.94
95th-Percentile Queue Length [veh/ln]	8.74	7.64	10.75	1.44	7.48	16.14
95th-Percentile Queue Length [ft/ln]	218.38	190.98	268.68	36.05	186.89	403.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.86	9.36	10.61	7.78	59.01	44.44
Movement LOS	D	A	B	A	E	D
d_A, Approach Delay [s/veh]	22.99		10.41		46.65	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.70					
Intersection LOS	C					
Intersection V/C	0.534					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	40	110	40	0	270	0	140	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	40	110	40	0	270	0	140	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	13	36	13	0	71	0	38	59
Total Analysis Volume [veh/h]	0	0	0	0	53	146	53	0	285	0	150	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.41	0.41	0.41	0.51	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate		0.04	0.05	0.06	0.22	0.08	0.16
s, saturation flow rate [veh/h]		1197	1900	1535	1301	1900	1458
c, Capacity [veh/h]		482	785	634	708	975	748
d1, Uniform Delay [s]		26.30	21.82	22.05	17.29	15.43	16.96
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.46	0.34	0.51	1.70	0.34	1.10
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.11	0.13	0.15	0.40	0.15	0.32
d, Delay for Lane Group [s/veh]		26.76	22.16	22.56	18.99	15.77	18.06
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		1.09	1.84	1.80	4.77	2.23	3.92
50th-Percentile Queue Length [ft/ln]		27.14	45.99	45.01	119.25	55.65	98.03
95th-Percentile Queue Length [veh/ln]		1.95	3.31	3.24	8.35	4.01	7.06
95th-Percentile Queue Length [ft/ln]		48.84	82.78	81.02	208.80	100.17	176.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	26.76	22.28	22.56	0.00	18.99	0.00	15.77	18.06
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.28				17.94			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.71											
Intersection LOS	D											
Intersection V/C	0.553											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	20	675	140	220	1263	0	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	675	140	220	1263	0	50
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	179	37	61	350	0	13
Total Analysis Volume [veh/h]	0	21	716	149	244	1401	0	52
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	49	49	49
g / C, Green / Cycle	0.26	0.26	0.26	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.12	0.22	0.38	0.39
s, saturation flow rate [veh/h]	372	3618	1244	1086	1900	1854
c, Capacity [veh/h]	60	949	327	400	779	760
d1, Uniform Delay [s]	59.98	40.69	37.07	27.09	33.86	34.26
k, delay calibration	0.04	0.04	0.04	0.05	0.35	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.29	0.47	0.37	0.67	15.16	19.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

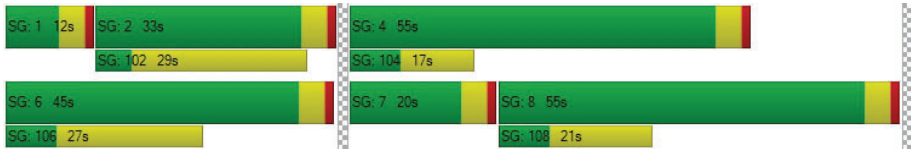
X, volume / capacity	0.35	0.75	0.46	0.61	0.94	0.95
d, Delay for Lane Group [s/veh]	61.27	41.15	37.44	27.76	49.02	53.81
Lane Group LOS	E	D	D	C	D	D
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.66	9.75	3.71	4.81	23.11	24.08
50th-Percentile Queue Length [ft/ln]	16.52	243.64	92.66	120.18	577.68	601.97
95th-Percentile Queue Length [veh/ln]	1.19	14.87	6.67	8.40	30.99	32.13
95th-Percentile Queue Length [ft/ln]	29.74	371.63	166.78	210.07	774.76	803.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	61.27	41.15	37.44	27.76	51.32	0.00	53.81
Movement LOS		E	D	D	C	D		D
d_A, Approach Delay [s/veh]	41.01				48.01			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.71							
Intersection LOS	D							
Intersection V/C	0.553							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	142.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.105

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	47	96	111	0	69	97	46	0	55	271	46	0	120	376	174
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	47	96	111	0	69	97	46	0	55	271	46	0	120	376	174
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	13	26	30	0	19	26	12	0	16	78	13	0	31	97	45
Total Analysis Volume [veh/h]	0	50	102	118	0	75	105	50	0	63	312	53	0	124	388	180
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.91	0.07	0.20	0.12	0.16	0.16
s, saturation flow rate [veh/h]	1251	1706	254	857	1845	1033	1900	1661
c, Capacity [veh/h]	73	265	85	367	872	399	898	785
d1, Uniform Delay [s]	50.02	40.99	44.99	23.18	17.35	26.57	16.51	16.61
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.18	2.60	807.07	1.01	1.48	2.03	1.00	1.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.83	2.72	0.17	0.42	0.31	0.33	0.34
d, Delay for Lane Group [s/veh]	54.19	43.59	852.07	24.19	18.83	28.60	17.51	17.81
Lane Group LOS	D	D	F	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.32	5.34	21.03	1.14	5.70	2.49	4.41	4.04
50th-Percentile Queue Length [ft/ln]	32.96	133.45	525.76	28.59	142.61	62.30	110.26	100.98
95th-Percentile Queue Length [veh/ln]	2.37	9.13	35.82	2.06	9.62	4.49	7.85	7.27
95th-Percentile Queue Length [ft/ln]	59.32	228.18	895.41	51.46	240.54	112.14	196.37	181.76

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.19	54.19	43.59	43.59	852.0	852.0	852.0	852.0	24.19	24.19	18.83	18.83	28.60	28.60	17.58	17.81
Movement LOS	D	D	D	D	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	45.56				852.07				19.62				19.61			
Approach LOS	D				F				B				B			
d_I, Intersection Delay [s/veh]	142.13															
Intersection LOS	F															
Intersection V/C	1.105															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	50	263	100	80	163	30	30	140	60	50	120	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	263	100	80	163	30	30	140	60	50	120	110
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	69	26	24	48	9	9	43	18	14	34	31
Total Analysis Volume [veh/h]	53	278	106	95	193	35	37	173	74	57	136	125
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	25	45	45
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.05	0.15	0.07	0.08	0.12	0.17	0.29
s, saturation flow rate [veh/h]	1171	1900	1547	1119	1834	1626	1100
c, Capacity [veh/h]	223	480	391	191	464	765	532
d1, Uniform Delay [s]	39.77	32.71	29.98	43.61	31.89	18.27	21.64
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	0.41	0.14	0.74	0.30	1.38	4.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

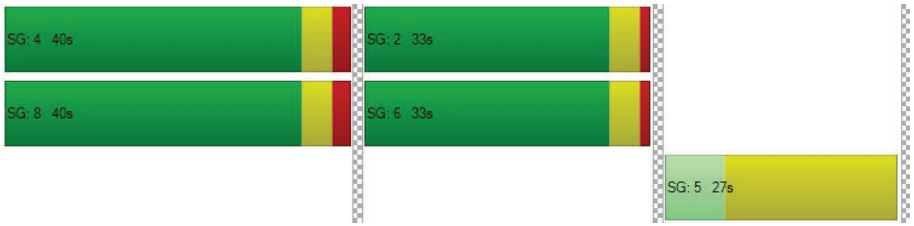
X, volume / capacity	0.24	0.58	0.27	0.50	0.49	0.37	0.60
d, Delay for Lane Group [s/veh]	39.98	33.12	30.11	44.35	32.19	19.65	26.53
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	5.81	2.02	2.29	4.64	4.44	6.32
50th-Percentile Queue Length [ft/ln]	29.61	145.15	50.61	57.35	115.92	110.90	157.98
95th-Percentile Queue Length [veh/ln]	2.13	9.76	3.64	4.13	8.17	7.89	10.44
95th-Percentile Queue Length [ft/ln]	53.30	243.94	91.10	103.24	204.21	197.26	261.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.98	33.12	30.11	44.35	32.19	32.19	19.65	19.65	19.65	26.53	26.53	26.53
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	33.22			35.76			19.65			26.53		
Approach LOS	C			D			B			C		
d_I, Intersection Delay [s/veh]	29.43											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	155.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.331

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	143	90	50	143	10	10	210	30	170	250	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	143	90	50	143	10	10	210	30	170	250	170
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	40	25	14	40	3	3	57	8	49	72	49
Total Analysis Volume [veh/h]	34	161	101	56	159	11	11	227	32	195	287	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	16	53	53	53	53
g / C, Green / Cycle	0.16	0.16	0.16	0.16	0.16	0.53	0.53	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.03	0.08	0.13	0.04	0.09	0.23	0.02	1.21	0.12
s, saturation flow rate [veh/h]	1234	1900	800	1245	1870	1054	1571	400	1582
c, Capacity [veh/h]	143	311	131	151	306	601	840	264	846
d1, Uniform Delay [s]	45.66	38.23	40.04	45.88	38.49	19.41	11.06	28.39	12.36
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.50	3.62	0.56	0.59	1.95	0.08	385.00	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

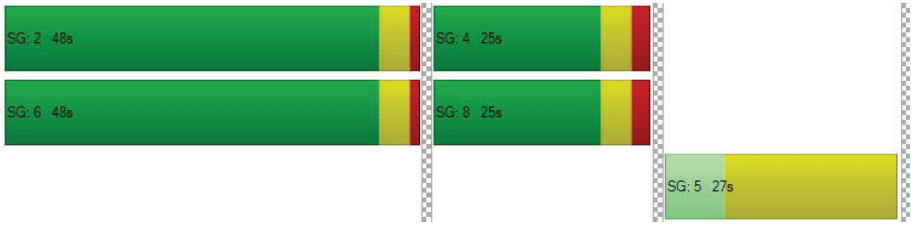
X, volume / capacity	0.24	0.52	0.77	0.37	0.56	0.40	0.04	1.82	0.23
d, Delay for Lane Group [s/veh]	45.97	38.73	43.67	46.44	39.08	21.36	11.15	413.39	13.00
Lane Group LOS	D	D	D	D	D	C	B	F	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.82	3.58	2.46	1.37	3.81	3.66	0.35	34.85	2.39
50th-Percentile Queue Length [ft/ln]	20.46	89.54	61.42	34.13	95.30	91.59	8.71	871.29	59.65
95th-Percentile Queue Length [veh/ln]	1.47	6.45	4.42	2.46	6.86	6.59	0.63	59.99	4.29
95th-Percentile Queue Length [ft/ln]	36.84	161.18	110.56	61.44	171.53	164.87	15.67	1499.75	107.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.97	38.73	43.67	46.44	39.08	39.08	21.36	21.36	11.15	413.39	413.39	13.00
Movement LOS	D	D	D	D	D	D	C	C	B	F	F	B
d_A, Approach Delay [s/veh]	41.24			40.90			20.15			298.06		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	155.67											
Intersection LOS	F											
Intersection V/C	1.331											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	50	181	180	81	311	20	20	100	170	150	268	292
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	181	180	81	311	20	20	100	170	150	268	292
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	54	53	22	83	5	5	26	44	43	77	84
Total Analysis Volume [veh/h]	59	215	213	87	333	21	21	105	178	173	309	337
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.06	0.11	0.14	0.07	0.19	0.02	0.17	0.16	0.16	0.22
s, saturation flow rate [veh/h]	1043	1900	1473	1185	1876	1087	1673	1114	1900	1559
c, Capacity [veh/h]	125	464	360	225	459	397	724	399	823	675
d1, Uniform Delay [s]	47.75	32.18	33.37	40.89	35.18	25.09	19.35	29.56	19.20	20.51
k, delay calibration	0.04	0.04	0.04	0.04	0.10	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	0.27	0.58	0.40	2.51	0.25	1.58	3.42	1.31	2.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

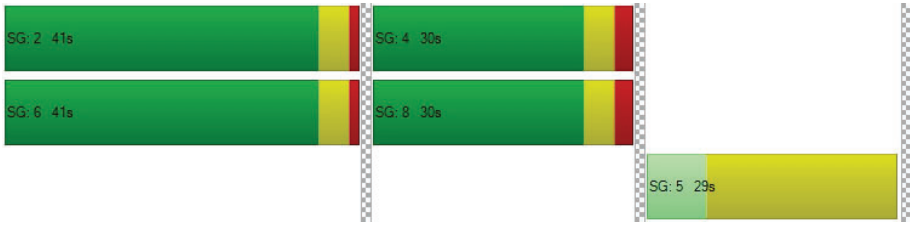
X, volume / capacity	0.47	0.46	0.59	0.39	0.77	0.05	0.39	0.43	0.38	0.50
d, Delay for Lane Group [s/veh]	48.78	32.45	33.95	41.29	37.69	25.34	20.93	32.97	20.51	23.13
Lane Group LOS	D	C	C	D	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.49	4.37	4.51	2.00	8.12	0.38	4.62	3.76	4.96	5.92
50th-Percentile Queue Length [ft/ln]	37.28	109.25	112.77	50.10	203.07	9.46	115.48	93.96	123.96	148.01
95th-Percentile Queue Length [veh/ln]	2.68	7.80	7.99	3.61	12.80	0.68	8.14	6.77	8.61	9.91
95th-Percentile Queue Length [ft/ln]	67.10	194.95	199.86	90.19	319.93	17.02	203.60	169.13	215.25	247.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.78	32.45	33.95	41.29	37.69	37.69	25.34	20.93	20.93	32.97	20.51	23.13
Movement LOS	D	C	C	D	D	D	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	35.08			38.40			21.24			24.22		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	29.41											
Intersection LOS	C											
Intersection V/C	0.405											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	37.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	341	0	29	411	50	66	90	0	150	310	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	341	0	29	411	50	66	90	0	150	310	180
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	92	0	8	110	13	20	27	0	40	82	48
Total Analysis Volume [veh/h]	11	366	0	31	442	54	79	108	0	159	329	191
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	33	33	33	33		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.20	0.24	0.04		0.20	0.20
s, saturation flow rate [veh/h]	944	1863	1863	1401		1860	1524
c, Capacity [veh/h]	88	512	512	385		895	734
d1, Uniform Delay [s]	57.15	39.23	41.33	32.78		20.12	20.27
k, delay calibration	0.04	0.15	0.50	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.23	2.60	17.12	0.06		1.40	1.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.71	0.86	0.14		0.41	0.42
d, Delay for Lane Group [s/veh]	57.38	41.82	58.45	32.85		21.51	22.06
Lane Group LOS	E	D	E	C		C	C
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	10.07	14.64	1.19		7.05	6.07
50th-Percentile Queue Length [ft/ln]	8.34	251.68	366.10	29.74		176.29	151.78
95th-Percentile Queue Length [veh/ln]	0.60	15.27	20.92	2.14		11.41	10.11
95th-Percentile Queue Length [ft/ln]	15.02	381.77	522.99	53.53		285.16	252.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.38	41.82	0.00	0.00	58.45	32.85	0.00	0.00	0.00	21.51	21.71	22.06
Movement LOS	E	D			E	C				C	C	C
d_A, Approach Delay [s/veh]	42.28			55.66			0.00			21.76		
Approach LOS	D			E			A			C		
d_I, Intersection Delay [s/veh]	37.58											
Intersection LOS	D											
Intersection V/C	0.441											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	90	60	0	606	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	60	0	606	80
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	30	20	0	168	22
Total Analysis Volume [veh/h]	0	0	0	0	120	80	0	671	89
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	9	9	55	55
g / C, Green / Cycle	0.55	0.55	0.09	0.09	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.07	0.05	0.21	0.22
s, saturation flow rate [veh/h]	717	1900	1810	1583	1900	1645
c, Capacity [veh/h]	358	1046	157	137	1082	906
d1, Uniform Delay [s]	0.00	0.00	44.65	43.90	12.83	12.86
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.92	1.46	0.99	1.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.77	0.58	0.37	0.39
d, Delay for Lane Group [s/veh]	0.00	0.00	47.57	45.36	13.83	14.14
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.99	1.93	5.24	4.65
50th-Percentile Queue Length [ft/ln]	0.00	0.00	74.70	48.28	131.03	116.13
95th-Percentile Queue Length [veh/ln]	0.00	0.00	5.38	3.48	9.00	8.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	134.46	86.90	224.89	204.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.57	47.57	45.36	13.83	13.95	14.14
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.69			13.97		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	20.79								
Intersection LOS	C								
Intersection V/C	0.282								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	160	60	60	181	40	20	220	20	60	231	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	160	60	60	181	40	20	220	20	60	231	80
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	42	16	17	51	11	6	68	6	16	63	22
Total Analysis Volume [veh/h]	21	168	63	68	205	45	25	272	25	65	250	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	11	11	15	15
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.04	0.06	0.11	0.03	0.18	0.25
s, saturation flow rate [veh/h]	1169	1900	1415	1171	1900	1486	1802	1637
c, Capacity [veh/h]	408	591	440	428	591	462	874	813
d1, Uniform Delay [s]	12.09	8.99	8.58	12.09	9.19	8.45	6.96	7.48
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.10	0.05	0.06	0.13	0.03	0.10	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

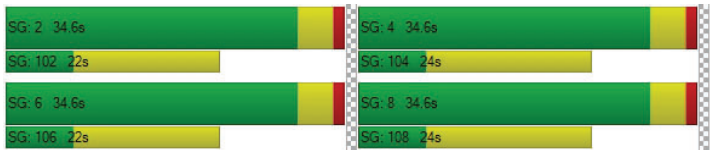
X, volume / capacity	0.05	0.28	0.14	0.16	0.35	0.10	0.37	0.49
d, Delay for Lane Group [s/veh]	12.10	9.09	8.63	12.16	9.32	8.48	7.06	7.65
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.11	0.66	0.24	0.36	0.87	0.18	1.15	1.43
50th-Percentile Queue Length [ft/ln]	2.63	16.42	5.90	9.01	21.82	4.41	28.66	35.67
95th-Percentile Queue Length [veh/ln]	0.19	1.18	0.42	0.65	1.57	0.32	2.06	2.57
95th-Percentile Queue Length [ft/ln]	4.74	29.56	10.62	16.22	39.27	7.93	51.59	64.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.10	9.09	8.63	12.16	9.32	8.48	7.06	7.06	7.06	7.65	7.65	7.65
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.22			9.81			7.06			7.65		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.34											
Intersection LOS	A											
Intersection V/C	0.353											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.331

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	80	220	40	20	250	11	11	125	72	40	171	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	220	40	20	250	11	11	125	72	40	171	40
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	65	12	5	67	3	3	37	21	11	47	11
Total Analysis Volume [veh/h]	95	261	47	22	269	12	13	147	85	44	189	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	33	33	33	33	33	33
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	13	13	13	13	11	11
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.02	0.15	0.14	0.16
s, saturation flow rate [veh/h]	1087	1809	1046	1877	1719	1720
c, Capacity [veh/h]	470	713	441	740	681	693
d1, Uniform Delay [s]	10.74	7.38	10.49	7.20	8.72	8.85
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.15	0.02	0.12	0.12	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

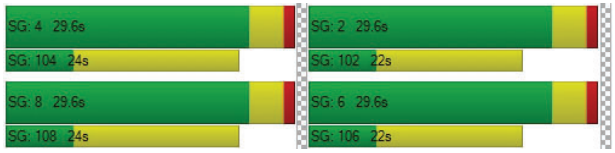
X, volume / capacity	0.20	0.43	0.05	0.38	0.36	0.40
d, Delay for Lane Group [s/veh]	10.82	7.53	10.51	7.32	8.84	8.99
Lane Group LOS	B	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.42	0.95	0.10	0.84	1.36	1.04
50th-Percentile Queue Length [ft/ln]	10.58	23.77	2.38	21.10	33.88	26.08
95th-Percentile Queue Length [veh/ln]	0.76	1.71	0.17	1.52	2.44	1.88
95th-Percentile Queue Length [ft/ln]	19.05	42.78	4.28	37.97	60.98	46.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.82	7.53	7.53	10.51	7.32	7.32	8.84	8.84	8.84	8.99	8.99	8.99
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.30			7.55			8.84			8.99		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.38											
Intersection LOS	A											
Intersection V/C	0.331											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	39.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	68	170	170	90	272	10	29	451	101	90	628	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	170	170	90	272	10	29	451	101	90	628	141
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	55	55	24	73	3	8	120	27	25	173	39
Total Analysis Volume [veh/h]	88	220	220	97	293	11	31	480	107	99	693	156
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.14	0.08	0.15	0.01	0.05	0.32	0.09	0.23	0.23
s, saturation flow rate [veh/h]	1103	1900	1577	1179	1900	1581	660	1832	1045	1900	1761
c, Capacity [veh/h]	101	368	306	152	368	307	164	607	303	844	783
d1, Uniform Delay [s]	49.70	36.83	37.85	47.30	38.51	32.80	38.99	32.99	22.12	20.11	20.18
k, delay calibration	0.04	0.04	0.04	0.04	0.08	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.62	0.58	1.20	1.65	2.85	0.02	2.56	29.33	0.23	2.28	2.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

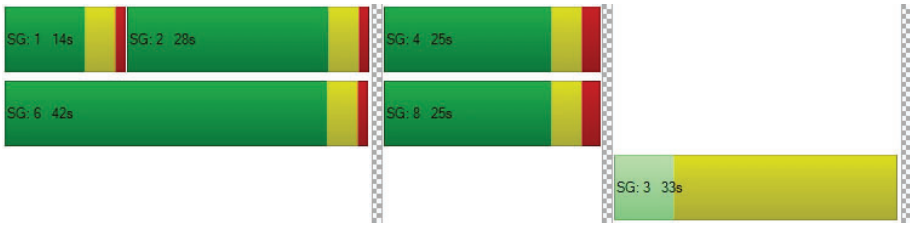
X, volume / capacity	0.87	0.60	0.72	0.64	0.80	0.04	0.19	0.97	0.33	0.52	0.52
d, Delay for Lane Group [s/veh]	58.32	37.41	39.05	48.95	41.36	32.82	41.54	62.32	22.35	22.39	22.69
Lane Group LOS	E	D	D	D	D	C	D	E	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.42	4.86	5.04	2.47	6.98	0.22	0.80	18.50	1.34	7.70	7.28
50th-Percentile Queue Length [ft/ln]	60.38	121.58	125.95	61.65	174.50	5.38	20.02	462.61	33.41	192.42	182.03
95th-Percentile Queue Length [veh/ln]	4.35	8.48	8.72	4.44	11.31	0.39	1.44	25.56	2.41	12.25	11.71
95th-Percentile Queue Length [ft/ln]	108.68	212.00	217.98	110.97	282.83	9.69	36.04	638.98	60.13	306.16	292.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.32	37.41	39.05	48.95	41.36	32.82	41.54	62.32	62.32	22.35	22.50	22.69
Movement LOS	E	D	D	D	D	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	41.58			42.96			61.28			22.51		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	39.44											
Intersection LOS	D											
Intersection V/C	0.510											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	70.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	30	328	60	40	474	40	20	150	210	80	250	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	328	60	40	474	40	20	150	210	80	250	60
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	93	17	13	152	13	6	43	60	22	69	17
Total Analysis Volume [veh/h]	34	370	68	51	608	51	23	170	239	89	277	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	39	39	39	39	39	39	28	28
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.19	0.04	0.05	0.18	0.18	0.26	0.45
s, saturation flow rate [veh/h]	787	1900	1554	1028	1900	1838	1670	956
c, Capacity [veh/h]	258	746	610	298	746	721	513	315
d1, Uniform Delay [s]	30.49	22.91	19.29	32.04	22.38	22.41	34.38	36.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.31	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.06	2.35	0.37	1.24	1.94	2.03	10.20	185.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

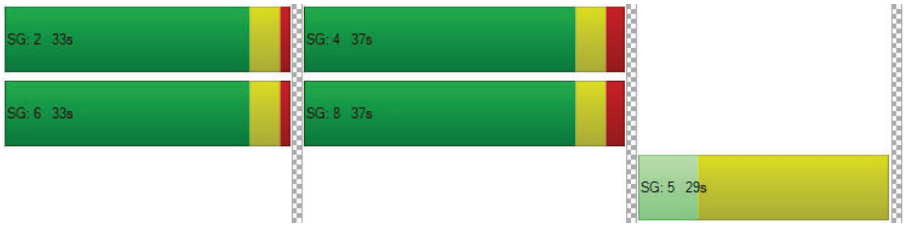
X, volume / capacity	0.13	0.50	0.11	0.17	0.45	0.45	0.84	1.37
d, Delay for Lane Group [s/veh]	31.54	25.26	19.66	33.28	24.31	24.45	44.57	222.17
Lane Group LOS	C	C	B	C	C	C	D	F
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.72	6.80	1.04	1.10	5.96	5.84	11.33	24.03
50th-Percentile Queue Length [ft/ln]	17.96	170.02	26.00	27.45	149.08	145.99	283.37	600.73
95th-Percentile Queue Length [veh/ln]	1.29	11.08	1.87	1.98	9.97	9.80	16.86	37.68
95th-Percentile Queue Length [ft/ln]	32.33	276.94	46.79	49.42	249.21	245.07	421.40	941.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.54	25.26	19.66	33.28	24.37	24.45	44.57	44.57	44.57	222.17	222.17	222.17
Movement LOS	C	C	B	C	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.90			25.02			44.57			222.17		
Approach LOS	C			C			D			F		
d_I, Intersection Delay [s/veh]	70.75											
Intersection LOS	E											
Intersection V/C	0.647											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	120	308	70	170	554	80	0	220	120	0	400	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	308	70	170	554	80	0	220	120	0	400	100
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	93	21	46	149	22	0	59	32	0	114	28
Total Analysis Volume [veh/h]	145	373	85	183	598	86	0	238	130	0	456	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	51	51	51	51	51	51	18	18	18	18
g / C, Green / Cycle	0.51	0.51	0.51	0.51	0.51	0.51	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.19	0.20	0.05	0.18	0.18	0.19	0.13	0.08	0.15	0.16
s, saturation flow rate [veh/h]	769	1900	1583	1025	1900	1806	1900	1560	1900	1756
c, Capacity [veh/h]	359	976	813	445	976	928	348	286	348	322
d1, Uniform Delay [s]	24.24	14.71	12.49	24.61	14.49	14.51	38.12	36.38	39.23	39.81
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.36	1.14	0.26	2.79	1.03	1.09	0.89	0.42	1.84	3.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.38	0.10	0.41	0.36	0.36	0.68	0.45	0.82	0.89
d, Delay for Lane Group [s/veh]	27.60	15.85	12.75	27.40	15.51	15.60	39.02	36.80	41.07	43.11
Lane Group LOS	C	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.89	5.12	0.99	3.58	4.72	4.54	5.48	2.84	6.82	7.03
50th-Percentile Queue Length [ft/ln]	72.20	128.05	24.75	89.53	118.01	113.49	136.89	71.06	170.48	175.84
95th-Percentile Queue Length [veh/ln]	5.20	8.83	1.78	6.45	8.28	8.03	9.31	5.12	11.10	11.38
95th-Percentile Queue Length [ft/ln]	129.95	220.85	44.55	161.15	207.09	200.84	232.84	127.91	277.55	284.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.60	15.85	12.75	27.40	15.55	15.60	0.00	39.02	36.80	0.00	41.83	43.11
Movement LOS	C	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	18.24			18.05			38.23			42.09		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	26.87											
Intersection LOS	C											
Intersection V/C	0.359											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	45.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	118	518	190	70	584	70	0	271	120	150	402	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	518	190	70	584	70	0	271	120	150	402	110
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	150	55	22	188	22	0	75	33	43	115	31
Total Analysis Volume [veh/h]	136	599	220	90	751	90	0	302	134	172	460	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	43	43	55	39	39	21	36	33	33	33
g / C, Green / Cycle	0.09	0.36	0.36	0.46	0.33	0.33	0.18	0.30	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.08	0.32	0.14	0.09	0.23	0.23	0.16	0.09	0.13	0.24	0.08
s, saturation flow rate [veh/h]	1810	1900	1565	999	1900	1817	1900	1560	1311	1900	1568
c, Capacity [veh/h]	163	687	566	295	622	595	333	474	283	524	433
d1, Uniform Delay [s]	53.78	35.77	28.50	24.82	35.09	35.16	48.56	31.85	36.52	41.57	34.26
k, delay calibration	0.05	0.50	0.50	0.50	0.50	0.50	0.12	0.04	0.40	0.25	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.40	14.32	2.01	2.66	6.14	6.54	10.02	0.12	7.67	10.34	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

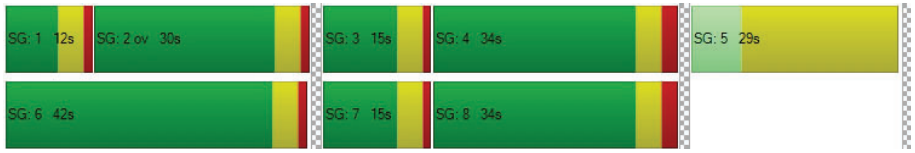
X, volume / capacity	0.83	0.87	0.39	0.31	0.69	0.69	0.91	0.28	0.61	0.88	0.29
d, Delay for Lane Group [s/veh]	59.18	50.09	30.51	27.48	41.23	41.70	58.58	31.97	44.19	51.91	34.39
Lane Group LOS	E	D	C	C	D	D	E	C	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.25	18.62	4.96	1.64	11.75	11.39	9.77	3.00	4.60	14.29	2.90
50th-Percentile Queue Length [ft/ln]	106.21	465.44	124.12	41.02	293.66	284.77	244.27	74.91	115.12	357.20	72.55
95th-Percentile Queue Length [veh/ln]	7.63	25.69	8.62	2.95	17.37	16.93	14.90	5.39	8.12	20.49	5.22
95th-Percentile Queue Length [ft/ln]	190.71	642.35	215.47	73.83	434.18	423.15	372.43	134.84	203.10	512.17	130.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.18	50.09	30.51	27.48	41.43	41.70	0.00	58.58	31.97	44.19	51.91	34.39
Movement LOS	E	D	C	C	D	D		E	C	D	D	C
d_A, Approach Delay [s/veh]	46.87			40.11			50.40			47.25		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.42											
Intersection LOS	D											
Intersection V/C	0.588											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	200	696	0	0	684	130	181	0	84	220	110	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	696	0	0	684	130	181	0	84	220	110	50
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	208	0	0	189	36	52	0	24	60	30	14
Total Analysis Volume [veh/h]	239	832	0	0	755	143	208	0	96	242	121	55
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	73	73	59	59		18	18
g / C, Green / Cycle	0.61	0.61	0.49	0.49		0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.29	0.23	0.24	0.25		0.13	0.11
s, saturation flow rate [veh/h]	828	3618	1900	1770		1810	1627
c, Capacity [veh/h]	476	2188	925	861		274	247
d1, Uniform Delay [s]	14.00	12.17	20.72	21.20		49.87	48.45
k, delay calibration	0.32	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.43	0.50	1.82	2.25		3.68	1.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

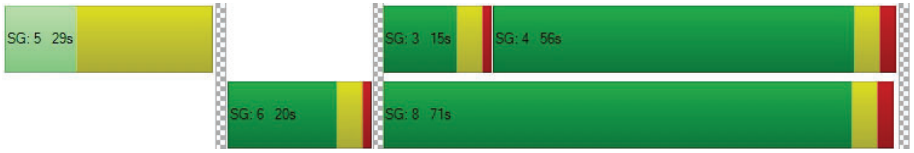
X, volume / capacity	0.50	0.38	0.49	0.52		0.88	0.71
d, Delay for Lane Group [s/veh]	16.44	12.68	22.54	23.45		53.56	49.89
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	3.15	5.71	8.68	8.95		7.44	5.16
50th-Percentile Queue Length [ft/ln]	78.81	142.67	217.12	223.66		186.05	128.95
95th-Percentile Queue Length [veh/ln]	5.67	9.62	13.52	13.85		11.92	8.88
95th-Percentile Queue Length [ft/ln]	141.86	240.61	337.94	346.29		297.90	222.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.44	12.68	0.00	0.00	22.91	23.45	0.00	0.00	0.00	53.56	49.89	49.89
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	13.52			23.00			0.00			52.01		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.82											
Intersection LOS	C											
Intersection V/C	0.453											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	363	0	0	954	910	373
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	363	0	0	954	910	373
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	0	0	270	250	102
Total Analysis Volume [veh/h]	415	0	0	1079	1000	410
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	37	37
g / C, Green / Cycle	0.62	0.62	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.30	0.28	0.26
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2232	2232	1077	486
d1, Uniform Delay [s]	9.93	12.53	40.29	38.87
k, delay calibration	0.50	0.50	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.75	1.67	6.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

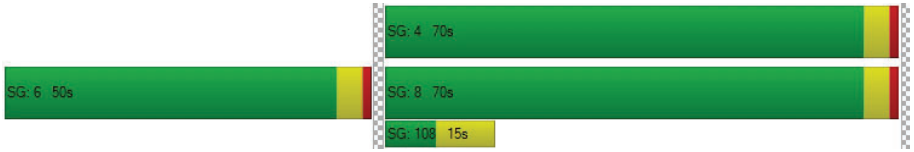
X, volume / capacity	0.19	0.48	0.93	0.84
d, Delay for Lane Group [s/veh]	10.12	13.28	41.96	45.24
Lane Group LOS	B	B	D	D
Critical Lane Group	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.38	7.84	13.58	11.40
50th-Percentile Queue Length [ft/ln]	59.39	195.95	339.38	285.06
95th-Percentile Queue Length [veh/ln]	4.28	12.43	19.62	16.94
95th-Percentile Queue Length [ft/ln]	106.90	310.73	490.44	423.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.12	0.00	0.00	13.28	41.96	45.24
Movement LOS	B			B	D	D
d_A, Approach Delay [s/veh]	10.12		13.28		42.91	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	27.22					
Intersection LOS	C					
Intersection V/C	0.583					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	333	230	332	1292	110	30	380	40	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	333	230	332	1292	110	30	380	40	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	85	59	93	361	31	9	114	12	0	0	0
Total Analysis Volume [veh/h]	31	341	235	371	1444	123	36	454	48	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	24	24	68	88	88	15	15	15
g / C, Green / Cycle	0.03	0.20	0.20	0.56	0.74	0.74	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.13	0.11	0.41	0.43	0.10	0.10	0.10
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1816	1882	1729	1631
c, Capacity [veh/h]	49	378	359	1979	1397	1335	230	212	200
d1, Uniform Delay [s]	57.73	46.85	44.21	12.78	7.14	7.38	51.40	51.38	51.55
k, delay calibration	0.04	0.30	0.10	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.94	18.26	1.92	0.02	1.63	1.89	3.00	3.19	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

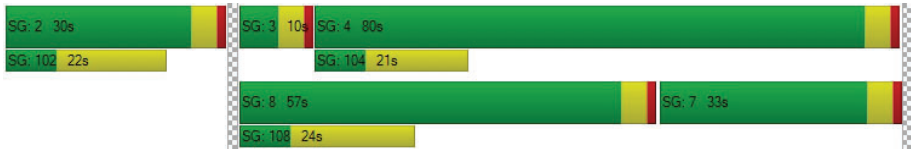
X, volume / capacity	0.63	0.90	0.66	0.19	0.56	0.59	0.83	0.83	0.85
d, Delay for Lane Group [s/veh]	62.67	65.11	46.13	12.80	8.77	9.27	54.40	54.57	55.54
Lane Group LOS	E	E	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.00	11.81	6.62	2.42	8.54	8.87	5.77	5.29	5.20
50th-Percentile Queue Length [ft/ln]	24.97	295.24	165.58	60.60	213.52	221.76	144.35	132.34	129.89
95th-Percentile Queue Length [veh/ln]	1.80	17.45	10.84	4.36	13.33	13.75	9.71	9.07	8.93
95th-Percentile Queue Length [ft/ln]	44.94	436.13	271.10	109.09	333.34	343.87	242.87	226.68	223.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.67	65.11	46.13	12.80	9.00	9.27	54.40	54.78	55.54	0.00	0.00	0.00
Movement LOS	E	E	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	57.64			9.75			54.82			0.00		
Approach LOS	E			A			D			A		
d_I, Intersection Delay [s/veh]	27.04											
Intersection LOS	C											
Intersection V/C	0.553											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	147	197	140	30	70	20	30	611	60	140	782	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	197	140	30	70	20	30	611	60	140	782	80
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	55	39	8	18	5	8	159	16	37	209	21
Total Analysis Volume [veh/h]	163	218	155	32	74	21	31	638	63	150	837	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.11	0.03	0.05	0.05	0.18	0.04	0.19	0.25	0.26
s, saturation flow rate [veh/h]	1163	1900	1451	1126	1737	613	3618	1424	788	1900	1753
c, Capacity [veh/h]	291	478	365	224	437	352	2229	877	473	1170	1080
d1, Uniform Delay [s]	38.23	31.55	31.28	38.40	29.55	15.49	8.93	7.69	14.86	9.76	9.92
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.25	0.29	0.11	0.09	0.49	0.32	0.16	1.76	1.02	1.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

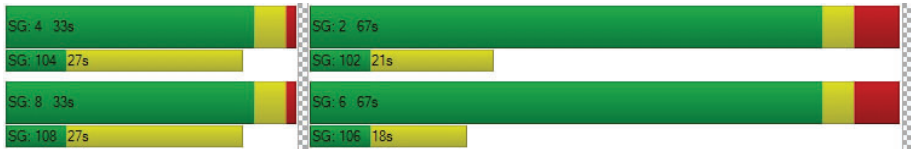
X, volume / capacity	0.56	0.46	0.42	0.14	0.22	0.09	0.29	0.07	0.32	0.40	0.42
d, Delay for Lane Group [s/veh]	38.86	31.81	31.57	38.50	29.64	15.98	9.25	7.85	16.62	10.79	11.13
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.73	4.38	3.09	0.69	1.78	0.45	3.11	0.55	2.22	5.17	5.12
50th-Percentile Queue Length [ft/ln]	93.22	109.45	77.28	17.35	44.60	11.15	77.77	13.78	55.54	129.34	128.10
95th-Percentile Queue Length [veh/ln]	6.71	7.81	5.56	1.25	3.21	0.80	5.60	0.99	4.00	8.90	8.84
95th-Percentile Queue Length [ft/ln]	167.79	195.23	139.10	31.23	80.28	20.06	139.99	24.80	99.97	222.60	220.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.86	31.81	31.57	38.50	29.64	29.64	15.98	9.25	7.85	16.62	10.94	11.13
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	33.88			31.87			9.42			11.75		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	16.90											
Intersection LOS	B											
Intersection V/C	0.399											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	120	414	80	60	140	40	30	190	20	40	280	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	414	80	60	140	40	30	190	20	40	280	70
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	113	22	18	41	12	9	55	6	12	84	21
Total Analysis Volume [veh/h]	131	451	87	71	166	47	35	220	23	48	337	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	60	60	60	60	60	30	30
g / C, Green / Cycle	0.60	0.60	0.60	0.60	0.60	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.12	0.15	0.15	0.08	0.12	0.20	0.28
s, saturation flow rate [veh/h]	1138	1900	1725	869	1764	1414	1666
c, Capacity [veh/h]	674	1150	1044	517	1068	468	544
d1, Uniform Delay [s]	12.51	9.10	9.17	12.90	8.85	28.67	33.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	0.49	0.58	0.55	0.42	1.20	5.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.24	0.25	0.14	0.20	0.59	0.86
d, Delay for Lane Group [s/veh]	13.15	9.59	9.75	13.45	9.27	29.87	38.61
Lane Group LOS	B	A	A	B	A	C	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.60	2.69	2.60	0.89	2.03	5.48	11.34
50th-Percentile Queue Length [ft/ln]	39.91	67.36	64.90	22.13	50.71	136.91	283.61
95th-Percentile Queue Length [veh/ln]	2.87	4.85	4.67	1.59	3.65	9.31	16.87
95th-Percentile Queue Length [ft/ln]	71.83	121.26	116.81	39.83	91.27	232.86	421.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.15	9.65	9.75	13.45	9.27	9.27	29.87	29.87	29.87	38.61	38.61	38.61
Movement LOS	B	A	A	B	A	A	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	10.35			10.31			29.87			38.61		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	21.33											
Intersection LOS	C											
Intersection V/C	0.434											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	100	434	60	80	130	60	20	410	30	30	380	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	434	60	80	130	60	20	410	30	30	380	70
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	124	17	23	37	17	6	120	9	9	119	22
Total Analysis Volume [veh/h]	114	495	68	90	147	68	23	479	35	37	475	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	28	28	28	28	28	59	59	59	59	59	59
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.10	0.15	0.16	0.11	0.13	0.02	0.14	0.14	0.04	0.25	0.06
s, saturation flow rate [veh/h]	1138	1900	1737	849	1679	926	1900	1808	873	1900	1405
c, Capacity [veh/h]	250	534	488	179	471	468	1116	1062	507	1116	825
d1, Uniform Delay [s]	39.54	30.46	30.75	42.70	29.66	16.78	9.87	9.92	13.15	11.36	9.08
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.31	0.39	0.81	0.26	0.20	0.49	0.53	0.28	1.19	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

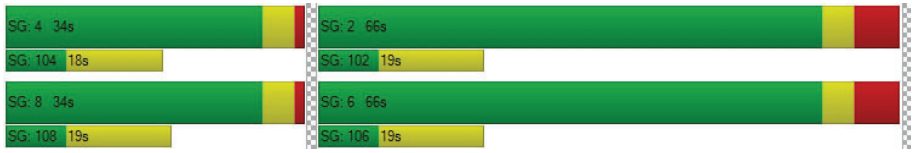
X, volume / capacity	0.46	0.54	0.57	0.50	0.46	0.05	0.23	0.24	0.07	0.43	0.11
d, Delay for Lane Group [s/veh]	40.03	30.77	31.13	43.51	29.92	16.98	10.36	10.45	13.43	12.55	9.34
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.61	5.75	5.60	2.17	4.20	0.33	2.72	2.69	0.47	5.79	0.85
50th-Percentile Queue Length [ft/ln]	65.28	143.87	139.88	54.32	104.95	8.30	68.09	67.33	11.64	144.76	21.32
95th-Percentile Queue Length [veh/ln]	4.70	9.69	9.47	3.91	7.56	0.60	4.90	4.85	0.84	9.74	1.54
95th-Percentile Queue Length [ft/ln]	117.50	242.22	236.86	97.78	188.91	14.94	122.56	121.20	20.96	243.42	38.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.03	30.92	31.13	43.51	29.92	29.92	16.98	10.40	10.45	13.43	12.55	9.34
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.48			33.93			10.68			12.14		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.41											
Intersection LOS	C											
Intersection V/C	0.409											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.412

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	80	554	60	20	90	90	30	381	20	30	402	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	554	60	20	90	90	30	381	20	30	402	70
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	145	16	6	25	25	8	101	5	8	111	19
Total Analysis Volume [veh/h]	84	581	63	22	100	100	32	406	21	33	444	77
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	67	67	67	67	67
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.18	0.03	0.12	0.03	0.23	0.03	0.23	0.05
s, saturation flow rate [veh/h]	1176	1900	1774	798	1629	943	1870	956	1900	1444
c, Capacity [veh/h]	197	458	428	109	393	595	1247	605	1267	963
d1, Uniform Delay [s]	43.00	34.78	35.05	46.70	32.82	10.27	7.18	10.15	7.23	5.85
k, delay calibration	0.04	0.05	0.06	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.90	1.50	0.33	0.38	0.17	0.75	0.17	0.76	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.71	0.74	0.20	0.51	0.05	0.34	0.05	0.35	0.08
d, Delay for Lane Group [s/veh]	43.54	35.67	36.54	47.03	33.20	10.45	7.93	10.32	8.00	6.02
Lane Group LOS	D	D	D	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.99	7.21	7.10	0.54	4.13	0.34	3.67	0.34	3.84	0.54
50th-Percentile Queue Length [ft/ln]	49.79	180.15	177.44	13.45	103.31	8.40	91.72	8.59	95.97	13.61
95th-Percentile Queue Length [veh/ln]	3.58	11.61	11.47	0.97	7.44	0.60	6.60	0.62	6.91	0.98
95th-Percentile Queue Length [ft/ln]	89.62	290.21	286.66	24.21	185.95	15.12	165.10	15.46	172.75	24.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.54	36.05	36.54	47.03	33.20	33.20	10.45	7.93	7.93	10.32	8.00	6.02
Movement LOS	D	D	D	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	36.96			34.57			8.11			7.86		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	21.73											
Intersection LOS	C											
Intersection V/C	0.412											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	614	80	40	10	80	0	0	0	6	260	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	614	80	40	10	80	0	0	0	6	260	50
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	169	22	12	3	24	0	0	0	2	86	17
Total Analysis Volume [veh/h]	15	675	88	47	12	94	0	0	0	6	344	66
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	40	40	5	49		40
g / C, Green / Cycle	0.40	0.40	0.05	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.07	0.03	0.07		0.22
s, saturation flow rate [veh/h]	3618	1344	1810	1578		1840
c, Capacity [veh/h]	1431	532	93	778		745
d1, Uniform Delay [s]	22.43	19.53	46.19	13.78		22.76
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.12	0.67	1.60	0.36		2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

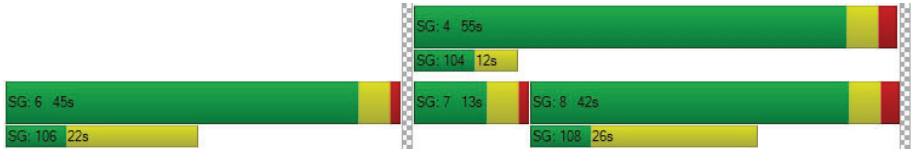
X, volume / capacity	0.47	0.17	0.51	0.14		0.55
d, Delay for Lane Group [s/veh]	23.55	20.20	47.79	14.14		25.67
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.98	1.41	1.16	1.32		7.80
50th-Percentile Queue Length [ft/ln]	149.53	35.15	29.06	33.10		195.09
95th-Percentile Queue Length [veh/ln]	9.99	2.53	2.09	2.38		12.39
95th-Percentile Queue Length [ft/ln]	249.80	63.27	52.32	59.58		309.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.55	20.20	47.79	14.14	14.14	0.00	0.00	0.00	0.00	25.67	25.67
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	23.16			24.48			0.00			25.67		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	24.09											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	200	70	80	150	29	60	370	20	40	351	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	200	70	80	150	29	60	370	20	40	351	160
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	58	20	23	42	8	18	112	6	11	96	44
Total Analysis Volume [veh/h]	12	231	81	90	169	33	73	447	24	44	384	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.41	0.14	0.43	0.06	0.08	0.25	0.05	0.20	0.13
s, saturation flow rate [veh/h]	600	600	600	600	970	1860	918	1900	1325
c, Capacity [veh/h]	273	219	288	219	437	937	379	957	667
d1, Uniform Delay [s]	23.48	16.31	24.19	14.93	16.28	11.55	17.95	10.81	9.94
k, delay calibration	0.38	0.04	0.43	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.43	0.39	29.13	0.12	0.83	1.93	0.62	1.26	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

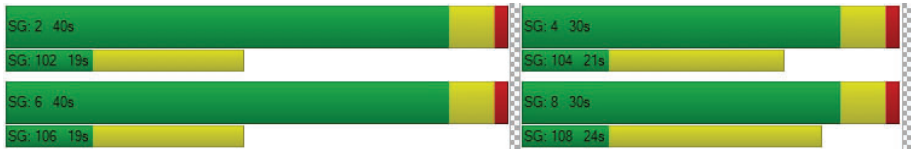
X, volume / capacity	0.89	0.37	0.90	0.15	0.17	0.50	0.12	0.40	0.26
d, Delay for Lane Group [s/veh]	49.91	16.69	53.31	15.04	17.11	13.48	18.57	12.07	10.90
Lane Group LOS	D	B	D	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.88	0.91	6.62	0.34	0.88	4.76	0.56	3.58	1.54
50th-Percentile Queue Length [ft/ln]	146.91	22.78	165.53	8.46	21.94	118.91	13.98	89.52	38.44
95th-Percentile Queue Length [veh/ln]	9.85	1.64	10.84	0.61	1.58	8.33	1.01	6.45	2.77
95th-Percentile Queue Length [ft/ln]	246.30	41.01	271.03	15.22	39.49	208.33	25.16	161.14	69.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.91	49.91	16.69	53.31	53.31	15.04	17.11	13.48	13.48	18.57	12.07	10.90
Movement LOS	D	D	B	D	D	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	41.60			48.99			13.96			12.20		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	24.24											
Intersection LOS	C											
Intersection V/C	0.685											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	90	110	80	30	40	10	30	480	40	40	431	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	110	80	30	40	10	30	480	40	40	431	30
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	31	22	11	15	4	9	151	13	11	118	8
Total Analysis Volume [veh/h]	100	123	89	44	59	15	38	602	50	44	471	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	35	35	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	17	17	17	17
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.04	0.04	0.05	0.35	0.06	0.28
s, saturation flow rate [veh/h]	1285	1662	1138	1794	823	1842	762	1826
c, Capacity [veh/h]	430	436	315	470	395	879	313	872
d1, Uniform Delay [s]	13.00	11.02	14.96	10.03	10.93	7.46	13.75	6.66
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.31	0.07	0.06	0.04	0.47	0.08	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

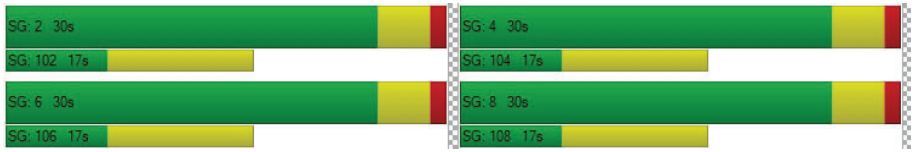
X, volume / capacity	0.23	0.49	0.14	0.16	0.10	0.74	0.14	0.58
d, Delay for Lane Group [s/veh]	13.10	11.33	15.04	10.09	10.97	7.93	13.83	6.89
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.55	1.04	0.27	0.33	0.19	2.39	0.26	1.62
50th-Percentile Queue Length [ft/ln]	13.75	25.94	6.72	8.13	4.75	59.64	6.62	40.54
95th-Percentile Queue Length [veh/ln]	0.99	1.87	0.48	0.59	0.34	4.29	0.48	2.92
95th-Percentile Queue Length [ft/ln]	24.74	46.70	12.10	14.63	8.55	107.36	11.91	72.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.10	11.33	11.33	15.04	10.09	10.09	10.97	7.93	7.93	13.83	6.89	6.89
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.90			11.93			8.10			7.44		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.87											
Intersection LOS	A											
Intersection V/C	0.482											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	210	371	270	42	193	40	20	613	125	160	775	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	371	270	42	193	40	20	613	125	160	775	43
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	98	71	13	60	12	5	161	33	43	206	11
Total Analysis Volume [veh/h]	222	393	286	52	240	50	21	643	131	170	826	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.19	0.05	0.08	0.08	0.03	0.18	0.09	0.17	0.23	0.03
s, saturation flow rate [veh/h]	1306	1900	1525	991	1900	1754	664	3618	1487	973	3618	1443
c, Capacity [veh/h]	492	670	538	113	442	408	264	1590	654	553	2008	801
d1, Uniform Delay [s]	24.17	26.40	25.77	48.36	31.92	32.04	26.06	19.10	17.22	11.84	12.83	10.22
k, delay calibration	0.47	0.08	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.49	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.79	0.61	0.30	1.08	0.16	0.19	0.59	0.77	0.69	1.42	0.62	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.59	0.53	0.46	0.33	0.35	0.08	0.40	0.20	0.31	0.41	0.06
d, Delay for Lane Group [s/veh]	26.96	27.02	26.08	49.44	32.08	32.23	26.65	19.87	17.91	13.26	13.45	10.36
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.20	7.59	5.35	1.32	2.93	2.84	0.41	5.13	1.95	1.96	5.13	0.47
50th-Percentile Queue Length [ft/ln]	104.93	189.65	133.83	32.92	73.25	71.03	10.22	128.32	48.72	48.90	128.27	11.76
95th-Percentile Queue Length [veh/ln]	7.55	12.10	9.15	2.37	5.27	5.11	0.74	8.85	3.51	3.52	8.85	0.85
95th-Percentile Queue Length [ft/ln]	188.87	302.57	228.70	59.25	131.84	127.86	18.39	221.21	87.69	88.02	221.15	21.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.96	27.02	26.08	49.44	32.14	32.23	26.65	19.87	17.91	13.26	13.45	10.36
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	26.71			34.78			19.72			13.28		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.26											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	63.3
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	150	811	70	20	478	40	10	150	130	70	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	811	70	20	478	40	10	150	130	70	190	50
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	214	18	6	142	12	3	40	35	19	52	14
Total Analysis Volume [veh/h]	158	855	74	24	566	47	11	159	138	76	208	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	55	55	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.16	0.25	0.25	0.03	0.16	0.17	0.15	0.09	0.67	0.04
s, saturation flow rate [veh/h]	971	1900	1825	728	1900	1830	1155	1461	422	1508
c, Capacity [veh/h]	645	1052	1010	476	986	950	353	398	161	411
d1, Uniform Delay [s]	7.86	13.23	13.29	7.98	13.80	13.83	29.62	29.17	35.49	27.41
k, delay calibration	0.43	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.77	1.38	1.47	0.20	0.83	0.88	0.38	0.19	369.92	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

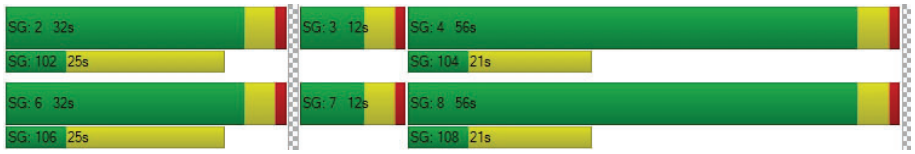
X, volume / capacity	0.24	0.45	0.45	0.05	0.31	0.32	0.48	0.35	1.77	0.13
d, Delay for Lane Group [s/veh]	8.63	14.61	14.76	8.18	14.63	14.72	30.00	29.36	405.41	27.47
Lane Group LOS	A	B	B	A	B	B	C	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	6.35	6.22	0.20	4.11	4.03	3.22	2.62	20.46	0.98
50th-Percentile Queue Length [ft/ln]	34.87	158.80	155.59	5.07	102.70	100.78	80.55	65.52	511.48	24.50
95th-Percentile Queue Length [veh/ln]	2.51	10.49	10.31	0.37	7.39	7.26	5.80	4.72	34.95	1.76
95th-Percentile Queue Length [ft/ln]	62.76	262.14	257.87	9.13	184.86	181.40	145.00	117.94	873.72	44.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.63	14.68	14.76	8.18	14.67	14.72	30.00	30.00	29.36	405.41	405.41	27.47
Movement LOS	A	B	B	A	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	13.80			14.43			29.71			344.09		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	63.26											
Intersection LOS	E											
Intersection V/C	0.930											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	851	160	70	568	70	20	544	230	80	407	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	851	160	70	568	70	20	544	230	80	407	180
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	219	41	19	150	19	6	151	64	22	112	50
Total Analysis Volume [veh/h]	113	875	165	74	601	74	22	605	256	88	448	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	54	44	44	54	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.54	0.44	0.44	0.54	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.29	0.10	0.18	0.18	0.02	0.24	0.26	0.09	0.24	0.14
s, saturation flow rate [veh/h]	952	1900	1761	752	1900	1798	957	1900	1588	940	1900	1453
c, Capacity [veh/h]	530	833	772	395	822	778	103	480	401	286	689	527
d1, Uniform Delay [s]	11.95	21.96	22.15	13.69	19.67	19.75	47.90	36.68	37.38	24.89	26.58	23.52
k, delay calibration	0.20	0.50	0.50	0.50	0.50	0.50	0.04	0.25	0.31	0.07	0.14	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	3.78	4.32	1.05	1.57	1.71	0.38	18.44	39.56	0.39	1.31	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

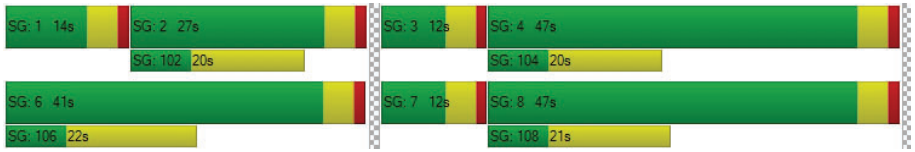
X, volume / capacity	0.21	0.64	0.66	0.19	0.42	0.43	0.21	0.94	1.02	0.31	0.65	0.38
d, Delay for Lane Group [s/veh]	12.32	25.74	26.47	14.74	21.23	21.45	48.28	55.12	76.94	25.28	27.90	23.69
Lane Group LOS	B	C	C	B	C	C	D	E	F	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.23	10.34	9.97	0.87	5.77	5.61	0.55	13.08	13.99	1.40	8.93	3.42
50th-Percentile Queue Length [ft/ln]	30.77	258.42	249.21	21.70	144.24	140.20	13.77	326.97	349.81	35.01	223.27	85.46
95th-Percentile Queue Length [veh/ln]	2.22	15.61	15.15	1.56	9.71	9.49	0.99	19.01	20.33	2.52	13.83	6.15
95th-Percentile Queue Length [ft/ln]	55.39	390.24	378.66	39.07	242.73	237.29	24.78	475.24	508.33	63.02	345.80	153.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.32	26.02	26.47	14.74	21.33	21.45	48.28	60.61	76.94	25.28	27.90	23.69
Movement LOS	B	C	C	B	C	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	24.74			20.69			65.03			26.45		
Approach LOS	C			C			E			C		
d_I, Intersection Delay [s/veh]	34.35											
Intersection LOS	C											
Intersection V/C	0.602											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	33.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	140	1001	160	50	818	30	60	261	120	110	292	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1001	160	50	818	30	60	261	120	110	292	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	271	43	14	222	8	16	68	31	30	79	22
Total Analysis Volume [veh/h]	152	1085	174	54	890	33	62	270	124	119	315	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	10	51	51	37	37	37	26	26	26	35	35
g / C, Green / Cycle	0.10	0.51	0.51	0.37	0.37	0.37	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.08	0.34	0.36	0.12	0.24	0.25	0.06	0.14	0.09	0.33	0.06
s, saturation flow rate [veh/h]	1810	1900	1725	448	1900	1851	1081	1900	1352	1333	1366
c, Capacity [veh/h]	183	978	888	107	699	681	72	488	347	459	482
d1, Uniform Delay [s]	44.10	17.76	18.32	47.41	26.45	26.56	50.00	32.19	30.40	30.54	22.33
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.68	3.43	4.47	15.84	4.94	5.27	10.29	0.37	0.23	30.48	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

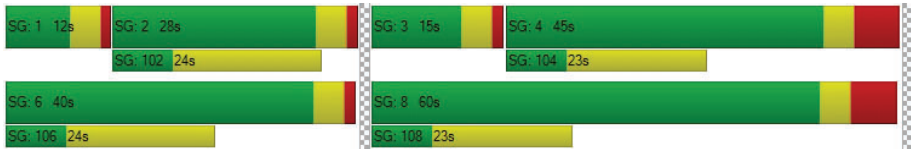
X, volume / capacity	0.83	0.66	0.70	0.50	0.66	0.67	0.86	0.55	0.36	0.95	0.18
d, Delay for Lane Group [s/veh]	47.78	21.19	22.79	63.26	31.39	31.83	60.29	32.56	30.63	61.02	22.40
Lane Group LOS	D	C	C	E	C	C	E	C	C	E	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.85	11.20	11.29	1.82	9.99	9.95	1.74	5.56	2.41	12.27	1.37
50th-Percentile Queue Length [ft/ln]	96.30	280.10	282.33	45.42	249.63	248.73	43.41	139.10	60.35	306.77	34.29
95th-Percentile Queue Length [veh/ln]	6.93	16.69	16.80	3.27	15.17	15.12	3.13	9.43	4.35	18.02	2.47
95th-Percentile Queue Length [ft/ln]	173.35	417.33	420.12	81.75	379.18	378.05	78.13	235.81	108.63	450.39	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.78	21.84	22.79	63.26	31.60	31.83	60.29	32.56	30.63	61.02	61.02	22.40
Movement LOS	D	C	C	E	C	C	E	C	C	E	E	C
d_A, Approach Delay [s/veh]	24.76			33.36			35.81			54.64		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.37											
Intersection LOS	C											
Intersection V/C	0.596											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	45.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	160	1251	50	20	948	30	6	80	140	66	170	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1251	50	20	948	30	6	80	140	66	170	80
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	330	13	5	247	8	2	24	41	18	48	22
Total Analysis Volume [veh/h]	169	1320	53	21	988	31	7	95	165	70	191	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	34	34	3	27	27	40	40
g / C, Green / Cycle	0.11	0.37	0.37	0.03	0.29	0.29	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.37	0.01	0.27	0.27	0.16	0.16
s, saturation flow rate [veh/h]	1810	1900	1861	1810	1900	1865	1663	1783
c, Capacity [veh/h]	205	711	697	60	558	548	733	786
d1, Uniform Delay [s]	39.35	27.88	28.07	42.95	30.98	31.07	16.84	16.86
k, delay calibration	0.04	0.50	0.50	0.04	0.27	0.28	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.15	27.02	29.71	1.31	14.05	15.29	1.35	1.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.97	0.98	0.35	0.92	0.92	0.35	0.36
d, Delay for Lane Group [s/veh]	42.50	54.90	57.79	44.26	45.03	46.36	18.18	18.13
Lane Group LOS	D	D	E	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.81	19.28	19.66	0.48	12.63	12.70	3.72	4.01
50th-Percentile Queue Length [ft/ln]	95.15	481.91	491.43	11.96	315.86	317.56	93.07	100.26
95th-Percentile Queue Length [veh/ln]	6.85	26.48	26.93	0.86	18.46	18.55	6.70	7.22
95th-Percentile Queue Length [ft/ln]	171.27	661.92	673.21	21.52	461.59	463.69	167.52	180.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.50	56.28	57.79	44.26	45.67	46.36	0.00	18.18	18.18	0.00	18.13	18.13
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	54.82			45.66			18.18			18.13		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	45.42											
Intersection LOS	D											
Intersection V/C	0.536											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	43.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	270	712	0	0	1238	40	0	0	0	650	280	869
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	712	0	0	1238	40	0	0	0	650	280	869
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	204	0	0	326	11	0	0	0	179	77	239
Total Analysis Volume [veh/h]	310	818	0	0	1304	42	0	0	0	715	308	956
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	44	44		40	40	40	40
g / C, Green / Cycle	0.18	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.25	0.24		0.28	0.27	0.33	0.33
s, saturation flow rate [veh/h]	1810	3618	3618	1865		1810	1862	1412	1545
c, Capacity [veh/h]	334	2124	1317	679		608	626	475	520
d1, Uniform Delay [s]	48.10	13.21	32.23	31.91		36.66	36.27	39.19	39.27
k, delay calibration	0.34	0.50	0.50	0.50		0.30	0.28	0.42	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.99	0.53	2.86	4.99		7.89	6.28	30.96	30.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.39	0.68	0.66		0.83	0.81	0.97	0.97
d, Delay for Lane Group [s/veh]	74.09	13.74	35.09	36.90		44.55	42.55	70.14	69.64
Lane Group LOS	E	B	D	D		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.49	5.91	11.45	11.76		14.36	13.98	16.76	18.34
50th-Percentile Queue Length [ft/ln]	287.28	147.67	286.32	294.07		359.0	349.5	418.9	458.4
95th-Percentile Queue Length [veh/ln]	17.05	9.89	17.00	17.39		20.58	20.11	23.47	25.36
95th-Percentile Queue Length [ft/ln]	426.26	247.31	425.07	434.69		514.4	502.8	586.7	634.0

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	74.09	13.74	0.00	0.00	35.66	36.90	0.00	0.00	0.00	43.94	43.51	69.87
Movement LOS	E	B			D	D				D	D	E
d_A, Approach Delay [s/veh]	30.32			35.70			0.00			56.41		
Approach LOS	C			D			A			E		
d_I, Intersection Delay [s/veh]	43.54											
Intersection LOS	D											
Intersection V/C	0.747											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	792	330	546	1332	0	200	180	240	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	792	330	546	1332	0	200	180	240	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	220	92	147	358	0	57	52	69	0	0	0
Total Analysis Volume [veh/h]	0	879	366	586	1430	0	229	206	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	55	88	23	23	23
g / C, Green / Cycle	0.24	0.24	0.24	0.46	0.73	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.21	0.17	0.40	0.13	0.12	0.17
s, saturation flow rate [veh/h]	3618	1505	1464	3514	3618	1810	1729	1577
c, Capacity [veh/h]	850	354	344	1615	2651	344	329	300
d1, Uniform Delay [s]	42.38	44.24	44.56	21.03	7.07	45.00	44.63	47.61
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	2.85	3.66	0.63	0.79	0.83	0.73	15.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.88	0.90	0.36	0.54	0.66	0.63	0.92
d, Delay for Lane Group [s/veh]	42.84	47.09	48.23	21.66	7.87	45.83	45.36	63.36
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.47	9.06	9.20	5.46	7.41	6.34	5.65	9.26
50th-Percentile Queue Length [ft/ln]	211.67	226.51	229.89	136.60	185.22	158.41	141.20	231.57
95th-Percentile Queue Length [veh/ln]	13.24	14.00	14.17	9.30	11.87	10.46	9.55	14.25
95th-Percentile Queue Length [ft/ln]	330.97	349.93	354.22	232.44	296.82	261.61	238.64	356.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	43.08	48.06	21.66	7.87	0.00	45.83	45.36	63.36	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	45.25			11.87			52.48			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.60											
Intersection LOS	C											
Intersection V/C	0.570											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	52.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	765	310	140	803	140	208
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	765	310	140	803	140	208
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	213	87	44	252	40	60
Total Analysis Volume [veh/h]	854	346	176	1007	161	239
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.24	0.26	0.27	0.28	0.19	0.33
s, saturation flow rate [veh/h]	3618	1353	648	3618	832	734
c, Capacity [veh/h]	2509	938	445	2509	145	128
d1, Uniform Delay [s]	6.15	6.31	12.34	6.51	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	1.12	2.62	0.48	70.75	417.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.37	0.40	0.40	1.11	1.86
d, Delay for Lane Group [s/veh]	6.52	7.43	14.95	6.99	112.02	458.62
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.27	2.91	2.47	4.09	6.34	17.94
50th-Percentile Queue Length [ft/ln]	81.79	72.63	61.76	102.26	158.59	448.38
95th-Percentile Queue Length [veh/ln]	5.89	5.23	4.45	7.36	10.94	30.48
95th-Percentile Queue Length [ft/ln]	147.22	130.73	111.16	184.07	273.58	762.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.52	7.43	14.95	6.99	112.02	458.62
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.78		8.17		319.11	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	52.26					
Intersection LOS	D					
Intersection V/C	0.604					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.313

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	60	30	0	10	30	20	0	10	119	20	0	10	182	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	60	30	0	10	30	20	0	10	119	20	0	10	182	20
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	20	10	0	3	9	6	0	3	33	6	0	3	51	6
Total Analysis Volume [veh/h]	0	27	81	40	0	12	37	25	0	11	134	23	0	11	202	22
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	628	734	618	720	670	777	680	789
Degree of Utilization, x	0.17	0.05	0.08	0.03	0.22	0.03	0.31	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.62	0.17	0.26	0.11	0.82	0.09	1.34	0.09
95th-Percentile Queue Length [ft]	15.42	4.31	6.44	2.70	20.46	2.29	33.42	2.15
Approach Delay [s/veh]	9.15		8.64		9.27		10.11	
Approach LOS	A		A		A		B	
Intersection Delay [s/veh]	9.48							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.323

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	430	90	0	50	321	0	101	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	430	90	0	50	321	0	101	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	24	0	13	84	0	32	26
Total Analysis Volume [veh/h]	0	451	94	0	52	336	0	129	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.24	0.06	0.05	0.18	0.08	0.09
s, saturation flow rate [veh/h]	1900	1581	954	1900	1538	1208
c, Capacity [veh/h]	1108	867	482	1042	436	342
d1, Uniform Delay [s]	7.32	5.93	11.60	6.78	15.33	15.35
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	0.25	0.45	0.82	0.14	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

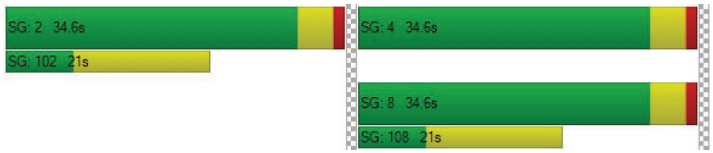
X, volume / capacity	0.41	0.11	0.11	0.32	0.30	0.30
d, Delay for Lane Group [s/veh]	8.43	6.19	12.06	7.60	15.47	15.53
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	0.46	0.43	1.86	1.18	0.94
50th-Percentile Queue Length [ft/ln]	67.16	11.43	10.76	46.39	29.39	23.60
95th-Percentile Queue Length [veh/ln]	4.84	0.82	0.77	3.34	2.12	1.70
95th-Percentile Queue Length [ft/ln]	120.89	20.57	19.36	83.50	52.91	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.43	8.43	6.19	12.06	12.06	7.60	15.47	15.47	15.53
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.04			8.20			15.50		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.58								
Intersection LOS	A								
Intersection V/C	0.323								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	130	20	10	90	10	20	135	20	10	144	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	130	20	10	90	10	20	135	20	10	144	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	39	6	3	24	3	6	41	6	3	43	6
Total Analysis Volume [veh/h]	47	154	24	11	96	11	24	165	24	12	173	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	695	674	706	707
Degree of Utilization, x	0.32	0.17	0.30	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.40	0.63	1.27	1.24
95th-Percentile Queue Length [ft]	35.04	15.76	31.79	30.91
Approach Delay [s/veh]	10.63	9.46	10.30	10.23
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.25			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	240	20	20	160	10	20	165	30	30	134	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	240	20	20	160	10	20	165	30	30	134	50
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	71	6	5	44	3	6	47	8	8	36	13
Total Analysis Volume [veh/h]	48	286	24	22	176	11	23	186	34	32	144	54
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	627	596	600	602
Degree of Utilization, x	0.57	0.35	0.41	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.61	1.57	1.96	1.79
95th-Percentile Queue Length [ft]	90.24	39.19	48.92	44.70
Approach Delay [s/veh]	16.12	12.26	13.03	12.64
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	13.85			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	29.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.929

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	104	320	40	20	220	20	20	120	95	30	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	320	40	20	220	20	20	120	95	30	130	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	89	11	6	61	6	6	33	26	9	38	9
Total Analysis Volume [veh/h]	116	356	45	22	245	22	22	133	105	35	152	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	508	577	481	536	512	492
Degree of Utilization, x	0.93	0.08	0.56	0.04	0.51	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.24	0.25	3.33	0.13	2.84	2.31
95th-Percentile Queue Length [ft]	281.09	6.32	83.20	3.20	70.97	57.63
Approach Delay [s/veh]	46.99		18.40		17.06	16.17
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	29.22					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	18.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	10	281	110	170	331	20	30	60	10	120	30	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	281	110	170	331	20	30	60	10	120	30	30
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	79	31	48	93	6	8	16	3	35	9	9
Total Analysis Volume [veh/h]	11	316	124	191	372	22	31	63	10	141	35	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	51	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.56	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.18	0.21	0.03	0.04	0.11	0.05
s, saturation flow rate [veh/h]	1061	1744	1082	1866	1039	1811	1290	1373
c, Capacity [veh/h]	664	902	643	1048	202	330	244	251
d1, Uniform Delay [s]	6.98	14.03	8.47	10.97	36.15	31.36	38.53	31.71
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	1.88	1.18	1.03	0.13	0.12	0.81	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

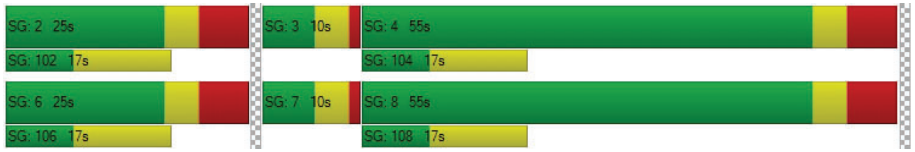
X, volume / capacity	0.02	0.49	0.30	0.38	0.15	0.22	0.58	0.28
d, Delay for Lane Group [s/veh]	6.98	15.91	9.65	12.01	36.28	31.48	39.34	31.93
Lane Group LOS	A	B	A	B	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	5.75	1.59	4.33	0.62	1.35	3.02	1.29
50th-Percentile Queue Length [ft/ln]	1.74	143.87	39.71	108.30	15.51	33.68	75.48	32.36
95th-Percentile Queue Length [veh/ln]	0.13	9.69	2.86	7.75	1.12	2.43	5.43	2.33
95th-Percentile Queue Length [ft/ln]	3.13	242.23	71.48	193.64	27.92	60.63	135.86	58.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.98	15.91	15.91	9.65	12.01	12.01	36.28	31.48	31.48	39.34	31.93	31.93
Movement LOS	A	B	B	A	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.69			11.24			32.91			36.88		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	18.40											
Intersection LOS	B											
Intersection V/C	0.410											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	77	200	30	10	70	10	10	175	30	20	154	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	200	30	10	70	10	10	175	30	20	154	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	56	8	3	21	3	3	53	9	5	41	5
Total Analysis Volume [veh/h]	87	226	34	12	84	12	12	212	36	21	165	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	666	619	655	641
Degree of Utilization, x	0.52	0.17	0.40	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.04	0.63	1.90	1.40
95th-Percentile Queue Length [ft]	75.90	15.68	47.50	34.88
Approach Delay [s/veh]	14.15	10.03	12.06	11.27
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.43			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	21	210	30	10	241	10	10	70	10	10	120	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	210	30	10	241	10	10	70	10	10	120	40
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	60	9	3	61	3	3	22	3	3	35	12
Total Analysis Volume [veh/h]	24	239	34	10	246	10	13	88	13	12	139	46
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	699	688	630	659
Degree of Utilization, x	0.43	0.39	0.18	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.13	1.83	0.66	1.25
95th-Percentile Queue Length [ft]	53.23	45.71	16.39	31.34
Approach Delay [s/veh]	11.91	11.50	9.97	10.78
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	11.28			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	5.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2750	50	0	2811	70	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2750	50	0	2811	70	40
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	747	14	0	719	19	11
Total Analysis Volume [veh/h]	2989	54	0	2877	77	44
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	70	70	70	70
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	52	52	52	7
g / C, Green / Cycle	0.75	0.75	0.75	0.10
(v / s)_i Volume / Saturation Flow Rate	0.64	0.61	0.47	0.08
s, saturation flow rate [veh/h]	3192	1661	6089	1530
c, Capacity [veh/h]	2398	1248	4574	150
d1, Uniform Delay [s]	5.92	5.54	4.09	30.78
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.50	0.05	3.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.81	0.63	0.81
d, Delay for Lane Group [s/veh]	6.24	6.04	4.14	34.62
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.47	5.19	2.64	2.07
50th-Percentile Queue Length [ft/ln]	136.70	129.75	66.05	51.81
95th-Percentile Queue Length [veh/ln]	9.30	8.93	4.76	3.73
95th-Percentile Queue Length [ft/ln]	232.57	223.15	118.89	93.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.18	6.04	0.00	4.14	34.62	34.62
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.18		4.14		34.62	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	5.78					
Intersection LOS	A					
Intersection V/C	0.715					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	155.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.212

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2340	750	40	370	440	10	568	470	0	0	370	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2340	750	40	370	440	10	568	470	0	0	370	330
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	642	206	11	109	129	3	142	122	0	0	108	96
Total Analysis Volume [veh/h]	2569	823	44	434	516	12	568	490	0	0	432	385
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	181	181	181	181	181	181	181
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	105	105	105	30	30	36	36
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.54	0.58	0.60	0.30	0.30	0.31	0.22
s, saturation flow rate [veh/h]	3192	1479	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1845	855	824	265	264	318	752
d1, Uniform Delay [s]	34.92	38.20	38.20	75.50	75.50	72.50	72.50
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.03	32.03	43.16	382.52	384.86	259.51	40.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	1.01	1.04	1.82	1.82	1.54	1.09
d, Delay for Lane Group [s/veh]	35.95	70.23	81.36	458.02	460.36	332.01	113.37
Lane Group LOS	D	F	F	F	F	F	F
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	34.38	44.73	45.65	40.51	40.56	37.72	14.56
50th-Percentile Queue Length [ft/ln]	859.39	1118.35	1141.27	1012.73	1013.98	942.89	363.89
95th-Percentile Queue Length [veh/ln]	43.99	55.96	58.86	63.12	63.23	57.69	21.72
95th-Percentile Queue Length [ft/ln]	1099.78	1398.94	1471.43	1578.12	1580.67	1442.34	543.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.66	81.26	81.36	458.02	460.36	460.36	0.00	332.01	0.00	0.00	113.37	113.37
Movement LOS	D	F	F	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	55.87			459.19			332.01			113.37		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	155.83											
Intersection LOS	F											
Intersection V/C	1.212											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.439

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	124	90	44	0	10	69	20	0	20	124	42	0	31	140	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	90	44	0	10	69	20	0	20	124	42	0	31	140	10
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	36	26	13	0	3	20	6	0	6	36	12	0	9	41	3
Total Analysis Volume [veh/h]	0	144	105	51	0	12	82	24	0	23	143	49	0	36	164	12
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	684	657	680	666
Degree of Utilization, x	0.44	0.18	0.32	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.24	0.65	1.36	1.37
95th-Percentile Queue Length [ft]	56.00	16.26	33.89	34.23
Approach Delay [s/veh]	12.31	9.67	10.72	10.92
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.19			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.198

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	70	20	10	59	10	10	30	20	30	81	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	70	20	10	59	10	10	30	20	30	81	30
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	22	6	3	16	3	4	11	7	9	24	9
Total Analysis Volume [veh/h]	38	88	25	11	64	11	14	42	28	36	98	36
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	669	795	671	784	665	785	676	800
Degree of Utilization, x	0.19	0.03	0.11	0.01	0.08	0.04	0.20	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.69	0.10	0.38	0.04	0.27	0.11	0.73	0.14
95th-Percentile Queue Length [ft]	17.22	2.43	9.39	1.07	6.87	2.77	18.36	3.52
Approach Delay [s/veh]	9.00		8.56		8.22		8.93	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.77							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	955	140	270	1423	0	32	1085	209	90	0	120
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	955	140	270	1423	0	32	1085	209	90	0	120
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	256	38	74	392	0	8	271	52	28	0	37
Total Analysis Volume [veh/h]	36	0	1025	150	298	1569	0	32	1085	209	112	0	150
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.09	0.44	0.43		0.09	0.13
s, saturation flow rate [veh/h]	1810	3618	1584	680	3618		1231	1132
c, Capacity [veh/h]	47	2509	1099	534	2625		192	177
d1, Uniform Delay [s]	72.54	9.82	7.77	6.78	9.96		58.69	61.51
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.49	0.26	4.18	1.01		1.04	13.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.41	0.14	0.56	0.60		0.58	0.85
d, Delay for Lane Group [s/veh]	81.74	10.31	8.03	10.95	10.97		59.74	74.88
Lane Group LOS	F	B	A	B	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	7.23	1.71	2.82	12.19		4.03	6.24
50th-Percentile Queue Length [ft/ln]	37.61	180.68	42.84	70.54	304.71		100.77	155.89
95th-Percentile Queue Length [veh/ln]	2.71	11.64	3.08	5.08	17.91		7.26	10.33
95th-Percentile Queue Length [ft/ln]	67.70	290.91	77.11	126.97	447.84		181.38	258.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.31	8.03	10.95	10.97	0.00	0.00	0.00	0.00	59.74	0.00	74.88
Movement LOS	F		B	A	B	B					E		E
d_A, Approach Delay [s/veh]	12.15				10.97			0.00			68.40		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	15.90												
Intersection LOS	B												
Intersection V/C	0.586												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	54.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.243

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2130	2	381	2960	20	20	30	30	87	20	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2130	2	381	2960	20	20	30	30	87	20	500
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	618	1	97	757	5	8	12	12	26	6	151
Total Analysis Volume [veh/h]	35	2472	2	390	3028	20	32	48	48	105	24	602
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	213	213	213	213	213	213	213	213
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	103	50	147	147	45	45	100
g / C, Green / Cycle	0.03	0.48	0.24	0.69	0.69	0.21	0.21	0.47
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.22	0.55	0.55	0.55	0.23	0.37
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1894	233	555	1615
c, Capacity [veh/h]	51	2499	429	2500	1308	70	148	756
d1, Uniform Delay [s]	102.47	54.53	79.05	22.73	22.82	77.12	85.53	48.07
k, delay calibration	0.04	0.04	0.16	0.04	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.94	3.20	11.01	0.23	1.23	419.55	45.94	8.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

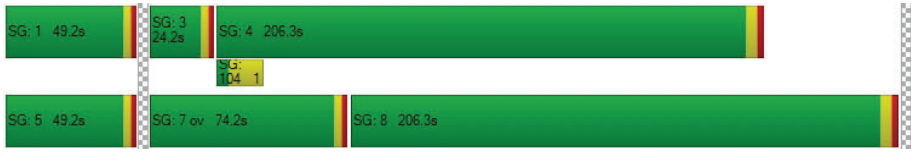
X, volume / capacity	0.69	0.99	0.91	0.80	0.80	1.82	0.87	0.80
d, Delay for Lane Group [s/veh]	108.41	57.73	90.06	22.96	24.05	496.67	131.46	56.61
Lane Group LOS	F	E	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.01	43.38	21.97	32.94	35.11	12.15	9.18	29.44
50th-Percentile Queue Length [ft/ln]	50.19	1084.43	549.36	823.44	877.63	303.63	229.38	735.95
95th-Percentile Queue Length [veh/ln]	3.61	54.18	29.66	42.35	44.82	21.82	14.14	38.34
95th-Percentile Queue Length [ft/ln]	90.35	1354.46	741.56	1058.75	1120.55	545.57	353.57	958.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	108.41	57.73	0.00	90.06	23.33	24.05	496.67	496.67	496.67	131.46	131.46	56.61
Movement LOS	F	E		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	58.43			30.90			496.67			69.82		
Approach LOS	E			C			F			E		
d_I, Intersection Delay [s/veh]	53.99											
Intersection LOS	D											
Intersection V/C	1.243											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	190.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.990

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	384	501	93	46	421	106	100	100	231	0	42	168	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	384	501	93	46	421	106	100	100	231	0	42	168	89
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	102	133	25	13	120	30	27	27	63	0	13	53	28
Total Analysis Volume [veh/h]	409	534	99	53	482	121	110	110	253	0	53	211	112
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	57	57	10	48	48	33	33	19	0	33	33	33
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	50	50	4	43	43	28	47	28	28
g / C, Green / Cycle	0.10	0.50	0.50	0.04	0.43	0.43	0.28	0.47	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.23	0.28	0.08	0.03	0.25	0.09	1.51	0.16	0.52	0.10
s, saturation flow rate [veh/h]	1810	1900	1198	1810	1900	1301	146	1534	510	1094
c, Capacity [veh/h]	189	947	597	71	823	564	95	728	188	311
d1, Uniform Delay [s]	44.75	17.50	13.71	47.51	21.51	17.70	39.05	16.51	31.31	28.52
k, delay calibration	0.50	0.50	0.50	0.04	0.50	0.50	0.50	0.05	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	541.23	2.43	0.60	5.62	3.04	0.87	618.94	0.12	209.96	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

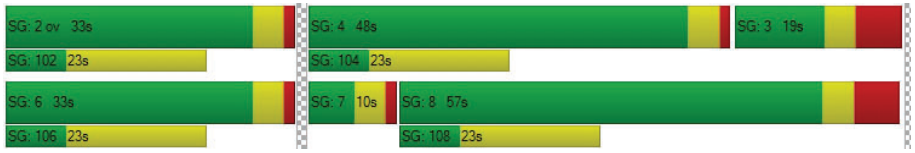
X, volume / capacity	2.16	0.56	0.17	0.74	0.59	0.21	2.31	0.35	1.40	0.36
d, Delay for Lane Group [s/veh]	585.98	19.93	14.31	53.13	24.55	18.57	657.99	16.63	241.27	28.78
Lane Group LOS	F	B	B	D	C	B	F	B	F	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	33.05	8.83	1.29	1.41	8.99	1.85	18.80	3.64	14.48	2.11
50th-Percentile Queue Length [ft/ln]	826.16	220.83	32.24	35.27	224.77	46.25	470.12	91.02	362.00	52.87
95th-Percentile Queue Length [veh/ln]	52.03	13.71	2.32	2.54	13.91	3.33	33.69	6.55	24.29	3.81
95th-Percentile Queue Length [ft/ln]	1300.74	342.68	58.04	63.49	347.70	83.24	842.20	163.84	607.32	95.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	585.98	19.93	14.31	53.13	24.55	18.57	657.99	657.99	16.63	241.2	241.2	241.2	28.78
Movement LOS	F	B	B	D	C	B	F	F	B	F	F	F	C
d_A, Approach Delay [s/veh]	241.58			25.76			314.94			177.98			
Approach LOS	F			C			F			F			
d_I, Intersection Delay [s/veh]	190.23												
Intersection LOS	F												
Intersection V/C	1.990												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	63.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	582	200	0	80	660	0	334	392
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	582	200	0	80	660	0	334	392
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	157	54	0	21	174	0	96	113
Total Analysis Volume [veh/h]	0	630	216	0	84	696	0	384	451
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.16	0.09	0.19	0.22	0.16	0.25
s, saturation flow rate [veh/h]	1900	1729	1372	938	3618	1299	1678	1064
c, Capacity [veh/h]	1146	1010	802	685	2509	226	293	186
d1, Uniform Delay [s]	10.46	10.46	10.26	5.38	5.81	41.27	40.80	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.32	0.13	0.43
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.75	0.83	0.37	0.28	141.42	16.47	231.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

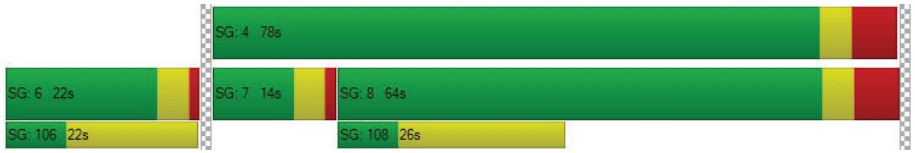
X, volume / capacity	0.29	0.30	0.27	0.12	0.28	1.27	0.95	1.46
d, Delay for Lane Group [s/veh]	11.10	11.21	11.09	5.75	6.09	182.69	57.27	272.32
Lane Group LOS	B	B	B	A	A	F	E	F
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.66	3.36	2.40	0.56	2.52	14.40	7.98	16.42
50th-Percentile Queue Length [ft/ln]	91.43	83.88	60.08	14.12	62.94	359.88	199.46	410.40
95th-Percentile Queue Length [veh/ln]	6.58	6.04	4.33	1.02	4.53	22.89	12.61	26.81
95th-Percentile Queue Length [ft/ln]	164.57	150.99	108.14	25.42	113.29	572.27	315.27	670.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.10	11.15	11.09	5.75	5.75	6.09	182.69	149.13	188.97
Movement LOS	B	B	B	A	A	A	F	F	F
d_A, Approach Delay [s/veh]	11.14			6.05			170.25		
Approach LOS	B			A			F		
d_I, Intersection Delay [s/veh]	63.51								
Intersection LOS	E								
Intersection V/C	0.447								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	711	190	130	744	120	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	711	190	130	744	120	80
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	195	52	35	198	35	24
Total Analysis Volume [veh/h]	782	209	138	790	142	94
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.22	0.16	0.20	0.22	0.14
s, saturation flow rate [veh/h]	3618	1339	696	3618	1727
c, Capacity [veh/h]	2236	827	412	2236	431
d1, Uniform Delay [s]	9.30	8.64	16.27	9.32	32.55
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.73	2.18	0.44	0.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.25	0.33	0.35	0.55
d, Delay for Lane Group [s/veh]	9.73	9.37	18.46	9.76	32.95
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.98	2.08	2.19	4.03	4.89
50th-Percentile Queue Length [ft/ln]	99.56	51.98	54.86	100.87	122.29
95th-Percentile Queue Length [veh/ln]	7.17	3.74	3.95	7.26	8.52
95th-Percentile Queue Length [ft/ln]	179.21	93.57	98.75	181.57	212.98

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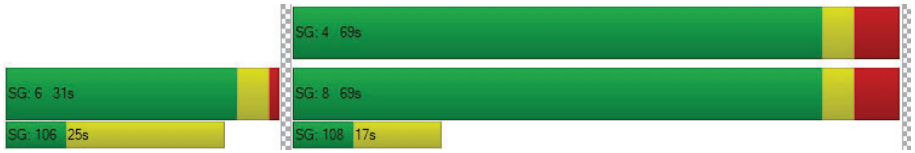
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.73	9.37	18.46	9.76	32.95	32.95
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.65		11.06		32.95	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.81					
Intersection LOS	B					
Intersection V/C	0.355					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	751	260	130	764	190	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	751	260	130	764	190	120
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	212	73	37	218	52	33
Total Analysis Volume [veh/h]	847	293	149	873	209	132
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.18	0.24	0.25	0.11
s, saturation flow rate [veh/h]	3618	1296	817	3618	832	1238
c, Capacity [veh/h]	2190	785	621	2618	120	325
d1, Uniform Delay [s]	10.17	10.06	5.08	5.03	42.78	30.42
k, delay calibration	0.50	0.50	0.50	0.50	0.42	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	1.36	0.91	0.34	360.49	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.37	0.24	0.33	1.74	0.41
d, Delay for Lane Group [s/veh]	10.68	11.42	5.99	5.37	403.27	30.73
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.63	3.36	0.93	2.88	14.95	2.62
50th-Percentile Queue Length [ft/ln]	115.81	84.01	23.36	71.95	373.83	65.62
95th-Percentile Queue Length [veh/ln]	8.16	6.05	1.68	5.18	25.41	4.72
95th-Percentile Queue Length [ft/ln]	204.06	151.22	42.06	129.52	635.36	118.11

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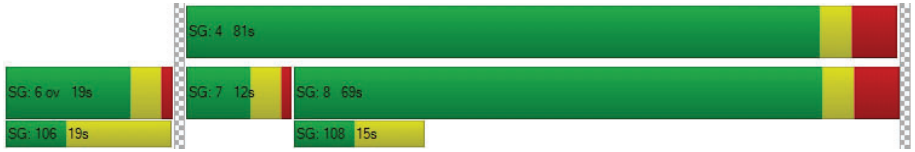
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.68	11.42	5.99	5.37	403.27	30.73
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.87		5.46		259.06	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	42.48					
Intersection LOS	D					
Intersection V/C	0.516					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	46.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	1046	142	67	894	30	0	13	60	310	50	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1046	142	67	894	30	0	13	60	310	50	210
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	293	41	18	235	8	0	6	18	87	14	59
Total Analysis Volume [veh/h]	22	1173	165	71	939	32	0	24	70	348	56	236
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	75	75	67	67	8	32	32
g / C, Green / Cycle	0.50	0.50	0.45	0.45	0.05	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.32	0.26	0.26	0.04	0.22	0.17
s, saturation flow rate [veh/h]	680	3618	1900	1874	1615	1822	1397
c, Capacity [veh/h]	298	1806	852	840	86	392	301
d1, Uniform Delay [s]	21.93	27.81	30.63	30.78	70.24	58.85	55.58
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.46	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	1.82	2.76	2.89	6.72	51.52	9.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

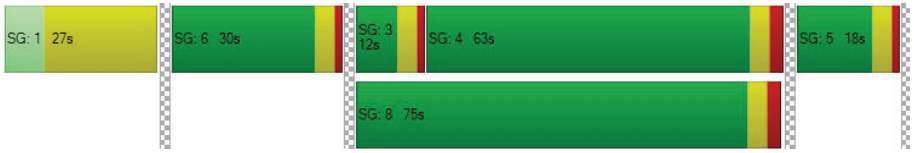
X, volume / capacity	0.07	0.65	0.57	0.58	0.81	1.03	0.79
d, Delay for Lane Group [s/veh]	21.97	29.64	33.39	33.67	76.96	110.37	65.37
Lane Group LOS	C	C	C	C	E	F	E
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.40	16.07	13.76	13.85	2.82	20.60	9.34
50th-Percentile Queue Length [ft/ln]	10.09	401.72	344.03	346.15	70.48	515.03	233.60
95th-Percentile Queue Length [veh/ln]	0.73	22.64	19.85	19.95	5.07	28.55	14.36
95th-Percentile Queue Length [ft/ln]	18.17	566.08	496.13	498.72	126.86	713.67	358.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.97	29.64	0.00	0.00	33.52	33.67	76.96	0.00	76.96	110.37	110.37	65.37
Movement LOS	C	C			C	C	E		E	F	F	E
d_A, Approach Delay [s/veh]	29.50			33.53			76.96			93.78		
Approach LOS	C			C			E			F		
d_I, Intersection Delay [s/veh]	46.32											
Intersection LOS	D											
Intersection V/C	0.589											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	370	896	874	110	230	700
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	370	896	874	110	230	700
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	235	224	28	60	182
Total Analysis Volume [veh/h]	388	940	897	113	240	730
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	70	70	70	20	40
g / C, Green / Cycle	0.13	0.59	0.59	0.59	0.17	0.34
(v / s)_i Volume / Saturation Flow Rate	0.11	0.26	0.25	0.09	0.18	0.26
s, saturation flow rate [veh/h]	3514	3618	3618	1315	1322	2859
c, Capacity [veh/h]	452	2120	2120	770	225	964
d1, Uniform Delay [s]	51.18	13.88	13.66	11.24	49.75	35.38
k, delay calibration	0.04	0.50	0.50	0.50	0.31	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.67	0.62	0.40	65.74	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

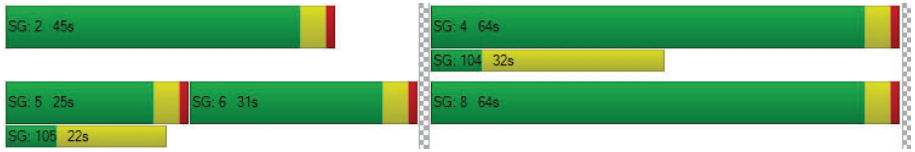
X, volume / capacity	0.86	0.44	0.42	0.15	1.07	0.76
d, Delay for Lane Group [s/veh]	53.07	14.55	14.28	11.64	115.49	35.84
Lane Group LOS	D	B	B	B	F	D
Critical Lane Group	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.82	7.12	6.68	1.43	11.19	10.14
50th-Percentile Queue Length [ft/ln]	145.55	178.02	167.11	35.84	279.73	253.39
95th-Percentile Queue Length [veh/ln]	9.78	11.50	10.92	2.58	17.20	15.36
95th-Percentile Queue Length [ft/ln]	244.48	287.43	273.11	64.51	430.03	383.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.07	14.55	14.28	11.64	115.49	35.84
Movement LOS	D	B	B	B	F	D
d_A, Approach Delay [s/veh]	25.81		13.98		55.55	
Approach LOS	C		B		E	
d_I, Intersection Delay [s/veh]	30.92					
Intersection LOS	C					
Intersection V/C	0.552					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	70	180	90	0	270	0	300	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	180	90	0	270	0	300	350
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	60	30	0	71	0	80	94
Total Analysis Volume [veh/h]	0	0	0	0	93	238	119	0	285	0	322	376
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		47	47	47	59	59	59
g / C, Green / Cycle		0.40	0.40	0.40	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate		0.09	0.10	0.12	0.24	0.17	0.26
s, saturation flow rate [veh/h]		1047	1900	1447	1170	1900	1453
c, Capacity [veh/h]		348	752	573	585	942	720
d1, Uniform Delay [s]		34.62	24.29	24.85	19.50	18.37	20.58
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.88	0.79	1.33	2.89	0.99	2.70
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.27	0.25	0.30	0.49	0.34	0.52
d, Delay for Lane Group [s/veh]		36.50	25.07	26.18	22.39	19.36	23.28
Lane Group LOS		D	C	C	C	B	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.33	3.68	3.52	5.10	5.57	7.49
50th-Percentile Queue Length [ft/ln]		58.27	91.88	87.89	127.60	139.26	187.20
95th-Percentile Queue Length [veh/ln]		4.20	6.62	6.33	8.81	9.44	11.98
95th-Percentile Queue Length [ft/ln]		104.89	165.38	158.21	220.23	236.02	299.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	36.50	25.31	26.18	0.00	22.39	0.00	19.36	23.28
Movement LOS					D	C	C		C		B	C
d_A, Approach Delay [s/veh]	0.00				27.85				21.74			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	30.97											
Intersection LOS	C											
Intersection V/C	0.582											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	646	180	260	934	0	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	646	180	260	934	0	120
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	171	48	72	259	0	31
Total Analysis Volume [veh/h]	0	53	686	191	288	1036	0	125
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	51	51	51
g / C, Green / Cycle	0.26	0.26	0.26	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.15	0.26	0.31	0.32
s, saturation flow rate [veh/h]	491	3618	1246	1126	1900	1770
c, Capacity [veh/h]	60	955	329	438	813	757
d1, Uniform Delay [s]	59.98	40.11	38.39	26.27	28.47	29.03
k, delay calibration	0.04	0.04	0.04	0.11	0.22	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.39	0.61	1.75	2.53	3.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

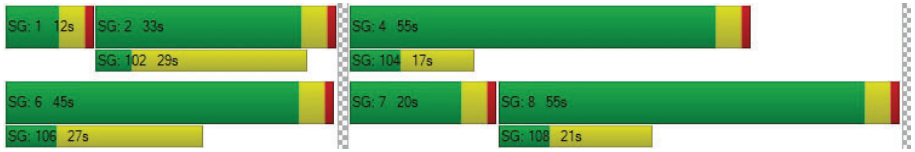
X, volume / capacity	0.88	0.72	0.58	0.66	0.72	0.76
d, Delay for Lane Group [s/veh]	74.28	40.50	39.00	28.02	31.01	32.64
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	9.21	4.94	5.76	14.39	14.44
50th-Percentile Queue Length [ft/ln]	46.30	230.30	123.44	143.97	359.71	361.10
95th-Percentile Queue Length [veh/ln]	3.33	14.19	8.58	9.69	20.61	20.68
95th-Percentile Queue Length [ft/ln]	83.33	354.73	214.54	242.35	515.23	516.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	40.50	39.00	28.02	31.71	0.00	32.64
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	42.11				31.06			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	30.97							
Intersection LOS	C							
Intersection V/C	0.582							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	270.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.395

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	69	204	181	0	100	89	47	0	35	163	43	0	191	477	215
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	69	204	181	0	100	89	47	0	35	163	43	0	191	477	215
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	54	48	0	27	24	13	0	10	47	12	0	49	123	56
Total Analysis Volume [veh/h]	0	74	217	193	0	108	96	51	0	40	188	50	0	197	493	222
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	3.19	0.05	0.13	0.17	0.20	0.20
s, saturation flow rate [veh/h]	1260	1728	80	747	1822	1160	1900	1665
c, Capacity [veh/h]	73	268	63	305	861	499	898	787
d1, Uniform Delay [s]	50.02	42.26	47.51	25.02	16.01	24.07	17.36	17.46
k, delay calibration	0.04	0.23	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	33.27	247.17	1413.65	0.89	0.80	2.33	1.44	1.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	1.53	4.06	0.13	0.28	0.39	0.42	0.43
d, Delay for Lane Group [s/veh]	83.29	289.43	1461.16	25.91	16.81	26.40	18.81	19.18
Lane Group LOS	F	F	F	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.48	24.86	26.22	0.76	3.41	3.80	5.89	5.36
50th-Percentile Queue Length [ft/ln]	61.90	621.49	655.46	19.01	85.19	95.03	147.17	133.93
95th-Percentile Queue Length [veh/ln]	4.46	38.97	43.95	1.37	6.13	6.84	9.87	9.15
95th-Percentile Queue Length [ft/ln]	111.41	974.13	1098.80	34.22	153.34	171.05	246.64	228.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	83.29	83.29	289.4	289.4	1461.	1461.	1461.	1461.	25.91	25.91	16.81	16.81	26.40	26.40	18.89	19.18
Movement LOS	F	F	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	257.91				1461.16				18.12				20.58			
Approach LOS	F				F				B				C			
d_I, Intersection Delay [s/veh]	270.21															
Intersection LOS	F															
Intersection V/C	3.395															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	33.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	70	333	120	30	123	50	70	180	90	110	150	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	333	120	30	123	50	70	180	90	110	150	140
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	88	32	9	36	15	22	55	28	31	43	40
Total Analysis Volume [veh/h]	74	352	127	35	145	59	86	222	111	125	170	159
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	45	45
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.08	0.03	0.11	0.31	0.41
s, saturation flow rate [veh/h]	1197	1900	1546	1045	1779	1365	1100
c, Capacity [veh/h]	227	466	379	130	436	661	544
d1, Uniform Delay [s]	40.42	34.98	31.05	46.15	32.19	20.40	25.48
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.95	0.19	0.41	0.29	4.58	14.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

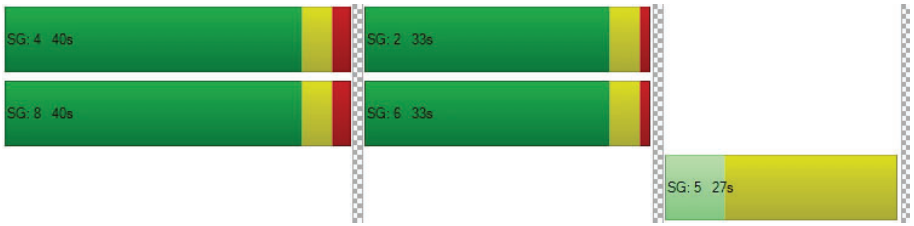
X, volume / capacity	0.33	0.76	0.34	0.27	0.47	0.63	0.83
d, Delay for Lane Group [s/veh]	40.73	35.93	31.24	46.55	32.48	24.98	39.50
Lane Group LOS	D	D	C	D	C	C	D
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.68	7.85	2.49	0.85	4.15	7.87	11.62
50th-Percentile Queue Length [ft/ln]	42.08	196.17	62.34	21.32	103.86	196.80	290.61
95th-Percentile Queue Length [veh/ln]	3.03	12.44	4.49	1.53	7.48	12.47	17.22
95th-Percentile Queue Length [ft/ln]	75.75	311.01	112.22	38.37	186.94	311.83	430.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.73	35.93	31.24	46.55	32.48	32.48	24.98	24.98	24.98	39.50	39.50	39.50
Movement LOS	D	D	C	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	35.50			34.54			24.98			39.50		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	33.80											
Intersection LOS	C											
Intersection V/C	0.598											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	127.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.299

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	303	120	60	213	40	30	330	40	110	280	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	303	120	60	213	40	30	330	40	110	280	230
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	85	34	17	59	11	8	89	11	32	80	66
Total Analysis Volume [veh/h]	34	341	135	67	237	44	32	357	43	126	322	264
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.17	0.06	0.15	0.52	0.03	1.12	0.17
s, saturation flow rate [veh/h]	1116	1900	800	1056	1831	753	1570	400	1581
c, Capacity [veh/h]	106	370	156	74	356	417	789	247	795
d1, Uniform Delay [s]	48.42	39.51	39.00	49.97	38.29	32.98	12.71	29.54	14.83
k, delay calibration	0.04	0.16	0.12	0.04	0.07	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	13.20	14.85	14.65	2.69	29.91	0.13	380.99	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

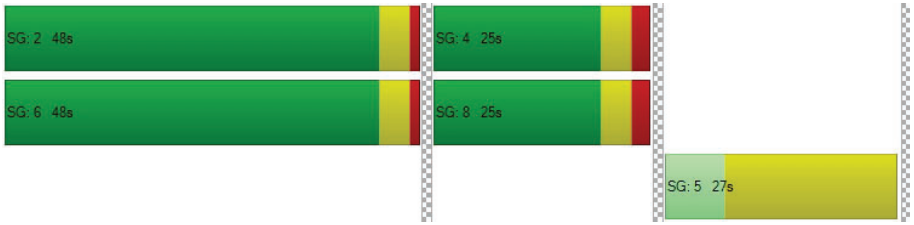
X, volume / capacity	0.32	0.92	0.87	0.91	0.79	0.93	0.05	1.81	0.33
d, Delay for Lane Group [s/veh]	49.06	52.71	53.85	64.62	40.98	62.90	12.84	410.53	15.96
Lane Group LOS	D	D	D	E	D	E	B	F	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.85	9.36	3.77	1.95	6.66	11.57	0.51	32.32	3.70
50th-Percentile Queue Length [ft/ln]	21.35	234.04	94.26	48.79	166.51	289.13	12.78	807.95	92.61
95th-Percentile Queue Length [veh/ln]	1.54	14.38	6.79	3.51	10.89	17.14	0.92	55.62	6.67
95th-Percentile Queue Length [ft/ln]	38.42	359.48	169.67	87.82	272.32	428.56	23.00	1390.47	166.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.06	52.71	53.85	64.62	40.98	40.98	62.90	62.90	12.84	410.53	410.53	15.96
Movement LOS	D	D	D	E	D	D	E	E	B	F	F	B
d_A, Approach Delay [s/veh]	52.77			45.53			57.92			264.23		
Approach LOS	D			D			E			F		
d_I, Intersection Delay [s/veh]	127.83											
Intersection LOS	F											
Intersection V/C	1.299											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	30	202	270	112	321	20	30	220	130	170	285	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	202	270	112	321	20	30	220	130	170	285	162
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	60	80	30	86	5	8	58	34	49	82	47
Total Analysis Volume [veh/h]	36	239	320	120	343	21	31	230	136	196	329	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.03	0.13	0.22	0.10	0.19	0.03	0.21	0.19	0.17	0.12
s, saturation flow rate [veh/h]	1034	1900	1473	1159	1876	1068	1759	1032	1900	1559
c, Capacity [veh/h]	118	464	360	208	459	381	762	340	823	675
d1, Uniform Delay [s]	47.31	32.65	36.46	43.46	35.41	25.97	20.30	33.84	19.44	18.27
k, delay calibration	0.04	0.04	0.18	0.04	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.33	11.41	0.94	3.24	0.42	2.17	6.96	1.45	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

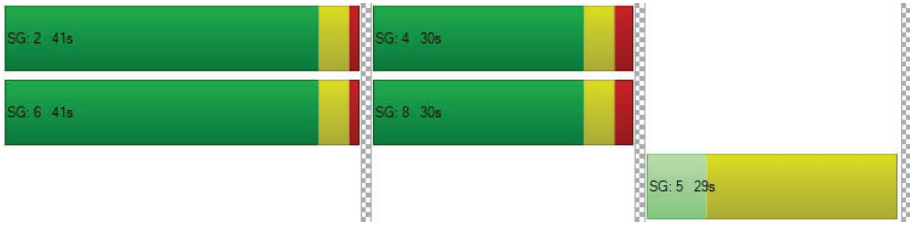
X, volume / capacity	0.31	0.51	0.89	0.58	0.79	0.08	0.48	0.58	0.40	0.28
d, Delay for Lane Group [s/veh]	47.84	32.98	47.87	44.41	38.65	26.39	22.47	40.80	20.89	19.28
Lane Group LOS	D	C	D	D	D	C	C	D	C	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.89	4.93	8.45	2.92	8.49	0.57	6.29	4.88	5.35	2.87
50th-Percentile Queue Length [ft/ln]	22.30	123.28	211.30	73.03	212.22	14.36	157.34	121.94	133.87	71.84
95th-Percentile Queue Length [veh/ln]	1.61	8.57	13.22	5.26	13.27	1.03	10.41	8.50	9.15	5.17
95th-Percentile Queue Length [ft/ln]	40.13	214.33	330.49	131.46	331.68	25.84	260.19	212.49	228.75	129.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.84	32.98	47.87	44.41	38.65	38.65	26.39	22.47	22.47	40.80	20.89	19.28
Movement LOS	D	C	D	D	D	D	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	41.89			40.08			22.77			25.95		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.83											
Intersection LOS	C											
Intersection V/C	0.425											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	43.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	442	0	29	411	100	66	90	0	80	350	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	442	0	29	411	100	66	90	0	80	350	200
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	119	0	8	110	27	20	27	0	21	93	53
Total Analysis Volume [veh/h]	11	475	0	31	442	107	79	108	0	85	372	212
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	33	33	33	33		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.26	0.24	0.08		0.19	0.20
s, saturation flow rate [veh/h]	944	1863	1863	1400		1878	1500
c, Capacity [veh/h]	87	510	510	383		907	724
d1, Uniform Delay [s]	57.21	42.47	41.49	34.26		19.93	20.11
k, delay calibration	0.04	0.32	0.50	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.24	19.08	17.63	0.15		1.34	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.93	0.87	0.28		0.40	0.42
d, Delay for Lane Group [s/veh]	57.45	61.55	59.12	34.41		21.27	21.89
Lane Group LOS	E	E	E	C		C	C
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	16.30	14.72	2.46		6.97	5.89
50th-Percentile Queue Length [ft/ln]	8.34	407.38	368.03	61.49		174.16	147.26
95th-Percentile Queue Length [veh/ln]	0.60	22.92	21.01	4.43		11.29	9.87
95th-Percentile Queue Length [ft/ln]	15.02	572.89	525.34	110.67		282.37	246.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.45	61.55	0.00	0.00	59.12	34.41	0.00	0.00	0.00	21.27	21.42	21.89
Movement LOS	E	E			E	C				C	C	C
d_A, Approach Delay [s/veh]	61.46			54.30			0.00			21.55		
Approach LOS	E			D			A			C		
d_I, Intersection Delay [s/veh]	43.48											
Intersection LOS	D											
Intersection V/C	0.457											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	90	40	0	816	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	40	0	816	130
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	30	13	0	226	36
Total Analysis Volume [veh/h]	0	0	0	0	120	53	0	903	144
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	9	9	55	55
g / C, Green / Cycle	0.55	0.55	0.09	0.09	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.07	0.03	0.30	0.30
s, saturation flow rate [veh/h]	547	1900	1810	1583	1900	1630
c, Capacity [veh/h]	254	1047	156	136	1083	899
d1, Uniform Delay [s]	0.00	0.00	44.71	43.19	14.29	14.33
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	3.03	0.67	1.77	2.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.77	0.39	0.52	0.54
d, Delay for Lane Group [s/veh]	0.00	0.00	47.74	43.86	16.06	16.66
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.99	1.25	8.15	7.19
50th-Percentile Queue Length [ft/ln]	0.00	0.00	74.86	31.18	203.81	179.85
95th-Percentile Queue Length [veh/ln]	0.00	0.00	5.39	2.24	12.84	11.59
95th-Percentile Queue Length [ft/ln]	0.00	0.00	134.74	56.12	320.88	289.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.74	47.74	43.86	16.06	16.29	16.66
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.55			16.34		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	20.62								
Intersection LOS	C								
Intersection V/C	0.364								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.311

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	100	40	100	163	50	30	260	20	40	191	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	100	40	100	163	50	30	260	20	40	191	50
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	26	10	28	46	14	9	80	6	11	52	14
Total Analysis Volume [veh/h]	10	105	42	113	184	57	37	322	25	43	207	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	13	13
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.30	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.01	0.06	0.03	0.09	0.10	0.04	0.21	0.18
s, saturation flow rate [veh/h]	1189	1900	1406	1226	1900	1481	1795	1681
c, Capacity [veh/h]	416	560	415	465	560	437	872	830
d1, Uniform Delay [s]	11.34	8.40	8.18	11.38	8.78	8.25	6.84	6.55
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.06	0.04	0.10	0.13	0.05	0.13	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.02	0.19	0.10	0.24	0.33	0.13	0.44	0.37
d, Delay for Lane Group [s/veh]	11.35	8.46	8.22	11.48	8.91	8.30	6.97	6.65
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.04	0.36	0.14	0.54	0.70	0.20	1.25	0.86
50th-Percentile Queue Length [ft/ln]	1.11	8.90	3.49	13.48	17.54	5.11	31.26	21.62
95th-Percentile Queue Length [veh/ln]	0.08	0.64	0.25	0.97	1.26	0.37	2.25	1.56
95th-Percentile Queue Length [ft/ln]	2.00	16.02	6.28	24.27	31.57	9.20	56.26	38.91

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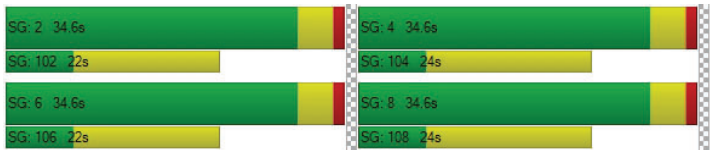
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.35	8.46	8.22	11.48	8.91	8.30	6.97	6.97	6.97	6.65	6.65	6.65
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.58			9.63			6.97			6.65		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.88											
Intersection LOS	A											
Intersection V/C	0.311											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	121	40	20	230	33	21	218	174	20	234	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	121	40	20	230	33	21	218	174	20	234	50
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	36	12	5	62	9	6	64	51	6	65	14
Total Analysis Volume [veh/h]	83	143	47	22	248	36	25	256	205	22	259	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	14	14	14	14	14
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.02	0.15	0.29	0.19
s, saturation flow rate [veh/h]	1083	1754	1149	1834	1687	1785
c, Capacity [veh/h]	415	653	474	683	746	785
d1, Uniform Delay [s]	12.80	8.29	10.88	8.75	9.98	8.79
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	0.09	0.01	0.15	0.36	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

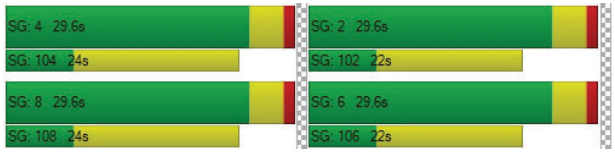
X, volume / capacity	0.20	0.29	0.05	0.42	0.65	0.43
d, Delay for Lane Group [s/veh]	12.89	8.38	10.89	8.90	10.34	8.93
Lane Group LOS	B	A	B	A	B	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	0.74	0.11	1.17	3.39	1.40
50th-Percentile Queue Length [ft/ln]	11.80	18.58	2.70	29.36	84.77	35.04
95th-Percentile Queue Length [veh/ln]	0.85	1.34	0.19	2.11	6.10	2.52
95th-Percentile Queue Length [ft/ln]	21.24	33.44	4.86	52.85	152.59	63.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.89	8.38	8.38	10.89	8.90	8.90	10.34	10.34	10.34	8.93	8.93	8.93
Movement LOS	B	A	A	B	A	A	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	9.75			9.04			10.34			8.93		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	9.61											
Intersection LOS	A											
Intersection V/C	0.443											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	47.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	77	150	130	100	264	20	49	527	61	220	759	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	150	130	100	264	20	49	527	61	220	759	112
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	49	42	27	71	5	13	140	16	61	209	31
Total Analysis Volume [veh/h]	100	194	168	108	284	22	52	560	65	243	837	124
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	24	24	24	24	24	24	0	29	29	14	43	43
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	18	31	31	45	45	45
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.18	0.31	0.31	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.09	0.10	0.11	0.09	0.15	0.01	0.09	0.34	0.23	0.26	0.26
s, saturation flow rate [veh/h]	1113	1900	1576	1208	1900	1580	594	1861	1079	1900	1801
c, Capacity [veh/h]	94	350	290	158	350	291	130	583	344	863	818
d1, Uniform Delay [s]	49.89	37.17	37.36	47.27	39.24	33.85	44.75	34.43	22.73	20.12	20.20
k, delay calibration	0.04	0.04	0.04	0.04	0.06	0.04	0.50	0.50	0.22	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	43.96	0.51	0.68	1.94	2.68	0.04	8.99	58.37	5.25	2.71	2.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

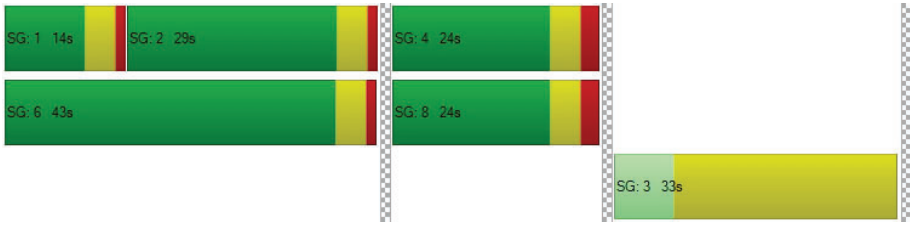
X, volume / capacity	1.06	0.55	0.58	0.68	0.81	0.08	0.40	1.07	0.71	0.57	0.57
d, Delay for Lane Group [s/veh]	93.84	37.68	38.04	49.21	41.92	33.89	53.74	92.80	27.98	22.83	23.12
Lane Group LOS	F	D	D	D	D	C	D	F	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.48	4.28	3.74	2.75	6.80	0.44	1.59	23.19	3.95	8.79	8.49
50th-Percentile Queue Length [ft/ln]	87.00	107.03	93.44	68.83	170.00	11.01	39.74	579.76	98.85	219.70	212.22
95th-Percentile Queue Length [veh/ln]	6.26	7.67	6.73	4.96	11.08	0.79	2.86	32.54	7.12	13.65	13.27
95th-Percentile Queue Length [ft/ln]	156.60	191.87	168.20	123.90	276.91	19.81	71.54	813.45	177.93	341.24	331.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	93.84	37.68	38.04	49.21	41.92	33.89	53.74	92.80	92.80	27.98	22.95	23.12
Movement LOS	F	D	D	D	D	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	49.97			43.40			89.80			23.99		
Approach LOS	D			D			F			C		
d_I, Intersection Delay [s/veh]	47.42											
Intersection LOS	D											
Intersection V/C	0.575											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	82.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	70	287	70	60	404	60	30	150	160	110	270	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	287	70	60	404	60	30	150	160	110	270	40
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	81	20	19	130	19	9	43	45	30	75	11
Total Analysis Volume [veh/h]	79	324	79	77	518	77	34	170	182	122	299	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	39	39	39	39	39	39	28	28
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.05	0.07	0.16	0.16	0.24	0.48
s, saturation flow rate [veh/h]	836	1900	1554	1073	1900	1797	1619	959
c, Capacity [veh/h]	280	746	610	331	746	705	499	318
d1, Uniform Delay [s]	31.10	22.24	19.43	30.95	21.95	22.02	33.21	38.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.50	1.84	0.44	1.64	1.65	1.78	5.87	224.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

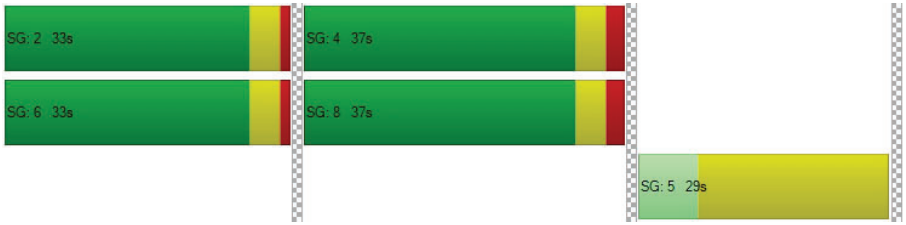
X, volume / capacity	0.28	0.43	0.13	0.23	0.41	0.41	0.77	1.46
d, Delay for Lane Group [s/veh]	33.60	24.08	19.87	32.59	23.60	23.80	39.08	262.28
Lane Group LOS	C	C	B	C	C	C	D	F
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.74	5.75	1.22	1.64	5.31	5.13	9.37	27.67
50th-Percentile Queue Length [ft/ln]	43.50	143.72	30.45	40.94	132.68	128.19	234.33	691.64
95th-Percentile Queue Length [veh/ln]	3.13	9.68	2.19	2.95	9.09	8.84	14.39	43.73
95th-Percentile Queue Length [ft/ln]	78.31	242.02	54.81	73.70	227.14	221.04	359.85	1093.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.60	24.08	19.87	32.59	23.68	23.80	39.08	39.08	39.08	262.28	262.28	262.28
Movement LOS	C	C	B	C	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.95			24.72			39.08			262.28		
Approach LOS	C			C			D			F		
d_I, Intersection Delay [s/veh]	82.63											
Intersection LOS	F											
Intersection V/C	0.655											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	347	100	110	484	80	0	450	170	0	410	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	347	100	110	484	80	0	450	170	0	410	190
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	105	30	30	131	22	0	122	46	0	117	54
Total Analysis Volume [veh/h]	133	420	121	119	522	86	0	487	184	0	467	216
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	44	44	44	44	44	44	25	25	25	25
g / C, Green / Cycle	0.44	0.44	0.44	0.44	0.44	0.44	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.08	0.12	0.16	0.17	0.26	0.12	0.18	0.20
s, saturation flow rate [veh/h]	826	1900	1581	982	1900	1794	1900	1570	1900	1685
c, Capacity [veh/h]	326	842	700	327	842	795	483	399	483	429
d1, Uniform Delay [s]	28.53	19.91	16.80	31.15	18.55	18.59	37.27	31.48	33.88	34.85
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.04	0.09	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.74	2.11	0.54	3.11	1.25	1.35	33.72	0.31	1.55	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.50	0.17	0.36	0.37	0.37	1.01	0.46	0.71	0.80
d, Delay for Lane Group [s/veh]	32.27	22.02	17.33	34.26	19.80	19.93	70.99	31.79	35.42	39.59
Lane Group LOS	C	C	B	C	B	B	F	C	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.89	7.15	1.72	2.64	4.88	4.69	16.09	3.75	7.63	8.20
50th-Percentile Queue Length [ft/ln]	72.26	178.76	43.05	66.07	122.12	117.24	402.20	93.76	190.77	205.03
95th-Percentile Queue Length [veh/ln]	5.20	11.54	3.10	4.76	8.51	8.24	22.77	6.75	12.16	12.90
95th-Percentile Queue Length [ft/ln]	130.07	288.40	77.49	118.92	212.74	206.03	569.21	168.77	304.02	322.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.27	22.02	17.33	34.26	19.85	19.93	0.00	70.99	31.79	0.00	36.54	39.59
Movement LOS	C	C	B	C	B	B		F	C		D	D
d_A, Approach Delay [s/veh]	23.20			22.22			60.24			37.51		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	35.51											
Intersection LOS	D											
Intersection V/C	0.477											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	55	407	160	120	424	100	0	311	131	70	422	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	407	160	120	424	100	0	311	131	70	422	100
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	118	46	39	136	32	0	87	36	20	121	29
Total Analysis Volume [veh/h]	64	471	185	154	545	129	0	346	146	80	483	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	9	40	40	53	39	39	24	38	35	35	35
g / C, Green / Cycle	0.08	0.33	0.33	0.44	0.33	0.33	0.20	0.31	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.25	0.12	0.14	0.18	0.19	0.18	0.09	0.06	0.25	0.07
s, saturation flow rate [veh/h]	1810	1900	1562	1118	1900	1755	1900	1561	1251	1900	1570
c, Capacity [veh/h]	141	632	520	371	617	570	375	490	265	552	456
d1, Uniform Delay [s]	52.98	35.57	30.34	24.20	33.53	33.63	47.29	31.23	33.71	40.52	32.59
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.20	0.04	0.04	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	7.80	1.90	3.39	3.70	4.12	15.46	0.13	0.24	10.76	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

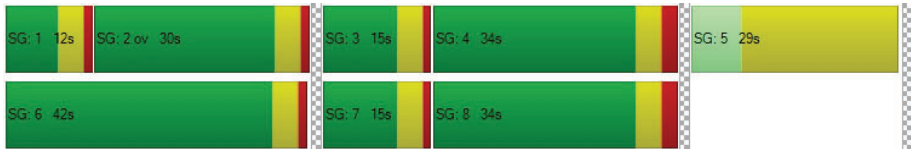
X, volume / capacity	0.46	0.75	0.36	0.41	0.56	0.57	0.92	0.30	0.30	0.87	0.25
d, Delay for Lane Group [s/veh]	53.83	43.36	32.25	27.59	37.23	37.75	62.75	31.35	33.94	51.28	32.69
Lane Group LOS	D	D	C	C	D	D	E	C	C	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.87	13.34	4.29	2.96	8.90	8.41	11.72	3.24	1.74	14.97	2.54
50th-Percentile Queue Length [ft/ln]	46.70	333.48	107.15	74.08	222.52	210.34	292.91	81.02	43.45	374.15	63.52
95th-Percentile Queue Length [veh/ln]	3.36	19.33	7.68	5.33	13.79	13.17	17.33	5.83	3.13	21.31	4.57
95th-Percentile Queue Length [ft/ln]	84.06	483.23	192.03	133.34	344.84	329.26	433.25	145.83	78.22	532.77	114.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.83	43.36	32.25	27.59	37.42	37.75	0.00	62.75	31.35	33.94	51.28	32.69
Movement LOS	D	D	C	C	D	D		E	C	C	D	C
d_A, Approach Delay [s/veh]	41.44			35.64			53.43			46.10		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	43.01											
Intersection LOS	D											
Intersection V/C	0.557											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	150	592	0	0	645	60	181	0	84	160	290	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	592	0	0	645	60	181	0	84	160	290	40
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	177	0	0	178	17	52	0	24	44	80	11
Total Analysis Volume [veh/h]	179	708	0	0	712	66	208	0	96	176	319	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	70	70	58	58		21	21
g / C, Green / Cycle	0.58	0.58	0.48	0.48		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.21	0.20	0.20	0.21		0.15	0.15
s, saturation flow rate [veh/h]	868	3618	1900	1828		1843	1672
c, Capacity [veh/h]	494	2115	916	881		317	287
d1, Uniform Delay [s]	13.20	12.88	20.26	20.47		48.62	48.65
k, delay calibration	0.11	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.46	0.43	1.44	1.61		3.49	3.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

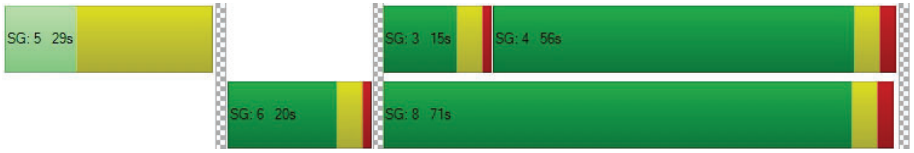
X, volume / capacity	0.36	0.33	0.42	0.44		0.89	0.89
d, Delay for Lane Group [s/veh]	13.66	13.30	21.71	22.08		52.10	52.58
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	2.24	4.95	7.28	7.38		8.62	7.89
50th-Percentile Queue Length [ft/ln]	55.97	123.67	182.08	184.48		215.52	197.27
95th-Percentile Queue Length [veh/ln]	4.03	8.59	11.71	11.83		13.44	12.50
95th-Percentile Queue Length [ft/ln]	100.75	214.87	292.73	295.85		335.90	312.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.66	13.30	0.00	0.00	21.87	22.08	0.00	0.00	0.00	52.10	52.42	52.58
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	13.38			21.89			0.00			52.33		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	25.91											
Intersection LOS	C											
Intersection V/C	0.416											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	394	0	0	825	620	428
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	394	0	0	825	620	428
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	0	0	233	170	118
Total Analysis Volume [veh/h]	450	0	0	933	681	470
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	73	73	38	38
g / C, Green / Cycle	0.61	0.61	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.12	0.26	0.19	0.30
s, saturation flow rate [veh/h]	3618	3618	3514	1587
c, Capacity [veh/h]	2201	2201	1107	500
d1, Uniform Delay [s]	10.50	12.39	34.88	39.96
k, delay calibration	0.50	0.50	0.04	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.60	0.21	17.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.42	0.62	0.94
d, Delay for Lane Group [s/veh]	10.71	12.99	35.09	57.81
Lane Group LOS	B	B	D	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.68	6.58	7.96	15.02
50th-Percentile Queue Length [ft/ln]	66.98	164.52	199.12	375.53
95th-Percentile Queue Length [veh/ln]	4.82	10.79	12.59	21.38
95th-Percentile Queue Length [ft/ln]	120.57	269.70	314.83	534.44

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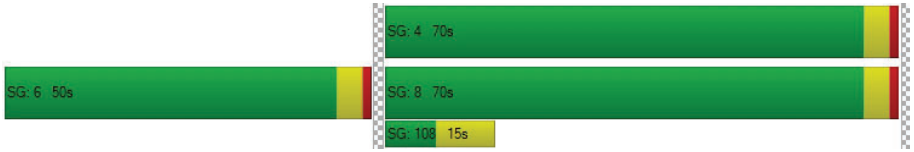
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.71	0.00	0.00	12.99	35.09	57.81
Movement LOS	B			B	D	E
d_A, Approach Delay [s/veh]	10.71		12.99		44.37	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	26.84					
Intersection LOS	C					
Intersection V/C	0.554					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	55.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	10	354	480	562	742	240	30	510	30	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	354	480	562	742	240	30	510	30	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	91	123	157	207	67	9	152	9	0	0	0
Total Analysis Volume [veh/h]	10	362	491	628	829	268	36	609	36	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	1	25	25	63	87	87	18	18	18
g / C, Green / Cycle	0.01	0.21	0.21	0.53	0.73	0.73	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.19	0.27	0.18	0.29	0.33	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1655	1886	1729	1671
c, Capacity [veh/h]	22	396	375	1858	1378	1200	279	255	247
d1, Uniform Delay [s]	58.81	46.38	47.44	16.22	6.42	6.72	49.96	49.94	50.04
k, delay calibration	0.04	0.34	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.33	21.22	156.62	0.04	0.89	1.22	3.28	3.51	3.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

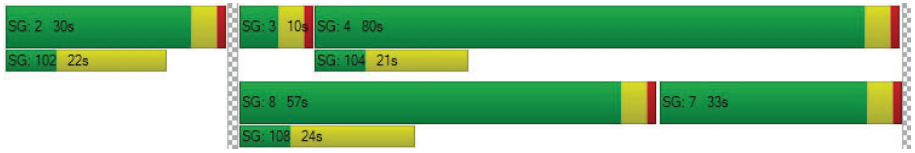
X, volume / capacity	0.45	0.91	1.31	0.34	0.41	0.45	0.87	0.87	0.88
d, Delay for Lane Group [s/veh]	64.15	67.60	204.06	16.26	7.30	7.94	53.23	53.45	54.02
Lane Group LOS	E	E	F	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	12.84	27.47	4.91	5.30	5.42	7.28	6.68	6.58
50th-Percentile Queue Length [ft/ln]	8.37	320.98	686.79	122.80	132.43	135.53	182.01	166.88	164.50
95th-Percentile Queue Length [veh/ln]	0.60	18.72	41.15	8.55	9.07	9.24	11.71	10.91	10.79
95th-Percentile Queue Length [ft/ln]	15.06	467.89	1028.87	213.66	226.80	230.99	292.64	272.81	269.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.15	67.60	204.06	16.26	7.51	7.94	53.23	53.55	54.02	0.00	0.00	0.00
Movement LOS	E	E	F	B	A	A	D	D	D			
d_A, Approach Delay [s/veh]	145.20			10.76			53.55			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	55.17											
Intersection LOS	E											
Intersection V/C	0.581											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	149	155	180	30	60	30	30	687	80	110	1012	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	149	155	180	30	60	30	30	687	80	110	1012	60
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	43	50	8	16	8	8	179	21	29	271	16
Total Analysis Volume [veh/h]	165	172	200	32	63	32	31	717	83	118	1083	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	61	61	61	61	61	61
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.14	0.09	0.14	0.03	0.06	0.06	0.20	0.06	0.16	0.30	0.31
s, saturation flow rate [veh/h]	1165	1900	1451	1168	1663	498	3618	1424	735	1900	1810
c, Capacity [veh/h]	289	480	366	255	420	280	2226	876	439	1169	1114
d1, Uniform Delay [s]	38.55	30.69	32.37	36.49	29.60	18.02	9.21	7.84	14.95	10.62	10.77
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	0.17	0.47	0.08	0.10	0.80	0.38	0.21	1.50	1.50	1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

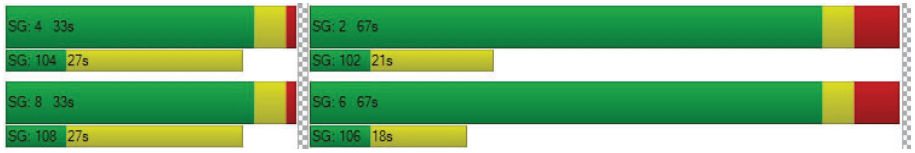
X, volume / capacity	0.57	0.36	0.55	0.13	0.23	0.11	0.32	0.09	0.27	0.49	0.51
d, Delay for Lane Group [s/veh]	39.22	30.86	32.85	36.57	29.70	18.81	9.59	8.06	16.45	12.12	12.44
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.80	3.36	4.14	0.67	1.79	0.50	3.61	0.74	1.73	6.98	6.98
50th-Percentile Queue Length [ft/ln]	94.92	83.92	103.46	16.82	44.71	12.52	90.16	18.49	43.37	174.42	174.52
95th-Percentile Queue Length [veh/ln]	6.83	6.04	7.45	1.21	3.22	0.90	6.49	1.33	3.12	11.31	11.31
95th-Percentile Queue Length [ft/ln]	170.86	151.06	186.22	30.28	80.47	22.53	162.28	33.29	78.07	282.71	282.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.22	30.86	32.85	36.57	29.70	29.70	18.81	9.59	8.06	16.45	12.27	12.44
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	34.17			31.43			9.78			12.67		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	16.85											
Intersection LOS	B											
Intersection V/C	0.456											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	110	344	50	20	130	30	20	450	60	50	300	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	344	50	20	130	30	20	450	60	50	300	90
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	94	14	6	38	9	6	130	17	15	90	27
Total Analysis Volume [veh/h]	120	375	54	24	154	35	23	522	70	60	361	108
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	48	48	48	48	48	43	43
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.12	0.03	0.11	0.36	0.40
s, saturation flow rate [veh/h]	1148	1900	1750	953	1771	1698	1309
c, Capacity [veh/h]	531	914	842	445	853	762	599
d1, Uniform Delay [s]	20.09	15.20	15.30	19.01	15.06	25.03	26.59
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.25	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	0.62	0.71	0.23	0.60	4.73	11.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.24	0.25	0.05	0.22	0.81	0.88
d, Delay for Lane Group [s/veh]	21.08	15.82	16.01	19.24	15.66	29.76	38.28
Lane Group LOS	C	B	B	B	B	C	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	2.95	2.88	0.37	2.54	13.02	13.72
50th-Percentile Queue Length [ft/ln]	49.12	73.76	71.95	9.22	63.45	325.55	342.97
95th-Percentile Queue Length [veh/ln]	3.54	5.31	5.18	0.66	4.57	18.94	19.79
95th-Percentile Queue Length [ft/ln]	88.42	132.77	129.52	16.60	114.21	473.50	494.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.08	15.90	16.01	19.24	15.66	15.66	29.76	29.76	29.76	38.28	38.28	38.28
Movement LOS	C	B	B	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	17.04			16.07			29.76			38.28		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	26.93											
Intersection LOS	C											
Intersection V/C	0.524											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.413

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	210	444	0	140	150	30	110	480	60	30	310	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	444	0	140	150	30	110	480	60	30	310	50
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	127	0	40	42	8	32	140	18	9	97	16
Total Analysis Volume [veh/h]	239	506	0	158	169	34	129	561	70	37	387	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.21	0.13	0.13	0.18	0.11	0.13	0.17	0.18	0.05	0.20	0.04
s, saturation flow rate [veh/h]	1142	1900	1900	886	1779	994	1900	1751	793	1900	1400
c, Capacity [veh/h]	283	559	559	220	524	511	1090	1004	436	1090	803
d1, Uniform Delay [s]	41.84	28.69	28.69	42.14	28.08	17.92	10.93	11.04	15.35	11.41	9.51
k, delay calibration	0.17	0.04	0.04	0.08	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.35	0.21	0.21	3.37	0.17	1.19	0.69	0.80	0.38	0.91	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

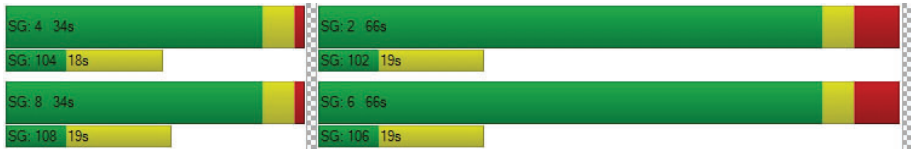
X, volume / capacity	0.85	0.45	0.45	0.72	0.39	0.25	0.29	0.31	0.08	0.36	0.08
d, Delay for Lane Group [s/veh]	52.19	28.91	28.91	45.51	28.25	19.11	11.62	11.83	15.74	12.31	9.69
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.70	4.84	4.84	4.06	3.80	2.04	3.67	3.59	0.52	4.62	0.62
50th-Percentile Queue Length [ft/ln]	167.62	121.12	121.12	101.40	95.07	50.98	91.76	89.71	12.93	115.60	15.56
95th-Percentile Queue Length [veh/ln]	10.95	8.45	8.45	7.30	6.85	3.67	6.61	6.46	0.93	8.15	1.12
95th-Percentile Queue Length [ft/ln]	273.78	211.36	211.36	182.52	171.13	91.77	165.17	161.48	23.28	203.76	28.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.19	28.91	28.91	45.51	28.25	28.25	19.11	11.71	11.83	15.74	12.31	9.69
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	36.38			35.81			12.98			12.24		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.74											
Intersection LOS	C											
Intersection V/C	0.413											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	200	574	50	30	110	60	70	461	40	40	302	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	574	50	30	110	60	70	461	40	40	302	30
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	151	13	8	31	17	19	123	11	11	83	8
Total Analysis Volume [veh/h]	210	602	52	33	123	67	75	491	43	44	334	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	31	31	60	60	60	60	60
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.18	0.04	0.11	0.07	0.29	0.05	0.18	0.02
s, saturation flow rate [veh/h]	1190	1900	1807	790	1718	1033	1849	881	1900	1427
c, Capacity [veh/h]	304	583	555	175	527	589	1112	447	1142	858
d1, Uniform Delay [s]	39.34	29.06	29.20	39.46	26.98	13.45	11.18	17.35	9.65	8.14
k, delay calibration	0.06	0.05	0.06	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.51	0.42	0.56	0.19	0.15	0.45	1.49	0.44	0.65	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.57	0.58	0.19	0.36	0.13	0.48	0.10	0.29	0.04
d, Delay for Lane Group [s/veh]	40.85	29.48	29.76	39.66	27.13	13.90	12.67	17.79	10.30	8.22
Lane Group LOS	D	C	C	D	C	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.04	6.55	6.42	0.73	3.47	0.94	6.43	0.65	3.43	0.29
50th-Percentile Queue Length [ft/ln]	125.92	163.72	160.51	18.36	86.75	23.56	160.85	16.21	85.78	7.22
95th-Percentile Queue Length [veh/ln]	8.72	10.75	10.58	1.32	6.25	1.70	10.59	1.17	6.18	0.52
95th-Percentile Queue Length [ft/ln]	217.94	268.64	264.40	33.04	156.15	42.42	264.85	29.19	154.40	13.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.85	29.61	29.76	39.66	27.13	27.13	13.90	12.67	12.67	17.79	10.30	8.22
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.35			28.98			12.82			10.93		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.17											
Intersection LOS	C											
Intersection V/C	0.467											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	774	130	60	40	120	0	0	0	6	260	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	774	130	60	40	120	0	0	0	6	260	50
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	213	36	18	12	35	0	0	0	2	86	17
Total Analysis Volume [veh/h]	15	851	143	71	47	142	0	0	0	6	344	66
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.24	0.11	0.04	0.12		0.22
s, saturation flow rate [veh/h]	3618	1338	1810	1620		1840
c, Capacity [veh/h]	1398	517	109	799		745
d1, Uniform Delay [s]	24.59	21.05	45.92	14.54		22.76
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.98	1.32	2.42	0.70		2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

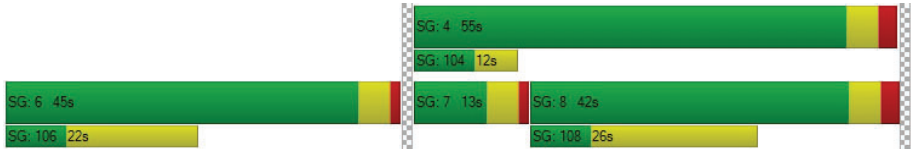
X, volume / capacity	0.61	0.28	0.65	0.24		0.55
d, Delay for Lane Group [s/veh]	26.57	22.38	48.34	15.24		25.68
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	8.25	2.45	1.77	2.50		7.80
50th-Percentile Queue Length [ft/ln]	206.23	61.34	44.30	62.47		195.12
95th-Percentile Queue Length [veh/ln]	12.96	4.42	3.19	4.50		12.39
95th-Percentile Queue Length [ft/ln]	323.98	110.41	79.73	112.45		309.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	26.57	22.38	48.34	15.24	15.24	0.00	0.00	0.00	0.00	25.68	25.68
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	25.96			24.28			0.00			25.68		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	25.63											
Intersection LOS	C											
Intersection V/C	0.497											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	150	50	110	180	38	70	350	30	50	291	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	50	110	180	38	70	350	30	50	291	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	43	14	31	51	11	21	106	9	14	79	33
Total Analysis Volume [veh/h]	12	173	58	124	203	43	85	423	36	55	318	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.31	0.10	0.55	0.07	0.08	0.25	0.06	0.17	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1014	1840	927	1900	1325
c, Capacity [veh/h]	274	219	290	219	478	926	385	957	667
d1, Uniform Delay [s]	20.39	15.62	25.34	15.19	15.15	11.49	17.99	10.36	9.57
k, delay calibration	0.19	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.00	0.24	91.77	0.16	0.81	1.89	0.78	0.93	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

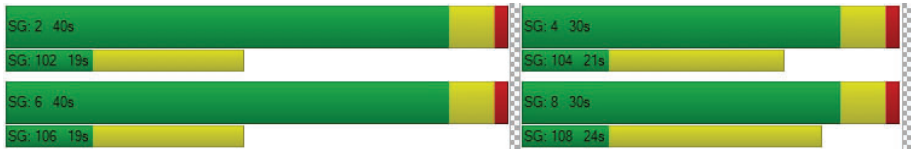
X, volume / capacity	0.68	0.26	1.13	0.20	0.18	0.50	0.14	0.33	0.20
d, Delay for Lane Group [s/veh]	25.40	15.85	117.11	15.36	15.96	13.39	18.77	11.29	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.92	0.62	12.19	0.45	0.97	4.61	0.70	2.82	1.10
50th-Percentile Queue Length [ft/ln]	72.91	15.58	304.83	11.22	24.35	115.33	17.59	70.62	27.57
95th-Percentile Queue Length [veh/ln]	5.25	1.12	19.25	0.81	1.75	8.14	1.27	5.08	1.99
95th-Percentile Queue Length [ft/ln]	131.24	28.04	481.25	20.20	43.83	203.39	31.67	127.12	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.40	25.40	15.85	117.11	117.11	15.36	15.96	13.39	13.39	18.77	11.29	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	23.12			105.29			13.79			11.83		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	34.94											
Intersection LOS	C											
Intersection V/C	0.794											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	150	70	40	60	30	50	390	60	60	361	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	150	70	40	60	30	50	390	60	60	361	40
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	42	20	15	22	11	16	122	19	16	99	11
Total Analysis Volume [veh/h]	67	167	78	59	88	44	63	489	75	66	394	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	37	37	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	17	17	17	17
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.05	0.14	0.05	0.08	0.07	0.31	0.08	0.25
s, saturation flow rate [veh/h]	1231	1723	1111	1739	860	1799	819	1784
c, Capacity [veh/h]	424	509	333	514	396	820	327	813
d1, Uniform Delay [s]	12.97	10.71	14.97	9.94	11.69	7.99	14.13	7.26
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.26	0.09	0.10	0.07	0.39	0.11	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

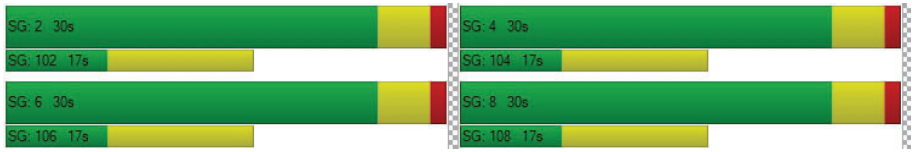
X, volume / capacity	0.16	0.48	0.18	0.26	0.16	0.69	0.20	0.54
d, Delay for Lane Group [s/veh]	13.03	10.97	15.06	10.03	11.76	8.37	14.24	7.47
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.38	1.21	0.37	0.60	0.35	2.31	0.42	1.61
50th-Percentile Queue Length [ft/ln]	9.48	30.32	9.36	15.04	8.64	57.67	10.51	40.35
95th-Percentile Queue Length [veh/ln]	0.68	2.18	0.67	1.08	0.62	4.15	0.76	2.91
95th-Percentile Queue Length [ft/ln]	17.06	54.57	16.85	27.08	15.55	103.80	18.93	72.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.03	10.97	10.97	15.06	10.03	10.03	11.76	8.37	8.37	14.24	7.47	7.47
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.41			11.59			8.71			8.36		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.45											
Intersection LOS	A											
Intersection V/C	0.456											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	243	421	130	54	304	40	20	783	109	170	912	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	421	130	54	304	40	20	783	109	170	912	46
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	111	34	17	95	12	5	205	29	45	243	12
Total Analysis Volume [veh/h]	257	446	138	67	378	50	21	821	114	181	972	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.21	0.23	0.09	0.07	0.11	0.12	0.04	0.23	0.08	0.21	0.27	0.03
s, saturation flow rate [veh/h]	1212	1900	1525	946	1900	1799	583	3618	1487	872	3618	1443
c, Capacity [veh/h]	435	670	538	83	442	419	222	1590	654	482	2008	801
d1, Uniform Delay [s]	25.75	27.36	23.02	49.91	33.24	33.34	28.58	20.33	17.02	12.82	13.53	10.24
k, delay calibration	0.50	0.15	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.81	1.57	0.09	6.64	0.32	0.35	0.84	1.20	0.58	2.23	0.84	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.67	0.26	0.80	0.49	0.50	0.09	0.52	0.17	0.38	0.48	0.06
d, Delay for Lane Group [s/veh]	31.57	28.93	23.12	56.54	33.56	33.69	29.42	21.53	17.60	15.05	14.37	10.39
Lane Group LOS	C	C	C	E	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.22	9.08	2.30	1.81	4.50	4.38	0.44	7.01	1.67	2.16	6.39	0.50
50th-Percentile Queue Length [ft/ln]	130.47	227.01	57.54	45.16	112.56	109.50	10.97	175.23	41.84	54.03	159.71	12.56
95th-Percentile Queue Length [veh/ln]	8.97	14.02	4.14	3.25	7.98	7.81	0.79	11.35	3.01	3.89	10.53	0.90
95th-Percentile Queue Length [ft/ln]	224.13	350.55	103.58	81.29	199.56	195.31	19.74	283.78	75.31	97.25	263.34	22.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.57	28.93	23.12	56.54	33.61	33.69	29.42	21.53	17.60	15.05	14.37	10.39
Movement LOS	C	C	C	E	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	28.78			36.72			21.23			14.31		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.86											
Intersection LOS	C											
Intersection V/C	0.516											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	250	695	40	10	531	20	20	300	190	30	190	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	695	40	10	531	20	20	300	190	30	190	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	183	11	3	157	6	5	80	50	8	52	11
Total Analysis Volume [veh/h]	263	732	42	12	629	24	21	319	202	33	208	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	57	57	63	51	51	27	27	27	27
g / C, Green / Cycle	0.63	0.57	0.57	0.63	0.51	0.51	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.28	0.21	0.21	0.02	0.17	0.17	0.38	0.14	0.34	0.03
s, saturation flow rate [veh/h]	955	1900	1848	787	1900	1866	896	1462	706	1508
c, Capacity [veh/h]	632	1080	1050	527	974	956	283	400	234	413
d1, Uniform Delay [s]	8.63	11.73	11.76	7.39	14.37	14.38	32.54	30.60	31.67	27.16
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.02	0.94	0.98	0.08	0.94	0.96	118.77	0.37	66.50	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

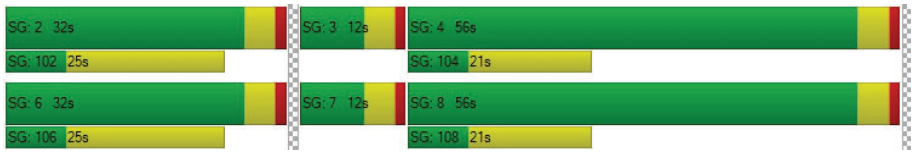
X, volume / capacity	0.42	0.36	0.36	0.02	0.34	0.34	1.20	0.50	1.03	0.11
d, Delay for Lane Group [s/veh]	10.65	12.68	12.74	7.47	15.30	15.35	151.31	30.96	98.16	27.20
Lane Group LOS	B	B	B	A	B	B	F	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.59	4.76	4.69	0.10	4.48	4.44	15.12	4.04	8.88	0.78
50th-Percentile Queue Length [ft/ln]	64.84	119.08	117.30	2.49	111.96	110.93	378.03	100.98	222.10	19.45
95th-Percentile Queue Length [veh/ln]	4.67	8.34	8.24	0.18	7.95	7.89	23.69	7.27	13.99	1.40
95th-Percentile Queue Length [ft/ln]	116.71	208.56	206.11	4.48	198.72	197.30	592.33	181.76	349.79	35.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.65	12.71	12.74	7.47	15.33	15.35	151.31	151.31	30.96	98.16	98.16	27.20
Movement LOS	B	B	B	A	B	B	F	F	C	F	F	C
d_A, Approach Delay [s/veh]	12.19			15.18			106.46			87.21		
Approach LOS	B			B			F			F		
d_I, Intersection Delay [s/veh]	41.63											
Intersection LOS	D											
Intersection V/C	0.621											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	120	815	170	130	571	40	20	546	220	180	317	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	815	170	130	571	40	20	546	220	180	317	250
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	210	44	34	151	11	6	152	61	50	87	69
Total Analysis Volume [veh/h]	123	838	175	137	604	42	22	607	245	198	349	275
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	54	43	43	54	43	43	22	22	22	36	36	36
g / C, Green / Cycle	0.54	0.43	0.43	0.54	0.43	0.43	0.22	0.22	0.22	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.28	0.18	0.17	0.17	0.02	0.24	0.26	0.19	0.18	0.19
s, saturation flow rate [veh/h]	971	1900	1749	781	1900	1839	992	1900	1583	1039	1900	1453
c, Capacity [veh/h]	544	818	753	409	821	794	129	423	352	340	689	527
d1, Uniform Delay [s]	11.90	22.35	22.55	14.44	19.49	19.54	45.48	38.89	38.89	25.68	24.89	25.06
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.04	0.24	0.30	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	3.78	4.37	2.20	1.44	1.52	0.23	47.29	85.73	7.13	0.21	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

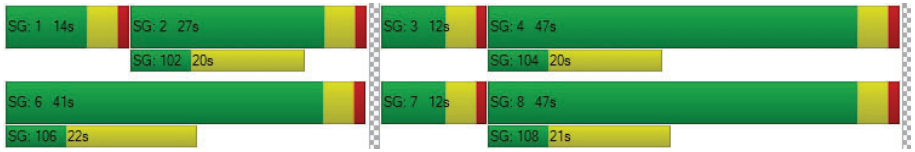
X, volume / capacity	0.23	0.64	0.65	0.34	0.40	0.40	0.17	1.06	1.15	0.58	0.51	0.52
d, Delay for Lane Group [s/veh]	12.37	26.13	26.92	16.64	20.94	21.05	45.71	86.18	124.62	32.81	25.10	25.36
Lane Group LOS	B	C	C	B	C	C	D	F	F	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.36	10.16	9.76	1.70	5.42	5.33	0.53	15.72	16.85	3.97	6.37	5.07
50th-Percentile Queue Length [ft/ln]	33.98	254.11	244.09	42.43	135.57	133.22	13.31	392.95	421.31	99.13	159.29	126.67
95th-Percentile Queue Length [veh/ln]	2.45	15.39	14.89	3.05	9.24	9.11	0.96	22.93	25.38	7.14	10.51	8.76
95th-Percentile Queue Length [ft/ln]	61.16	384.83	372.20	76.37	231.05	227.87	23.96	573.35	634.38	178.43	262.78	218.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.37	26.43	26.92	16.64	20.99	21.05	45.71	96.29	124.62	32.81	25.10	25.36
Movement LOS	B	C	C	B	C	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	24.98			20.23			102.96			27.05		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	43.27											
Intersection LOS	D											
Intersection V/C	0.661											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	38.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.646

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	210	895	70	40	931	60	90	231	170	80	182	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	895	70	40	931	60	90	231	170	80	182	60
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	243	19	11	253	16	23	60	44	22	49	16
Total Analysis Volume [veh/h]	228	971	76	44	1013	65	93	239	176	86	196	65
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.13	0.28	0.29	0.08	0.29	0.29	0.08	0.13	0.13	0.20	0.05
s, saturation flow rate [veh/h]	1810	1900	1804	546	1900	1817	1160	1900	1352	1405	1366
c, Capacity [veh/h]	194	978	929	152	688	658	112	488	347	499	482
d1, Uniform Delay [s]	44.65	16.31	16.49	39.54	28.53	28.81	49.26	31.58	31.75	24.88	21.97
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	102.83	2.15	2.41	4.72	9.08	10.45	5.86	0.28	0.43	4.57	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

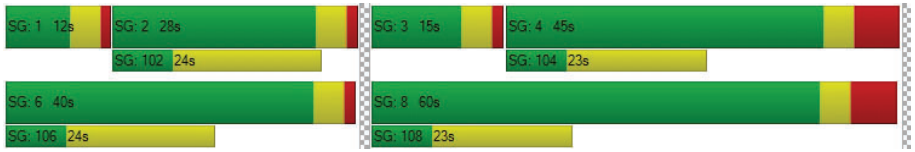
X, volume / capacity	1.18	0.54	0.56	0.29	0.79	0.81	0.83	0.49	0.51	0.56	0.13
d, Delay for Lane Group [s/veh]	147.48	18.45	18.90	44.27	37.61	39.25	55.11	31.87	32.17	29.45	22.02
Lane Group LOS	F	B	B	D	D	D	E	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	10.29	8.37	8.31	1.19	13.05	13.10	2.48	4.83	3.59	5.56	1.02
50th-Percentile Queue Length [ft/ln]	257.21	209.15	207.77	29.87	326.23	327.48	61.90	120.69	89.65	139.11	25.49
95th-Percentile Queue Length [veh/ln]	16.54	13.11	13.04	2.15	18.97	19.03	4.46	8.43	6.45	9.43	1.84
95th-Percentile Queue Length [ft/ln]	413.50	327.74	325.97	53.76	474.34	475.87	111.43	210.78	161.37	235.83	45.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	147.48	18.66	18.90	44.27	38.37	39.25	55.11	31.87	32.17	29.45	29.45	22.02
Movement LOS	F	B	B	D	D	D	E	C	C	C	C	C
d_A, Approach Delay [s/veh]	41.71			38.65			36.23			28.06		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	38.34											
Intersection LOS	D											
Intersection V/C	0.646											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	60.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.866

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	300	1015	180	20	1081	70	6	210	310	66	280	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	1015	180	20	1081	70	6	210	310	66	280	160
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	268	47	5	282	18	2	62	92	18	79	45
Total Analysis Volume [veh/h]	316	1071	190	21	1126	73	7	248	366	70	315	180
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	42	42	3	30	30	40	40
g / C, Green / Cycle	0.15	0.42	0.42	0.03	0.30	0.30	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.17	0.34	0.35	0.01	0.32	0.32	0.37	0.28
s, saturation flow rate [veh/h]	1810	1900	1759	1810	1900	1832	1673	1767
c, Capacity [veh/h]	275	803	743	60	577	556	677	715
d1, Uniform Delay [s]	41.90	24.86	25.44	46.74	34.40	34.40	27.64	24.31
k, delay calibration	0.48	0.50	0.50	0.04	0.47	0.48	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	100.22	8.14	10.68	1.31	49.96	56.55	18.06	5.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.15	0.80	0.83	0.35	1.05	1.07	0.91	0.69
d, Delay for Lane Group [s/veh]	142.12	32.99	36.13	48.06	84.36	90.95	45.70	29.74
Lane Group LOS	F	C	D	D	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	14.25	14.32	14.60	0.52	21.45	21.70	16.44	10.33
50th-Percentile Queue Length [ft/ln]	356.34	358.12	364.98	13.12	536.24	542.60	411.10	258.20
95th-Percentile Queue Length [veh/ln]	21.79	20.53	20.87	0.94	29.97	30.58	23.09	15.60
95th-Percentile Queue Length [ft/ln]	544.68	513.29	521.64	23.62	749.21	764.51	577.36	389.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	142.12	34.25	36.13	48.06	87.40	90.95	0.00	45.70	45.70	0.00	29.74	29.74
Movement LOS	F	C	D	D	F	F		D	D		C	C
d_A, Approach Delay [s/veh]	56.09			86.94			45.70			29.74		
Approach LOS	E			F			D			C		
d_I, Intersection Delay [s/veh]	60.75											
Intersection LOS	E											
Intersection V/C	0.866											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	66.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	300	710	0	0	1471	30	0	0	0	750	660	785
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	710	0	0	1471	30	0	0	0	750	660	785
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	204	0	0	387	8	0	0	0	206	182	216
Total Analysis Volume [veh/h]	345	816	0	0	1549	32	0	0	0	825	726	864
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.23	0.29	0.28		0.34	0.33	0.36	0.40
s, saturation flow rate [veh/h]	1810	3618	3618	1877		1810	1869	1571	1545
c, Capacity [veh/h]	337	2123	1310	680		609	629	529	520
d1, Uniform Delay [s]	48.76	13.22	34.43	33.92		39.77	39.42	39.77	39.77
k, delay calibration	0.42	0.50	0.50	0.50		0.46	0.43	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	50.87	0.53	5.34	8.44		38.46	29.18	56.96	102.5
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.38	0.80	0.78		1.01	0.98	1.06	1.19
d, Delay for Lane Group [s/veh]	99.63	13.74	39.78	42.36		78.24	68.59	96.74	142.3
Lane Group LOS	F	B	D	D		F	E	F	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.81	5.89	14.64	15.06		23.52	22.20	23.13	29.34
50th-Percentile Queue Length [ft/ln]	370.20	147.25	365.97	376.46		587.8	554.9	578.3	733.5
95th-Percentile Queue Length [veh/ln]	21.37	9.87	20.91	21.42		31.78	29.93	32.32	42.56
95th-Percentile Queue Length [ft/ln]	534.35	246.76	522.84	535.56		794.6	748.1	807.9	1064.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	99.63	13.74	0.00	0.00	40.60	42.36	0.00	0.00	0.00	75.65	80.83	129.50
Movement LOS	F	B			D	D				E	F	F
d_A, Approach Delay [s/veh]	39.27			40.64			0.00			96.47		
Approach LOS	D			D			A			F		
d_I, Intersection Delay [s/veh]	66.48											
Intersection LOS	E											
Intersection V/C	0.882											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	59.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.899

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	980	620	908	1303	0	80	90	450	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	980	620	908	1303	0	80	90	450	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	272	172	244	350	0	23	26	129	0	0	0
Total Analysis Volume [veh/h]	0	1087	688	975	1399	0	92	103	516	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	38	38	38	42	85	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.35	0.71	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.25	0.30	0.30	0.28	0.39	0.06	0.05	0.33
s, saturation flow rate [veh/h]	3618	1504	1504	3514	3618	1816	1729	1579
c, Capacity [veh/h]	1158	482	482	1240	2574	385	366	334
d1, Uniform Delay [s]	36.73	39.32	39.32	34.76	8.14	39.44	39.43	47.28
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	3.22	3.22	5.07	0.83	0.13	0.14	258.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.92	0.92	0.79	0.54	0.26	0.26	1.54
d, Delay for Lane Group [s/veh]	37.13	42.54	42.54	39.83	8.97	39.57	39.57	306.18
Lane Group LOS	D	D	D	D	A	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.56	12.73	12.73	13.48	7.97	2.47	2.34	33.87
50th-Percentile Queue Length [ft/ln]	288.91	318.30	318.30	336.94	199.26	61.67	58.52	846.79
95th-Percentile Queue Length [veh/ln]	17.13	18.58	18.58	19.50	12.60	4.44	4.21	52.50
95th-Percentile Queue Length [ft/ln]	428.29	464.59	464.59	487.45	315.02	111.00	105.33	1312.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.13	42.54	39.83	8.97	0.00	39.57	39.57	306.18	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	D	F			
d_A, Approach Delay [s/veh]	39.83			21.64			233.06			0.00		
Approach LOS	D			C			F			A		
d_I, Intersection Delay [s/veh]	59.22											
Intersection LOS	E											
Intersection V/C	0.899											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	60.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	976	220	110	904	250	125
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	976	220	110	904	250	125
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	272	61	34	283	72	36
Total Analysis Volume [veh/h]	1089	246	138	1133	287	144
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.30	0.18	0.26	0.31	0.34	0.20
s, saturation flow rate [veh/h]	3618	1353	524	3618	832	734
c, Capacity [veh/h]	2509	938	354	2509	145	128
d1, Uniform Delay [s]	6.72	5.74	14.46	6.84	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	0.68	3.21	0.59	462.90	79.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.26	0.39	0.45	1.98	1.12
d, Delay for Lane Group [s/veh]	7.27	6.42	17.67	7.43	504.17	120.74
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.57	1.87	2.18	4.84	22.17	5.91
50th-Percentile Queue Length [ft/ln]	114.28	46.70	54.39	121.08	554.16	147.67
95th-Percentile Queue Length [veh/ln]	8.08	3.36	3.92	8.45	37.11	10.38
95th-Percentile Queue Length [ft/ln]	201.95	84.06	97.90	211.31	927.67	259.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.27	6.42	17.67	7.43	504.17	120.74
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	7.11		8.54		376.06	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	60.07					
Intersection LOS	E					
Intersection V/C	0.658					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	30	20	0	20	60	30	0	20	302	20	0	20	136	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	30	20	0	20	60	30	0	20	302	20	0	20	136	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	10	7	0	6	19	9	0	6	85	6	0	6	38	8
Total Analysis Volume [veh/h]	0	27	40	27	0	25	74	37	0	23	340	23	0	22	151	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	557	649	571	657	661	764	634	732
Degree of Utilization, x	0.12	0.04	0.17	0.06	0.55	0.03	0.27	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.41	0.13	0.62	0.18	3.35	0.09	1.11	0.14
95th-Percentile Queue Length [ft]	10.18	3.25	15.59	4.47	83.84	2.33	27.64	3.53
Approach Delay [s/veh]	9.60		9.84		14.16		10.08	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	11.90							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	401	100	0	40	551	0	140	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	401	100	0	40	551	0	140	70
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	105	26	0	10	144	0	45	22
Total Analysis Volume [veh/h]	0	421	105	0	42	577	0	179	90
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	16	16
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.22	0.07	0.04	0.30	0.12	0.07
s, saturation flow rate [veh/h]	1900	1581	981	1900	1542	1213
c, Capacity [veh/h]	1101	861	132	1035	444	349
d1, Uniform Delay [s]	7.32	6.11	27.52	8.19	15.79	15.07
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.29	6.20	2.16	0.22	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

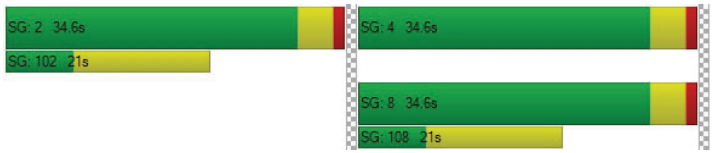
X, volume / capacity	0.38	0.12	0.32	0.56	0.40	0.26
d, Delay for Lane Group [s/veh]	8.33	6.40	33.73	10.35	16.01	15.22
Lane Group LOS	A	A	C	B	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.50	0.52	0.75	3.98	1.69	0.81
50th-Percentile Queue Length [ft/ln]	62.44	13.11	18.70	99.41	42.34	20.35
95th-Percentile Queue Length [veh/ln]	4.50	0.94	1.35	7.16	3.05	1.47
95th-Percentile Queue Length [ft/ln]	112.38	23.61	33.66	178.93	76.22	36.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.33	8.33	6.40	33.73	33.73	10.35	16.01	16.01	15.22
Movement LOS	A	A	A	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	7.95			11.94			15.74		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	11.18								
Intersection LOS	B								
Intersection V/C	0.420								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	50	10	20	120	10	10	108	30	20	87	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	10	20	120	10	10	108	30	20	87	30
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	3	5	32	3	3	33	9	6	26	9
Total Analysis Volume [veh/h]	12	59	12	21	128	11	12	132	37	24	105	36
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	736	746	781	776
Degree of Utilization, x	0.11	0.21	0.23	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.38	0.81	0.89	0.80
95th-Percentile Queue Length [ft]	9.49	20.25	22.37	20.03
Approach Delay [s/veh]	8.51	9.14	9.00	8.88
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.93			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	9	149	20	20	250	20	31	78	29	40	108	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	149	20	20	250	20	31	78	29	40	108	40
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	44	6	5	69	5	9	22	8	11	29	11
Total Analysis Volume [veh/h]	11	177	24	22	275	22	35	88	33	43	116	43
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	668	686	640	650
Degree of Utilization, x	0.32	0.47	0.24	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.36	2.48	0.95	1.32
95th-Percentile Queue Length [ft]	34.04	61.89	23.83	33.05
Approach Delay [s/veh]	10.87	12.73	10.44	11.02
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.50			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	68.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.149

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	118	320	40	20	370	40	40	140	108	80	120	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	320	40	20	370	40	40	140	108	80	120	20
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	89	11	6	103	11	11	39	30	23	35	6
Total Analysis Volume [veh/h]	131	356	45	22	412	45	44	155	120	93	140	23
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	487	471	434	471	432	408
Degree of Utilization, x	1.15	0.10	1.01	0.10	0.74	0.63

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	18.03	0.32	13.06	0.32	5.95	4.15
95th-Percentile Queue Length [ft]	450.87	7.89	326.38	7.89	148.77	103.68
Approach Delay [s/veh]	109.98		69.34		31.38	25.56
Approach LOS	F		F		D	D
Intersection Delay [s/veh]	68.27					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	99.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.663

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	20	362	260	140	161	0	30	330	0	160	300	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	362	260	140	161	0	30	330	0	160	300	20
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	102	73	39	45	0	8	86	0	47	88	6
Total Analysis Volume [veh/h]	22	407	292	157	181	0	31	346	0	187	351	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	50	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.55	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.17	0.10	0.03	0.18	0.18	0.21
s, saturation flow rate [veh/h]	1272	1678	900	1900	1024	1900	1051	1814
c, Capacity [veh/h]	856	872	425	1047	80	347	80	331
d1, Uniform Delay [s]	6.48	17.80	13.51	10.04	45.04	36.79	45.04	36.82
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.05
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	7.67	2.46	0.36	1.13	13.02	602.53	62.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

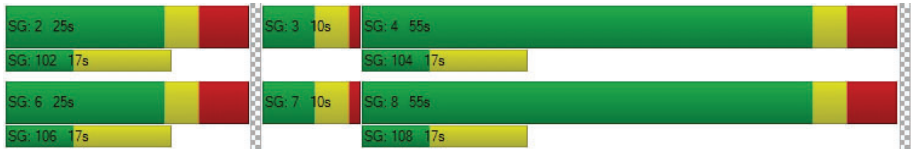
X, volume / capacity	0.03	0.80	0.37	0.17	0.39	1.00	2.33	1.13
d, Delay for Lane Group [s/veh]	6.48	25.47	15.97	10.40	46.17	49.81	647.57	98.84
Lane Group LOS	A	C	B	B	D	D	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.14	12.53	1.40	1.77	0.71	8.69	15.18	12.74
50th-Percentile Queue Length [ft/ln]	3.50	313.35	35.01	44.30	17.78	217.15	379.44	318.48
95th-Percentile Queue Length [veh/ln]	0.25	18.34	2.52	3.19	1.28	13.52	27.01	19.71
95th-Percentile Queue Length [ft/ln]	6.29	458.51	63.02	79.73	32.00	337.98	675.20	492.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.48	25.47	25.47	15.97	10.40	10.40	46.17	49.81	49.81	647.57	98.84	98.84
Movement LOS	A	C	C	B	B	B	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.89			12.99			49.52			281.75		
Approach LOS	C			B			D			F		
d_I, Intersection Delay [s/veh]	99.68											
Intersection LOS	F											
Intersection V/C	0.663											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	65	100	20	10	110	10	10	88	20	20	107	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	100	20	10	110	10	10	88	20	20	107	10
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	28	6	3	33	3	3	27	6	5	29	3
Total Analysis Volume [veh/h]	73	113	23	12	132	12	12	107	24	21	115	11
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	740	734	728	719
Degree of Utilization, x	0.28	0.21	0.20	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.16	0.80	0.73	0.76
95th-Percentile Queue Length [ft]	28.99	19.99	18.15	19.06
Approach Delay [s/veh]	9.76	9.21	9.15	9.28
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.39			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	22	90	30	10	273	10	20	100	60	30	70	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	90	30	10	273	10	20	100	60	30	70	20
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	26	9	3	70	3	6	31	19	9	20	6
Total Analysis Volume [veh/h]	25	102	34	10	278	10	25	126	76	35	81	23
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	683	700	695	660
Degree of Utilization, x	0.24	0.43	0.33	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.91	2.13	1.42	0.79
95th-Percentile Queue Length [ft]	22.82	53.31	35.54	19.77
Approach Delay [s/veh]	9.89	11.90	10.68	9.90
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	10.83			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	7.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.669

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2330	90	0	2661	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2330	90	0	2661	140	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	633	24	0	681	38	8
Total Analysis Volume [veh/h]	2533	98	0	2724	154	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 4: 4 Future Plus Project Report File: \...\FP_MD_LOS.pdf

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	48	48	48	48
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	30	30	30	7
g / C, Green / Cycle	0.63	0.63	0.63	0.15
(v / s)_i Volume / Saturation Flow Rate	0.55	0.53	0.45	0.12
s, saturation flow rate [veh/h]	3192	1644	6089	1563
c, Capacity [veh/h]	2017	1039	3847	233
d1, Uniform Delay [s]	7.21	6.96	5.88	19.70
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.75	0.09	2.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.84	0.71	0.80
d, Delay for Lane Group [s/veh]	7.68	7.71	5.97	22.15
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.04	3.99	2.50	1.95
50th-Percentile Queue Length [ft/ln]	101.00	99.70	62.44	48.66
95th-Percentile Queue Length [veh/ln]	7.27	7.18	4.50	3.50
95th-Percentile Queue Length [ft/ln]	181.80	179.46	112.39	87.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.69	7.71	0.00	5.97	22.15	22.15
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	7.69		5.97		22.15	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.33					
Intersection LOS	A					
Intersection V/C	0.669					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	94.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2050	260	50	220	460	40	568	330	0	0	310	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2050	260	50	220	460	40	568	330	0	0	310	520
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	563	71	14	65	135	12	142	86	0	0	90	152
Total Analysis Volume [veh/h]	2250	285	55	258	540	47	568	344	0	0	362	607
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	156	156	156	156	156	156	156
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	79	79	79	30	30	36	36
g / C, Green / Cycle	0.51	0.51	0.51	0.19	0.19	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.47	0.48	0.24	0.27	0.27	0.22	0.26
s, saturation flow rate [veh/h]	3192	1568	1425	1597	1575	1597	3783
c, Capacity [veh/h]	1627	799	726	307	303	369	874
d1, Uniform Delay [s]	35.34	35.92	24.61	62.89	62.89	58.70	59.89
k, delay calibration	0.04	0.24	0.04	0.50	0.50	0.38	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.02	11.85	0.18	189.44	193.80	27.05	50.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.94	0.47	1.38	1.39	0.93	1.11
d, Delay for Lane Group [s/veh]	36.37	47.77	24.78	252.33	256.68	85.74	110.25
Lane Group LOS	D	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	26.18	29.00	8.22	28.38	28.37	16.08	15.58
50th-Percentile Queue Length [ft/ln]	654.44	724.98	205.60	709.42	709.19	402.10	389.62
95th-Percentile Queue Length [veh/ln]	34.57	37.83	12.93	43.02	43.11	22.66	23.32
95th-Percentile Queue Length [ft/ln]	864.21	945.77	323.18	1075.60	1077.80	566.53	583.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.02	24.78	24.78	252.33	256.68	256.68	0.00	85.74	0.00	0.00	110.25	110.25
Movement LOS	D	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	38.15			254.50			85.74			110.25		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	94.82											
Intersection LOS	F											
Intersection V/C	1.002											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.263

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	26	70	35	0	20	69	20	0	20	106	18	0	49	99	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	26	70	35	0	20	69	20	0	20	106	18	0	49	99	20
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	8	20	10	0	6	20	6	0	6	31	5	0	14	29	6
Total Analysis Volume [veh/h]	0	30	82	41	0	24	82	24	0	23	123	21	0	57	116	23
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	740	729	745	746
Degree of Utilization, x	0.21	0.18	0.22	0.26

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.77	0.65	0.86	1.05
95th-Percentile Queue Length [ft]	19.34	16.16	21.42	26.35
Approach Delay [s/veh]	9.13	9.01	9.22	9.54
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.26			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.164

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	10	70	20	10	49	10	10	70	20	30	62	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	70	20	10	49	10	10	70	20	30	62	10
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	22	6	3	13	3	4	25	7	9	19	3
Total Analysis Volume [veh/h]	13	88	25	11	53	11	14	99	28	36	75	12
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	679	793	669	784	692	812	678	809
Degree of Utilization, x	0.15	0.03	0.10	0.01	0.16	0.03	0.16	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	0.10	0.32	0.04	0.58	0.11	0.58	0.05
95th-Percentile Queue Length [ft]	13.03	2.44	7.90	1.07	14.51	2.68	14.57	1.13
Approach Delay [s/veh]	8.63		8.46		8.59		8.87	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.65							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	41.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	20	0	946	130	290	1054	0	32	1085	209	90	0	220
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	946	130	290	1054	0	32	1085	209	90	0	220
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	254	35	80	291	0	8	271	52	28	0	69
Total Analysis Volume [veh/h]	20	0	1015	139	320	1162	0	32	1085	209	112	0	275
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	103	103	117	110		23	23
g / C, Green / Cycle	0.02	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.09	0.46	0.32		0.09	0.24
s, saturation flow rate [veh/h]	1810	3618	1584	691	3618		1231	1132
c, Capacity [veh/h]	34	2495	1093	542	2651		192	177
d1, Uniform Delay [s]	72.93	10.03	7.91	7.03	7.88		58.69	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	5.73	0.49	0.24	4.67	0.53		1.04	275.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.41	0.13	0.59	0.44		0.58	1.56
d, Delay for Lane Group [s/veh]	78.66	10.53	8.15	11.71	8.41		59.74	338.86
Lane Group LOS	E	B	A	B	A		E	F
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.82	7.25	1.60	3.10	7.25		4.03	20.30
50th-Percentile Queue Length [ft/ln]	20.57	181.18	40.03	77.58	181.14		100.77	507.53
95th-Percentile Queue Length [veh/ln]	1.48	11.66	2.88	5.59	11.66		7.26	32.67
95th-Percentile Queue Length [ft/ln]	37.02	291.55	72.06	139.65	291.50		181.38	816.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.66	0.00	10.53	8.15	11.71	8.41	0.00	0.00	0.00	0.00	59.74	0.00	338.86
Movement LOS	E		B	A	B	A					E		F
d_A, Approach Delay [s/veh]	11.41				9.12			0.00			258.08		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	41.67												
Intersection LOS	D												
Intersection V/C	0.576												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPROVAL YEAR (2020) PLUS PROJECT ALTERNATIVE ACCESS CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	70.6
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.205

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	10	2570	2	310	3460	30	10	10	10	256	20	253
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	2570	2	310	3460	30	10	10	10	256	20	253
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	732	1	83	922	8	3	3	3	70	5	69
Total Analysis Volume [veh/h]	11	2927	2	330	3687	32	12	12	12	279	22	276
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	3	144	46	186	186	36	35	86
g / C, Green / Cycle	0.01	0.60	0.19	0.78	0.78	0.15	0.15	0.36
(v / s)_i Volume / Saturation Flow Rate	0.01	0.57	0.18	0.67	0.68	0.18	0.46	0.17
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1892	196	658	1594
c, Capacity [veh/h]	24	3095	347	2808	1468	49	124	571
d1, Uniform Delay [s]	117.59	44.66	95.96	18.45	18.62	92.54	106.80	59.80
k, delay calibration	0.04	0.50	0.23	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.12	7.71	22.78	3.96	7.41	64.51	662.90	2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.95	0.95	0.87	0.87	0.73	2.42	0.48
d, Delay for Lane Group [s/veh]	122.72	52.37	118.73	22.41	26.03	157.05	769.70	62.71
Lane Group LOS	F	D	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.72	54.38	22.52	43.98	48.01	3.18	30.86	13.86
50th-Percentile Queue Length [ft/ln]	18.07	1359.43	562.92	1099.55	1200.22	79.51	771.58	346.59
95th-Percentile Queue Length [veh/ln]	1.30	66.47	30.30	54.86	59.37	5.72	50.36	19.97
95th-Percentile Queue Length [ft/ln]	32.52	1661.77	757.47	1371.46	1484.31	143.11	1258.91	499.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	122.72	52.37	0.00	118.73	23.64	26.03	157.05	157.05	157.05	769.70	769.70	62.71
Movement LOS	F	D		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	52.63			31.41			157.05			431.52		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	70.59											
Intersection LOS	E											
Intersection V/C	1.205											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	81.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.937

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	147	357	56	0	12	477	189	0	50	110	250	0	41	162	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	357	56	0	12	477	189	0	50	110	250	0	41	162	50
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	43	105	16	0	3	130	52	0	15	33	75	0	11	43	13
Total Analysis Volume [veh/h]	173	420	66	0	13	521	206	0	60	132	300	0	44	172	53
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	62	62	2	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.62	0.62	0.02	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.10	0.22	0.05	0.01	0.27	0.14	0.51	0.19	0.42	0.04
s, saturation flow rate [veh/h]	1810	1900	1424	1810	1900	1441	378	1542	515	1212
c, Capacity [veh/h]	189	1182	886	28	1013	768	117	578	138	224
d1, Uniform Delay [s]	44.35	9.17	7.49	48.80	15.00	12.71	40.17	24.26	39.11	34.76
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.50	0.13	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.14	0.84	0.16	4.38	1.86	0.86	323.17	0.86	285.02	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

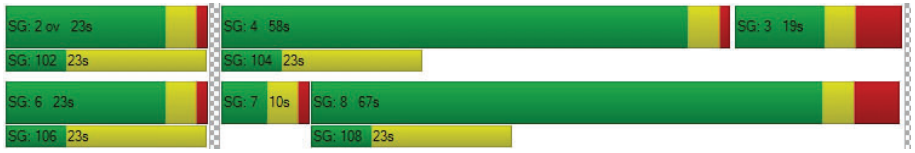
X, volume / capacity	0.92	0.36	0.07	0.46	0.51	0.27	1.64	0.52	1.56	0.24
d, Delay for Lane Group [s/veh]	51.49	10.01	7.65	53.18	16.87	13.56	363.35	25.12	324.13	34.96
Lane Group LOS	D	B	A	D	B	B	F	C	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.58	4.37	0.57	0.35	7.75	2.60	13.45	5.62	14.36	1.10
50th-Percentile Queue Length [ft/ln]	114.55	109.36	14.16	8.86	193.82	65.08	336.23	140.51	358.96	27.39
95th-Percentile Queue Length [veh/ln]	8.09	7.80	1.02	0.64	12.32	4.69	23.22	9.51	24.32	1.97
95th-Percentile Queue Length [ft/ln]	202.31	195.11	25.49	15.95	307.98	117.14	580.45	237.71	608.01	49.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.49	10.01	7.65	53.18	53.18	16.87	13.56	363.3	363.3	363.3	25.12	324.1	324.1	324.1	34.96
Movement LOS	D	B	A	D	D	B	B	F	F	F	C	F	F	F	C
d_A, Approach Delay [s/veh]	20.66			16.59				157.11				267.16			
Approach LOS	C			B				F				F			
d_I, Intersection Delay [s/veh]	81.04														
Intersection LOS	F														
Intersection V/C	0.937														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.291

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	460	251	0	228	572	0	165	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	460	251	0	228	572	0	165	78
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	127	69	0	65	164	0	46	22
Total Analysis Volume [veh/h]	0	506	276	0	261	655	0	185	88
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	61	61	61	73	73	14	14	14
g / C, Green / Cycle	0.61	0.61	0.61	0.73	0.73	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.18	0.25	0.18	0.06	0.05	0.06
s, saturation flow rate [veh/h]	1900	1729	1548	1026	3618	1687	1804	1423
c, Capacity [veh/h]	1204	1063	951	798	2644	231	247	195
d1, Uniform Delay [s]	8.63	8.63	9.03	4.54	4.42	39.42	39.27	39.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.50	0.77	1.09	0.22	0.43	0.36	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

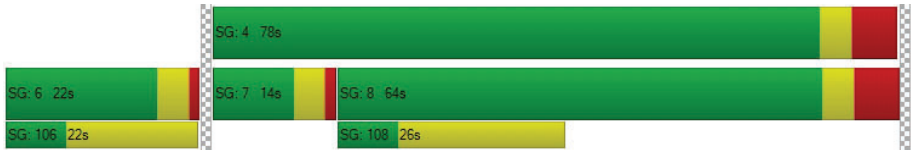
X, volume / capacity	0.22	0.23	0.29	0.33	0.25	0.41	0.38	0.44
d, Delay for Lane Group [s/veh]	9.05	9.12	9.80	5.63	4.64	39.85	39.62	40.19
Lane Group LOS	A	A	A	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.55	2.33	2.83	1.64	1.92	2.12	2.11	1.95
50th-Percentile Queue Length [ft/ln]	63.63	58.36	70.68	41.01	47.89	53.10	52.68	48.73
95th-Percentile Queue Length [veh/ln]	4.58	4.20	5.09	2.95	3.45	3.82	3.79	3.51
95th-Percentile Queue Length [ft/ln]	114.53	105.05	127.22	73.81	86.20	95.57	94.82	87.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.05	9.08	9.80	5.63	5.63	4.64	39.85	39.74	40.19
Movement LOS	A	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	9.34			4.92			39.88		
Approach LOS	A			A			D		
d_I, Intersection Delay [s/veh]	11.52								
Intersection LOS	B								
Intersection V/C	0.291								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	670	130	90	607	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	670	130	90	607	30	40
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	35	25	166	10	13
Total Analysis Volume [veh/h]	729	141	98	664	39	53
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	73	73	73	73	14
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.14
(v / s)_i Volume / Saturation Flow Rate	0.20	0.09	0.13	0.18	0.05
s, saturation flow rate [veh/h]	3618	1496	733	3618	1692
c, Capacity [veh/h]	2627	1086	535	2627	240
d1, Uniform Delay [s]	4.69	4.14	7.83	4.59	38.89
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.25	0.75	0.23	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

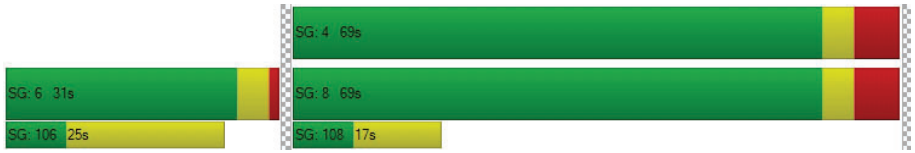
X, volume / capacity	0.28	0.13	0.18	0.25	0.38
d, Delay for Lane Group [s/veh]	4.96	4.38	8.58	4.82	39.27
Lane Group LOS	A	A	A	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.25	0.81	0.94	2.00	2.04
50th-Percentile Queue Length [ft/ln]	56.25	20.23	23.56	50.08	51.00
95th-Percentile Queue Length [veh/ln]	4.05	1.46	1.70	3.61	3.67
95th-Percentile Queue Length [ft/ln]	101.25	36.41	42.42	90.15	91.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.96	4.38	8.58	4.82	39.27	39.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.86		5.31		39.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	6.90					
Intersection LOS	A					
Intersection V/C	0.256					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	740	150	90	557	70	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	740	150	90	557	70	70
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	200	41	24	149	22	22
Total Analysis Volume [veh/h]	801	162	97	598	89	89
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	67	67	78	78	8	20
g / C, Green / Cycle	0.67	0.67	0.78	0.78	0.08	0.20
(v / s)_i Volume / Saturation Flow Rate	0.22	0.11	0.12	0.17	0.06	0.06
s, saturation flow rate [veh/h]	3618	1487	826	3618	1378	1418
c, Capacity [veh/h]	2419	994	689	2836	116	283
d1, Uniform Delay [s]	7.05	6.16	3.02	2.79	44.83	34.18
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.35	0.43	0.17	4.01	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

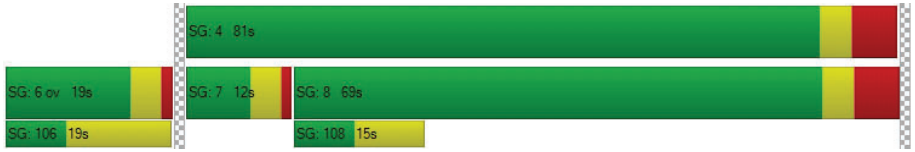
X, volume / capacity	0.33	0.16	0.14	0.21	0.77	0.31
d, Delay for Lane Group [s/veh]	7.42	6.51	3.44	2.96	48.84	34.42
Lane Group LOS	A	A	A	A	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.37	1.25	0.40	1.18	2.28	1.86
50th-Percentile Queue Length [ft/ln]	84.37	31.16	10.02	29.53	56.88	46.40
95th-Percentile Queue Length [veh/ln]	6.07	2.24	0.72	2.13	4.10	3.34
95th-Percentile Queue Length [ft/ln]	151.86	56.08	18.03	53.16	102.38	83.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.42	6.51	3.44	2.96	48.84	34.42
Movement LOS	A	A	A	A	D	C
d_A, Approach Delay [s/veh]	7.27		3.03		41.63	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.99					
Intersection LOS	A					
Intersection V/C	0.303					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	823	142	67	597	10	20	13	10	100	20	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	823	142	67	597	10	20	13	10	100	20	130
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	216	41	18	165	3	7	6	4	29	6	38
Total Analysis Volume [veh/h]	21	862	165	71	662	11	30	24	15	118	24	153
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	65	65	58	58	5	15	15
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.05	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.18	0.18	0.03	0.08	0.10
s, saturation flow rate [veh/h]	859	3618	1900	1886	1740	1824	1458
c, Capacity [veh/h]	464	1960	916	909	79	224	179
d1, Uniform Delay [s]	13.61	16.55	19.57	19.60	56.12	50.12	51.64
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.72	1.14	1.16	2.35	1.12	4.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

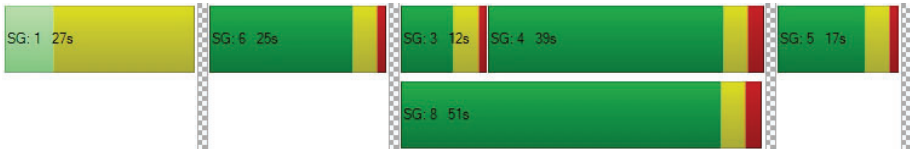
X, volume / capacity	0.05	0.44	0.37	0.37	0.57	0.64	0.86
d, Delay for Lane Group [s/veh]	13.63	17.27	20.71	20.76	58.47	51.24	56.15
Lane Group LOS	B	B	C	C	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	7.20	6.16	6.18	1.38	4.17	4.77
50th-Percentile Queue Length [ft/ln]	6.63	180.07	154.11	154.42	34.46	104.15	119.28
95th-Percentile Queue Length [veh/ln]	0.48	11.60	10.24	10.25	2.48	7.50	8.35
95th-Percentile Queue Length [ft/ln]	11.93	290.11	255.90	256.32	62.02	187.47	208.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.63	17.27	0.00	0.00	20.73	20.76	58.47	0.00	58.47	51.24	51.24	56.15
Movement LOS	B	B			C	C	E		E	D	D	E
d_A, Approach Delay [s/veh]	17.18			20.73			58.47			53.79		
Approach LOS	B			C			E			D		
d_I, Intersection Delay [s/veh]	25.12											
Intersection LOS	C											
Intersection V/C	0.369											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	470	783	697	30	60	460
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	783	697	30	60	460
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	215	187	8	18	135
Total Analysis Volume [veh/h]	517	861	749	32	70	539
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	80	80	80	6	30
g / C, Green / Cycle	0.16	0.67	0.67	0.67	0.05	0.25
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.21	0.02	0.04	0.20
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2668
c, Capacity [veh/h]	569	2423	2423	1082	96	677
d1, Uniform Delay [s]	49.37	8.59	8.25	6.68	55.90	41.86
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.41	0.33	0.05	3.86	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

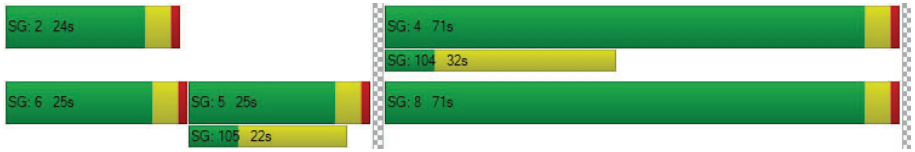
X, volume / capacity	0.91	0.36	0.31	0.03	0.73	0.80
d, Delay for Lane Group [s/veh]	51.74	9.00	8.58	6.73	59.76	42.69
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.78	4.72	3.94	0.28	2.29	7.96
50th-Percentile Queue Length [ft/ln]	194.39	118.07	98.62	7.00	57.22	198.98
95th-Percentile Queue Length [veh/ln]	12.35	8.29	7.10	0.50	4.12	12.59
95th-Percentile Queue Length [ft/ln]	308.72	207.17	177.51	12.61	103.00	314.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.74	9.00	8.58	6.73	59.76	42.69
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	25.03		8.51		44.65	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.69					
Intersection LOS	C					
Intersection V/C	0.440					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	40	110	20	0	180	0	120	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	40	110	20	0	180	0	120	180
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	11	30	5	0	47	0	32	48
Total Analysis Volume [veh/h]	0	0	0	0	43	119	22	0	190	0	127	190
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		19	19	19	31	31	31
g / C, Green / Cycle		0.21	0.21	0.21	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate		0.03	0.04	0.04	0.13	0.07	0.13
s, saturation flow rate [veh/h]		1256	1900	1758	1440	1900	1518
c, Capacity [veh/h]		265	409	378	583	662	529
d1, Uniform Delay [s]		33.92	28.83	28.90	21.43	20.50	21.87
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.28	0.20	0.23	1.48	0.14	0.41
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.16	0.17	0.18	0.33	0.19	0.36
d, Delay for Lane Group [s/veh]		34.20	29.03	29.13	22.91	20.64	22.28
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.83	1.25	1.23	3.04	1.82	2.93
50th-Percentile Queue Length [ft/ln]		20.82	31.13	30.67	76.06	45.55	73.18
95th-Percentile Queue Length [veh/ln]		1.50	2.24	2.21	5.48	3.28	5.27
95th-Percentile Queue Length [ft/ln]		37.47	56.03	55.21	136.92	81.99	131.73

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	34.20	29.07	29.13	0.00	22.91	0.00	20.64	22.28
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.28				22.11			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.42											
Intersection LOS	C											
Intersection V/C	0.492											

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_AM_LOS.pdf

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	1143	180	110	687	0	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	1143	180	110	687	0	20
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	300	47	29	184	0	5
Total Analysis Volume [veh/h]	0	52	1200	189	118	735	0	21
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	50	50	50
g / C, Green / Cycle	0.45	0.45	0.45	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.07	0.33	0.12	0.18	0.20	0.20
s, saturation flow rate [veh/h]	717	3618	1537	674	1900	1875
c, Capacity [veh/h]	298	1610	684	356	1044	1030
d1, Uniform Delay [s]	23.53	20.77	15.82	14.59	11.42	11.43
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.27	3.19	1.00	2.48	0.98	1.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

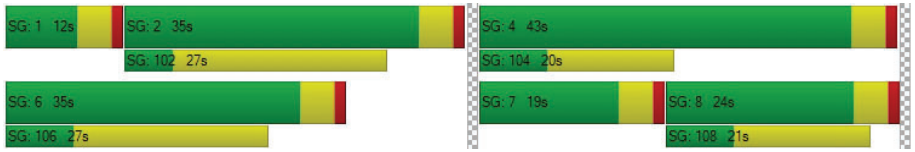
X, volume / capacity	0.17	0.75	0.28	0.33	0.36	0.37
d, Delay for Lane Group [s/veh]	24.80	23.95	16.83	17.07	12.40	12.43
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.92	10.57	2.56	1.30	4.26	4.23
50th-Percentile Queue Length [ft/ln]	22.97	264.26	63.91	32.56	106.49	105.66
95th-Percentile Queue Length [veh/ln]	1.65	15.90	4.60	2.34	7.64	7.60
95th-Percentile Queue Length [ft/ln]	41.34	397.55	115.04	58.60	191.10	189.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.80	23.95	16.83	17.07	12.41	0.00	12.43
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	23.05				13.04			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.42							
Intersection LOS	C							
Intersection V/C	0.492							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	169.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.565

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	34	88	130	74	79	25	36	273	56	81	200	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	88	130	74	79	25	36	273	56	81	200	127
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	24	35	23	25	8	14	103	21	21	52	33
Total Analysis Volume [veh/h]	37	95	141	92	98	31	54	412	84	84	208	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	1.45	0.05	0.11	0.05	0.08	0.09	0.10
s, saturation flow rate [veh/h]	1281	1704	152	1057	3618	1589	989	1900	1599
c, Capacity [veh/h]	73	264	73	482	1709	751	447	898	756
d1, Uniform Delay [s]	50.02	41.45	46.22	19.74	15.71	14.70	21.04	15.36	15.49
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.01	4.20	946.62	0.47	0.33	0.30	0.93	0.49	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.89	3.02	0.11	0.24	0.11	0.19	0.20	0.21
d, Delay for Lane Group [s/veh]	52.03	45.64	992.84	20.21	16.04	15.00	21.97	15.85	16.14
Lane Group LOS	D	D	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.95	5.89	21.01	0.87	2.81	1.11	1.43	2.43	2.26
50th-Percentile Queue Length [ft/ln]	23.84	147.26	525.35	21.63	70.27	27.63	35.77	60.76	56.38
95th-Percentile Queue Length [veh/ln]	1.72	9.87	35.90	1.56	5.06	1.99	2.58	4.37	4.06
95th-Percentile Queue Length [ft/ln]	42.91	246.77	897.51	38.93	126.49	49.73	64.39	109.36	101.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.03	45.64	45.64	992.84	992.84	992.84	20.21	16.04	15.00	21.97	15.89	16.14
Movement LOS	D	D	D	F	F	F	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	46.51			992.84			16.29			17.17		
Approach LOS	D			F			B			B		
d_I, Intersection Delay [s/veh]	169.18											
Intersection LOS	F											
Intersection V/C	1.565											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.331

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	30	172	60	30	106	60	80	80	30	30	60	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	172	60	30	106	60	80	80	30	30	60	120
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	52	18	9	32	18	23	23	8	9	17	34
Total Analysis Volume [veh/h]	36	207	72	36	127	72	90	90	34	34	69	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	52	52
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.03	0.11	0.05	0.03	0.11	0.16	0.22
s, saturation flow rate [veh/h]	1202	1900	1546	1194	1764	1342	1100
c, Capacity [veh/h]	133	345	281	138	321	744	609
d1, Uniform Delay [s]	46.42	37.57	35.11	46.04	37.73	14.12	14.97
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.62	0.18	0.37	0.73	0.97	1.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.60	0.26	0.26	0.62	0.29	0.39
d, Delay for Lane Group [s/veh]	46.82	38.19	35.29	46.41	38.47	15.10	16.88
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	4.61	1.49	0.87	4.46	2.93	3.57
50th-Percentile Queue Length [ft/ln]	21.93	115.36	37.36	21.81	111.57	73.26	89.18
95th-Percentile Queue Length [veh/ln]	1.58	8.14	2.69	1.57	7.93	5.27	6.42
95th-Percentile Queue Length [ft/ln]	39.47	203.43	67.24	39.27	198.18	131.87	160.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.82	38.19	35.29	46.41	38.47	38.47	15.10	15.10	15.10	16.88	16.88	16.88
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	38.51			39.68			15.10			16.88		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	28.63											
Intersection LOS	C											
Intersection V/C	0.331											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.337

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	50	212	90	40	96	30	70	130	40	30	110	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	212	90	40	96	30	70	130	40	30	110	140
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	60	25	13	31	10	18	34	10	8	30	38
Total Analysis Volume [veh/h]	56	239	101	52	125	39	73	135	41	33	121	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.11	0.04	0.09	0.21	0.03	0.14	0.10
s, saturation flow rate [veh/h]	1241	1900	900	1159	1808	984	1566	1100	1584
c, Capacity [veh/h]	191	368	174	142	350	543	787	597	796
d1, Uniform Delay [s]	42.76	37.13	36.56	46.16	35.70	20.94	12.68	15.39	13.68
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.72	1.13	0.59	0.36	2.04	0.13	1.05	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

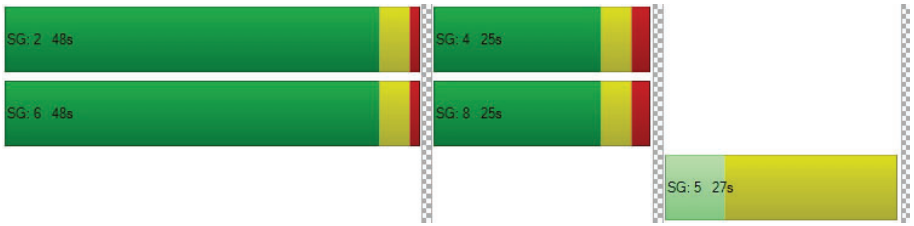
X, volume / capacity	0.29	0.65	0.58	0.37	0.47	0.38	0.05	0.26	0.19
d, Delay for Lane Group [s/veh]	43.08	37.86	37.70	46.75	36.06	22.98	12.80	16.43	14.22
Lane Group LOS	D	D	D	D	D	C	B	B	B
Critical Lane Group	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.31	5.34	2.25	1.27	3.51	4.23	0.49	2.00	1.98
50th-Percentile Queue Length [ft/ln]	32.65	133.54	56.17	31.84	87.76	105.65	12.16	50.01	49.48
95th-Percentile Queue Length [veh/ln]	2.35	9.13	4.04	2.29	6.32	7.60	0.88	3.60	3.56
95th-Percentile Queue Length [ft/ln]	58.77	228.30	101.11	57.31	157.97	189.93	21.89	90.01	89.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.08	37.86	37.70	46.75	36.06	36.06	22.98	22.98	12.80	16.43	16.43	14.22
Movement LOS	D	D	D	D	D	D	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	38.55			38.64			21.30			15.33		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	28.77											
Intersection LOS	C											
Intersection V/C	0.337											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.284

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	30	261	80	44	102	10	80	110	50	60	108	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	261	80	44	102	10	80	110	50	60	108	151
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	76	23	13	30	3	22	31	14	19	35	49
Total Analysis Volume [veh/h]	35	302	93	51	119	12	90	124	56	77	139	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23	23	45	45	45	45	45
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.03	0.16	0.06	0.05	0.07	0.07	0.10	0.06	0.07	0.13
s, saturation flow rate [veh/h]	1279	1900	1546	1094	1860	1270	1777	1223	1900	1553
c, Capacity [veh/h]	266	439	358	142	430	560	793	519	849	694
d1, Uniform Delay [s]	37.02	35.13	31.44	45.95	31.79	20.40	17.04	21.47	16.52	17.51
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.72	0.14	0.57	0.15	0.61	0.66	0.60	0.41	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

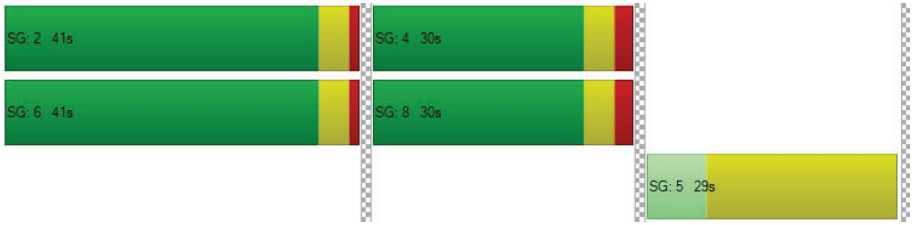
X, volume / capacity	0.13	0.69	0.26	0.36	0.30	0.16	0.23	0.15	0.16	0.28
d, Delay for Lane Group [s/veh]	37.11	35.85	31.58	46.51	31.93	21.02	17.70	22.08	16.93	18.52
Lane Group LOS	D	D	C	D	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.74	6.64	1.82	1.25	2.59	1.45	2.60	1.28	1.94	2.93
50th-Percentile Queue Length [ft/ln]	18.55	165.89	45.46	31.16	64.69	36.29	65.08	32.00	48.43	73.25
95th-Percentile Queue Length [veh/ln]	1.34	10.86	3.27	2.24	4.66	2.61	4.69	2.30	3.49	5.27
95th-Percentile Queue Length [ft/ln]	33.40	271.51	81.83	56.09	116.43	65.33	117.15	57.59	87.18	131.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.11	35.85	31.58	46.51	31.93	31.93	21.02	17.70	17.70	22.08	16.93	18.52
Movement LOS	D	D	C	D	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.03			36.02			18.81			18.65		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.57											
Intersection LOS	C											
Intersection V/C	0.284											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	20	291	0	29	122	50	66	90	0	20	170	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	291	0	29	122	50	66	90	0	20	170	150
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	82	0	8	31	13	20	27	0	6	47	42
Total Analysis Volume [veh/h]	23	330	0	31	125	51	79	108	0	22	189	166
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	23	23	23	23		68	68
g / C, Green / Cycle	0.19	0.19	0.19	0.19		0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.07	0.03		0.11	0.12
s, saturation flow rate [veh/h]	1261	1863	1863	1545		1890	1449
c, Capacity [veh/h]	209	358	358	297		1065	817
d1, Uniform Delay [s]	47.49	47.53	41.92	40.45		12.81	12.93
k, delay calibration	0.04	0.09	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.09	8.95	0.22	0.10		0.41	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.92	0.35	0.17		0.19	0.21
d, Delay for Lane Group [s/veh]	47.58	56.48	42.14	40.55		13.22	13.51
Lane Group LOS	D	E	D	D		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	10.52	3.21	1.26		2.87	2.42
50th-Percentile Queue Length [ft/ln]	15.64	263.04	80.23	31.58		71.87	60.59
95th-Percentile Queue Length [veh/ln]	1.13	15.84	5.78	2.27		5.17	4.36
95th-Percentile Queue Length [ft/ln]	28.15	396.03	144.42	56.84		129.36	109.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.58	56.48	0.00	0.00	42.14	40.55	0.00	0.00	0.00	13.22	13.23	13.51
Movement LOS	D	E			D	D				B	B	B
d_A, Approach Delay [s/veh]	55.90			41.68			0.00			13.35		
Approach LOS	E			D			A			B		
d_I, Intersection Delay [s/veh]	35.43											
Intersection LOS	D											
Intersection V/C	0.295											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	40	30	0	20	464	0	367	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	30	0	20	464	0	367	100
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	9	0	5	124	0	97	26
Total Analysis Volume [veh/h]	0	46	34	0	21	496	0	387	105
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	6	58	58	58	58
g / C, Green / Cycle	0.06	0.06	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.03	0.02	0.02	0.14	0.14	0.14
s, saturation flow rate [veh/h]	1810	1544	919	3618	1900	1581
c, Capacity [veh/h]	114	97	512	2079	1128	908
d1, Uniform Delay [s]	45.04	44.88	13.92	10.48	10.51	10.56
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	0.80	0.15	0.27	0.49	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.35	0.04	0.24	0.23	0.25
d, Delay for Lane Group [s/veh]	45.89	45.68	14.07	10.75	11.00	11.22
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.11	0.82	0.27	2.64	2.90	2.53
50th-Percentile Queue Length [ft/ln]	27.73	20.46	6.76	66.02	72.45	63.26
95th-Percentile Queue Length [veh/ln]	2.00	1.47	0.49	4.75	5.22	4.55
95th-Percentile Queue Length [ft/ln]	49.91	36.83	12.17	118.83	130.41	113.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.89	45.89	45.68	14.07	14.07	10.75	11.00	11.07	11.22
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	45.80			10.88			11.10		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	13.55								
Intersection LOS	B								
Intersection V/C	0.169								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	101	40	70	141	50	30	213	30	50	200	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	101	40	70	141	50	30	213	30	50	200	60
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	28	11	19	37	13	8	58	8	14	57	17
Total Analysis Volume [veh/h]	22	113	45	74	150	53	33	232	33	57	228	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	11	11
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.26	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.06	0.03	0.06	0.08	0.03	0.17	0.21
s, saturation flow rate [veh/h]	1237	1900	1480	1264	1900	1517	1783	1694
c, Capacity [veh/h]	434	505	393	459	505	403	851	822
d1, Uniform Delay [s]	10.29	7.76	7.52	10.32	7.92	7.56	5.92	6.19
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.08	0.05	0.06	0.12	0.05	0.09	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.22	0.11	0.16	0.30	0.13	0.35	0.43
d, Delay for Lane Group [s/veh]	10.31	7.84	7.57	10.38	8.04	7.61	6.01	6.32
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.30	0.12	0.28	0.44	0.15	0.69	0.76
50th-Percentile Queue Length [ft/ln]	1.93	7.44	2.89	6.98	11.03	3.73	17.21	18.91
95th-Percentile Queue Length [veh/ln]	0.14	0.54	0.21	0.50	0.79	0.27	1.24	1.36
95th-Percentile Queue Length [ft/ln]	3.48	13.39	5.20	12.57	19.86	6.71	30.97	34.04

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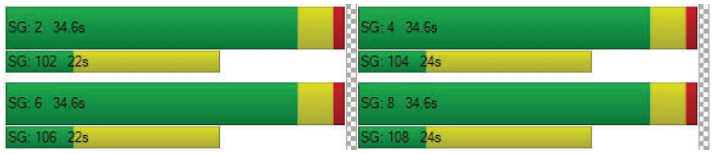
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.31	7.84	7.57	10.38	8.04	7.61	6.01	6.01	6.01	6.32	6.32	6.32
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.07			8.58			6.01			6.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.09											
Intersection LOS	A											
Intersection V/C	0.287											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	119	20	20	250	41	22	138	70	40	150	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	119	20	20	250	41	22	138	70	40	150	30
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	33	6	6	76	12	7	42	22	12	44	9
Total Analysis Volume [veh/h]	22	131	22	24	302	50	27	170	86	47	175	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	26	26	26	26	26	26
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	8	8
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.02	0.19	0.16	0.15
s, saturation flow rate [veh/h]	1014	1827	1216	1819	1749	1763
c, Capacity [veh/h]	391	635	536	632	686	702
d1, Uniform Delay [s]	10.56	6.20	8.31	7.04	7.60	7.45
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.07	0.01	0.29	0.15	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

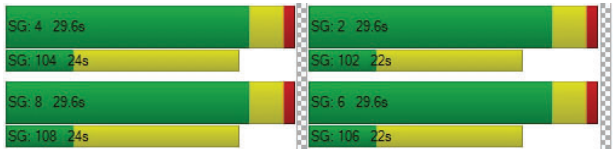
X, volume / capacity	0.06	0.24	0.04	0.56	0.41	0.37
d, Delay for Lane Group [s/veh]	10.59	6.27	8.32	7.33	7.75	7.56
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.08	0.30	0.07	0.79	1.23	0.62
50th-Percentile Queue Length [ft/ln]	1.96	7.41	1.67	19.81	30.69	15.50
95th-Percentile Queue Length [veh/ln]	0.14	0.53	0.12	1.43	2.21	1.12
95th-Percentile Queue Length [ft/ln]	3.54	13.35	3.01	35.65	55.24	27.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.59	6.27	6.27	8.32	7.33	7.33	7.75	7.75	7.75	7.56	7.56	7.56
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.81			7.39			7.75			7.56		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.43											
Intersection LOS	A											
Intersection V/C	0.355											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.287

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	54	130	60	60	210	30	39	387	67	120	423	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	130	60	60	210	30	39	387	67	120	423	150
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	42	19	16	56	8	11	105	18	31	111	39
Total Analysis Volume [veh/h]	70	169	78	65	226	32	42	419	73	126	443	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.05	0.05	0.12	0.02	0.05	0.12	0.05	0.11	0.16	0.17
s, saturation flow rate [veh/h]	1173	1900	1579	1236	1900	1586	832	3618	1588	1161	1900	1704
c, Capacity [veh/h]	148	368	306	190	368	308	233	1190	522	534	844	758
d1, Uniform Delay [s]	46.62	35.75	34.26	43.30	36.97	33.24	34.30	25.53	23.66	17.11	18.52	18.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.87	0.33	0.16	0.40	0.62	0.05	1.69	0.82	0.56	0.08	1.25	1.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

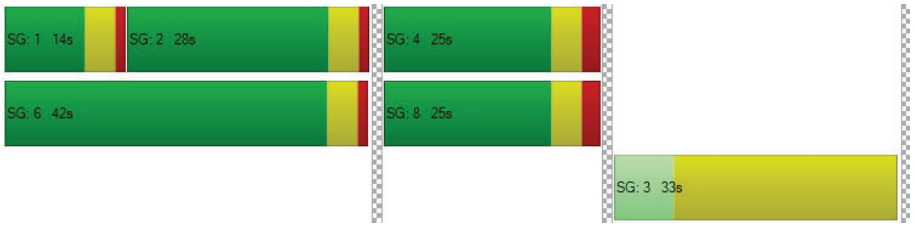
X, volume / capacity	0.47	0.46	0.25	0.34	0.61	0.10	0.18	0.35	0.14	0.24	0.37	0.38
d, Delay for Lane Group [s/veh]	47.50	36.08	34.42	43.70	37.59	33.29	35.98	26.35	24.22	17.19	19.77	20.05
Lane Group LOS	D	D	C	D	D	C	D	C	C	B	B	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.74	3.62	1.60	1.53	5.02	0.64	0.97	3.87	1.29	1.72	5.00	4.64
50th-Percentile Queue Length [ft/ln]	43.52	90.39	39.95	38.35	125.40	15.88	24.32	96.77	32.18	42.88	125.11	116.09
95th-Percentile Queue Length [veh/ln]	3.13	6.51	2.88	2.76	8.69	1.14	1.75	6.97	2.32	3.09	8.67	8.18
95th-Percentile Queue Length [ft/ln]	78.34	162.70	71.91	69.03	217.23	28.58	43.78	174.18	57.93	77.19	216.82	204.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.50	36.08	34.42	43.70	37.59	33.29	35.98	26.35	24.22	17.19	19.85	20.05
Movement LOS	D	D	C	D	D	C	D	C	C	B	B	C
d_A, Approach Delay [s/veh]	38.19			38.39			26.82			19.43		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	27.86											
Intersection LOS	C											
Intersection V/C	0.287											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.313

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	50	224	50	20	287	40	10	90	50	40	150	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	224	50	20	287	40	10	90	50	40	150	60
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	63	14	5	78	11	3	27	15	12	45	18
Total Analysis Volume [veh/h]	56	251	56	22	314	44	12	109	60	48	179	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	48	48	48	48	48	48	20	20
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.48	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.04	0.02	0.10	0.10	0.11	0.18
s, saturation flow rate [veh/h]	1040	1900	1558	1147	1900	1806	1720	1647
c, Capacity [veh/h]	489	911	747	505	911	866	378	367
d1, Uniform Delay [s]	18.96	15.59	14.04	19.72	14.96	15.00	35.83	39.19
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.75	0.20	0.16	0.49	0.53	0.35	6.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

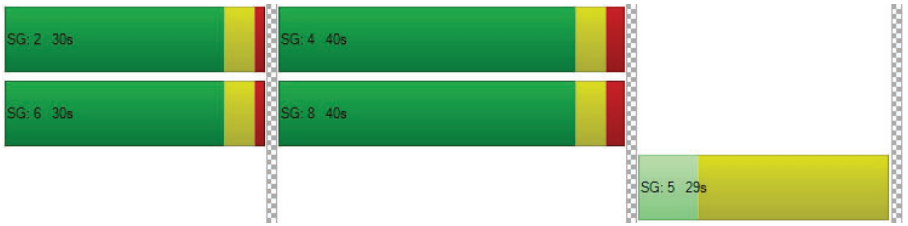
X, volume / capacity	0.11	0.28	0.07	0.04	0.20	0.20	0.48	0.81
d, Delay for Lane Group [s/veh]	19.44	16.34	14.23	19.88	15.45	15.53	36.18	45.99
Lane Group LOS	B	B	B	B	B	B	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	3.47	0.70	0.34	2.40	2.35	3.94	7.67
50th-Percentile Queue Length [ft/ln]	21.65	86.83	17.50	8.52	60.04	58.74	98.56	191.75
95th-Percentile Queue Length [veh/ln]	1.56	6.25	1.26	0.61	4.32	4.23	7.10	12.21
95th-Percentile Queue Length [ft/ln]	38.97	156.29	31.50	15.34	108.07	105.74	177.40	305.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.44	16.34	14.23	19.88	15.49	15.53	36.18	36.18	36.18	45.99	45.99	45.99
Movement LOS	B	B	B	B	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	16.49			15.75			36.18			45.99		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	26.37											
Intersection LOS	C											
Intersection V/C	0.313											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	50	304	80	40	337	10	0	180	70	0	210	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	304	80	40	337	10	0	180	70	0	210	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	90	24	11	94	3	0	50	19	0	55	13
Total Analysis Volume [veh/h]	60	362	95	44	374	11	0	201	78	0	222	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	57	57	57	57	13	13	13	13
g / C, Green / Cycle	0.57	0.57	0.57	0.57	0.57	0.57	0.13	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.06	0.04	0.10	0.10	0.11	0.05	0.07	0.08
s, saturation flow rate [veh/h]	1014	1900	1587	1036	1900	1879	1900	1564	1900	1759
c, Capacity [veh/h]	574	1085	907	530	1085	1073	240	197	240	222
d1, Uniform Delay [s]	13.53	11.36	9.78	16.26	10.23	10.24	42.68	40.17	41.14	41.40
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.83	0.23	0.31	0.36	0.36	2.99	0.48	0.81	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.33	0.10	0.08	0.18	0.18	0.84	0.40	0.57	0.62
d, Delay for Lane Group [s/veh]	13.90	12.18	10.01	16.57	10.59	10.60	45.68	40.65	41.95	42.45
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.75	4.18	0.95	0.61	2.00	1.99	5.01	1.78	3.22	3.26
50th-Percentile Queue Length [ft/ln]	18.82	104.44	23.65	15.35	49.92	49.63	125.20	44.56	80.62	81.40
95th-Percentile Queue Length [veh/ln]	1.35	7.52	1.70	1.10	3.59	3.57	8.68	3.21	5.80	5.86
95th-Percentile Queue Length [ft/ln]	33.87	187.99	42.57	27.62	89.86	89.34	216.96	80.21	145.11	146.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.90	12.18	10.01	16.57	10.60	10.60	0.00	45.68	40.65	0.00	42.14	42.45
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	11.98			11.21			44.27			42.20		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.31											
Intersection LOS	C											
Intersection V/C	0.296											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	128	414	170	20	297	50	0	163	51	110	221	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	414	170	20	297	50	0	163	51	110	221	50
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	113	46	5	76	13	0	45	14	31	62	14
Total Analysis Volume [veh/h]	140	453	186	21	306	51	0	179	56	124	249	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	54	54	62	47	47	13	29	25	25	25
g / C, Green / Cycle	0.09	0.45	0.45	0.52	0.39	0.39	0.11	0.24	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.08	0.24	0.12	0.02	0.10	0.10	0.09	0.04	0.09	0.13	0.04
s, saturation flow rate [veh/h]	1810	1900	1573	1037	1900	1785	1900	1588	1456	1900	1591
c, Capacity [veh/h]	168	859	711	460	739	694	211	385	287	401	336
d1, Uniform Delay [s]	53.54	23.66	20.43	15.92	24.78	24.86	52.37	35.72	40.64	42.98	38.71
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.11	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.05	2.31	0.89	0.19	0.79	0.88	3.62	0.06	1.09	0.59	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

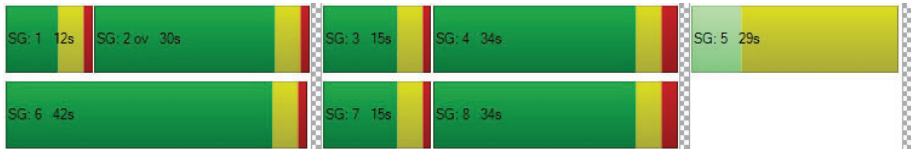
X, volume / capacity	0.83	0.53	0.26	0.05	0.25	0.25	0.85	0.15	0.43	0.62	0.17
d, Delay for Lane Group [s/veh]	57.58	25.97	21.33	16.11	25.56	25.73	55.99	35.78	41.73	43.56	38.79
Lane Group LOS	E	C	C	B	C	C	E	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.31	9.56	3.37	0.30	3.62	3.53	5.50	1.31	3.18	6.71	1.35
50th-Percentile Queue Length [ft/ln]	107.64	238.88	84.24	7.43	90.51	88.27	137.52	32.65	79.38	167.82	33.86
95th-Percentile Queue Length [veh/ln]	7.71	14.62	6.07	0.54	6.52	6.36	9.35	2.35	5.72	10.96	2.44
95th-Percentile Queue Length [ft/ln]	192.72	365.62	151.64	13.38	162.92	158.88	233.68	58.77	142.88	274.04	60.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.58	25.97	21.33	16.11	25.63	25.73	0.00	55.99	35.78	41.73	43.56	38.79
Movement LOS	E	C	C	B	C	C		E	D	D	D	D
d_A, Approach Delay [s/veh]	30.54			25.12			51.17			42.41		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	34.87											
Intersection LOS	C											
Intersection V/C	0.399											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	270	722	0	0	409	30	181	0	84	100	80	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	722	0	0	409	30	181	0	84	100	80	40
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	210	0	0	114	8	52	0	24	27	22	11
Total Analysis Volume [veh/h]	314	838	0	0	454	33	208	0	96	110	88	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	80	80	65	65		11	11
g / C, Green / Cycle	0.67	0.67	0.54	0.54		0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.29	0.23	0.13	0.13		0.07	0.07
s, saturation flow rate [veh/h]	1072	3618	1900	1845		1821	1604
c, Capacity [veh/h]	736	2415	1024	995		162	143
d1, Uniform Delay [s]	8.54	8.64	14.63	14.69		53.54	53.63
k, delay calibration	0.23	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.83	0.40	0.55	0.59		3.14	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

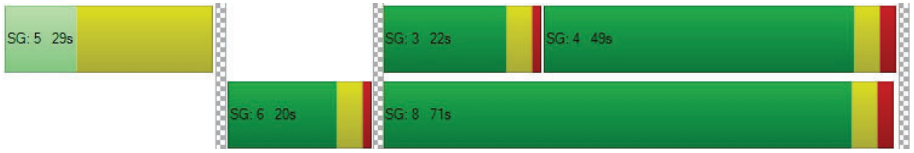
X, volume / capacity	0.43	0.35	0.24	0.24		0.78	0.80
d, Delay for Lane Group [s/veh]	9.37	9.03	15.17	15.28		56.68	57.56
Lane Group LOS	A	A	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	3.28	4.60	3.57	3.59		3.94	3.58
50th-Percentile Queue Length [ft/ln]	82.05	115.03	89.30	89.82		98.40	89.47
95th-Percentile Queue Length [veh/ln]	5.91	8.12	6.43	6.47		7.08	6.44
95th-Percentile Queue Length [ft/ln]	147.68	202.97	160.73	161.68		177.11	161.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.37	9.03	0.00	0.00	15.22	15.28	0.00	0.00	0.00	56.68	57.39	57.56
Movement LOS	A	A			B	B				E	E	E
d_A, Approach Delay [s/veh]	9.12			15.22			0.00			57.10		
Approach LOS	A			B			A			E		
d_I, Intersection Delay [s/veh]	16.88											
Intersection LOS	B											
Intersection V/C	0.303											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	38.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	432	0	0	589	850	540
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	432	0	0	589	850	540
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	0	0	177	221	141
Total Analysis Volume [veh/h]	477	0	0	708	885	562
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.13	0.20	0.35	0.51
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	492
d1, Uniform Delay [s]	15.66	16.91	21.22	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	0.85	0.48	85.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.43	0.79	1.14
d, Delay for Lane Group [s/veh]	16.12	17.75	21.70	110.30
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.09	4.98	6.76	20.40
50th-Percentile Queue Length [ft/ln]	77.25	124.42	169.06	509.96
95th-Percentile Queue Length [veh/ln]	5.56	8.64	11.03	30.41
95th-Percentile Queue Length [ft/ln]	139.05	215.88	275.68	760.17

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Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.12	0.00	0.00	17.75	21.70	110.30
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.12		17.75		56.11	
Approach LOS	B		B		E	
d_I, Intersection Delay [s/veh]	38.55					
Intersection LOS	D					
Intersection V/C	0.707					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	41.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	392	440	285	834	210	50	540	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	392	440	285	834	210	50	540	70	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	110	123	78	228	57	16	174	23	0	0	0
Total Analysis Volume [veh/h]	34	439	493	312	912	230	64	697	90	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	34	56	56	17	17	17
g / C, Green / Cycle	0.03	0.28	0.28	0.38	0.62	0.62	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.32	0.09	0.31	0.33	0.16	0.16	0.17
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1680	1880	1729	1615
c, Capacity [veh/h]	59	528	426	1331	1185	1048	357	329	307
d1, Uniform Delay [s]	42.90	30.52	32.50	19.06	9.21	9.52	35.22	35.21	35.35
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	14.19	94.27	0.03	1.48	1.92	2.26	2.42	2.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

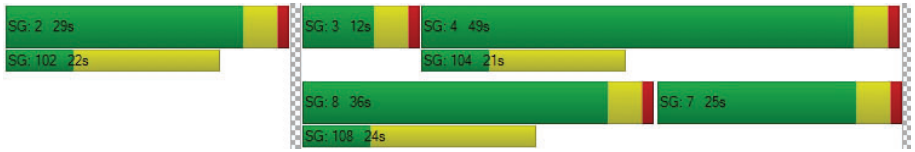
X, volume / capacity	0.57	0.83	1.16	0.23	0.49	0.53	0.85	0.85	0.87
d, Delay for Lane Group [s/veh]	46.12	44.71	126.76	19.09	10.69	11.44	37.48	37.63	38.31
Lane Group LOS	D	D	F	B	B	B	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.79	10.74	20.10	2.17	6.00	5.96	6.46	5.94	5.72
50th-Percentile Queue Length [ft/ln]	19.78	268.54	502.45	54.26	150.08	149.03	161.42	148.50	143.11
95th-Percentile Queue Length [veh/ln]	1.42	16.12	29.86	3.91	10.02	9.97	10.62	9.94	9.65
95th-Percentile Queue Length [ft/ln]	35.61	402.92	746.40	97.67	250.53	249.14	265.61	248.43	241.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	44.71	126.76	19.09	10.96	11.44	37.48	37.75	38.31	0.00	0.00	0.00
Movement LOS	D	D	F	B	B	B	D	D	D			
d_A, Approach Delay [s/veh]	86.64			12.78			37.79			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	41.10											
Intersection LOS	D											
Intersection V/C	0.575											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	145	116	120	60	80	10	20	467	20	70	557	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	116	120	60	80	10	20	467	20	70	557	40
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	30	31	19	25	3	5	125	5	19	149	11
Total Analysis Volume [veh/h]	150	120	124	75	100	12	21	502	21	75	594	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	23	23	23	23	23	64	64	64	64	64	64
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.12	0.06	0.08	0.06	0.06	0.03	0.14	0.01	0.08	0.17	0.17
s, saturation flow rate [veh/h]	1253	1900	1537	1264	1847	794	3618	1537	901	1900	1827
c, Capacity [veh/h]	266	432	350	265	420	506	2317	985	580	1217	1170
d1, Uniform Delay [s]	40.53	31.83	32.44	38.13	31.75	10.53	7.50	6.55	10.38	7.78	7.80
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.13	0.23	0.21	0.12	0.15	0.21	0.04	0.46	0.53	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

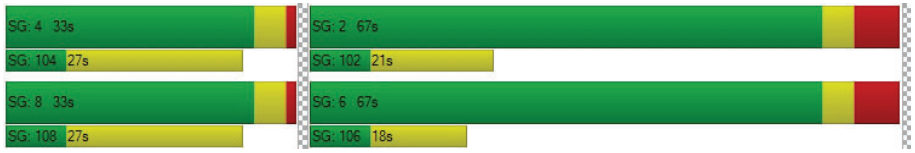
X, volume / capacity	0.56	0.28	0.35	0.28	0.27	0.04	0.22	0.02	0.13	0.26	0.27
d, Delay for Lane Group [s/veh]	41.23	31.96	32.67	38.34	31.87	10.69	7.71	6.59	10.84	8.31	8.37
Lane Group LOS	D	C	C	D	C	B	A	A	B	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.52	2.37	2.50	1.64	2.20	0.23	2.14	0.16	0.83	2.93	2.88
50th-Percentile Queue Length [ft/ln]	88.01	59.14	62.42	41.10	55.05	5.77	53.41	4.05	20.72	73.24	72.09
95th-Percentile Queue Length [veh/ln]	6.34	4.26	4.49	2.96	3.96	0.42	3.85	0.29	1.49	5.27	5.19
95th-Percentile Queue Length [ft/ln]	158.43	106.45	112.36	73.98	99.10	10.38	96.13	7.29	37.30	131.84	129.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.23	31.96	32.67	38.34	31.87	31.87	10.69	7.71	6.59	10.84	8.34	8.37
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	35.71			34.47			7.79			8.60		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	16.81											
Intersection LOS	B											
Intersection V/C	0.292											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	302	50	20	120	30	10	140	20	30	160	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	302	50	20	120	30	10	140	20	30	160	70
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	84	14	6	35	9	3	43	6	9	47	21
Total Analysis Volume [veh/h]	101	338	56	23	140	35	12	173	25	35	189	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	69	22	22
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.69	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.10	0.12	0.18
s, saturation flow rate [veh/h]	1216	1900	1779	1001	1815	1796	1679
c, Capacity [veh/h]	832	1305	1222	693	1247	435	411
d1, Uniform Delay [s]	7.66	5.46	5.48	7.37	5.41	34.18	36.89
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.25	0.28	0.09	0.24	0.83	2.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.15	0.16	0.03	0.14	0.48	0.75
d, Delay for Lane Group [s/veh]	7.95	5.71	5.76	7.46	5.64	35.01	39.63
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	1.34	1.30	0.19	1.16	4.49	7.24
50th-Percentile Queue Length [ft/ln]	21.82	33.54	32.55	4.80	29.02	112.14	181.08
95th-Percentile Queue Length [veh/ln]	1.57	2.41	2.34	0.35	2.09	7.96	11.66
95th-Percentile Queue Length [ft/ln]	39.27	60.37	58.59	8.64	52.23	198.98	291.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.95	5.73	5.76	7.46	5.64	5.64	35.01	35.01	35.01	39.63	39.63	39.63
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.19			5.85			35.01			39.63		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	19.62											
Intersection LOS	B											
Intersection V/C	0.292											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.290

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	80	492	110	30	90	20	30	250	20	40	200	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	492	110	30	90	20	30	250	20	40	200	60
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	129	29	9	27	6	8	69	5	11	54	16
Total Analysis Volume [veh/h]	84	515	115	35	106	24	33	275	22	43	214	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.18	0.04	0.07	0.03	0.08	0.08	0.04	0.11	0.04
s, saturation flow rate [veh/h]	1217	1900	1721	809	1791	1150	1900	1822	1061	1900	1490
c, Capacity [veh/h]	273	477	432	121	450	710	1172	1124	676	1172	919
d1, Uniform Delay [s]	37.43	33.80	34.08	46.12	30.22	10.20	7.97	7.98	9.67	8.27	7.67
k, delay calibration	0.04	0.06	0.08	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.98	1.61	0.49	0.13	0.12	0.22	0.24	0.18	0.34	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

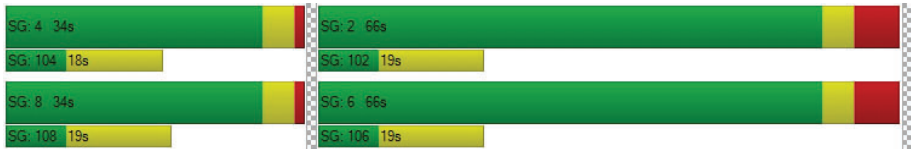
X, volume / capacity	0.31	0.68	0.71	0.29	0.29	0.05	0.13	0.13	0.06	0.18	0.07
d, Delay for Lane Group [s/veh]	37.66	34.78	35.69	46.61	30.35	10.32	8.19	8.23	9.85	8.61	7.81
Lane Group LOS	D	C	D	D	C	B	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.83	7.04	6.76	0.86	2.49	0.35	1.34	1.32	0.44	1.99	0.56
50th-Percentile Queue Length [ft/ln]	45.69	176.03	168.91	21.41	62.31	8.68	33.40	33.07	11.05	49.68	13.94
95th-Percentile Queue Length [veh/ln]	3.29	11.39	11.02	1.54	4.49	0.62	2.40	2.38	0.80	3.58	1.00
95th-Percentile Queue Length [ft/ln]	82.24	284.83	275.48	38.54	112.16	15.62	60.12	59.53	19.88	89.43	25.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.66	35.12	35.69	46.61	30.35	30.35	10.32	8.21	8.23	9.85	8.61	7.81
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	35.51			33.80			8.42			8.62		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	23.84											
Intersection LOS	C											
Intersection V/C	0.290											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	90	582	100	30	60	50	70	223	50	40	241	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	582	100	30	60	50	70	223	50	40	241	40
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	171	29	9	17	14	19	59	13	11	68	11
Total Analysis Volume [veh/h]	106	684	118	34	69	57	74	236	53	45	273	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	30	61	61	61	61	61
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.08	0.22	0.22	0.05	0.08	0.07	0.16	0.04	0.14	0.03
s, saturation flow rate [veh/h]	1262	1900	1747	689	1675	1103	1818	1091	1900	1513
c, Capacity [veh/h]	343	566	521	119	499	657	1109	642	1159	923
d1, Uniform Delay [s]	33.66	31.43	31.72	45.71	26.63	11.80	9.05	11.88	8.88	7.84
k, delay calibration	0.04	0.17	0.19	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.19	2.74	3.72	0.49	0.10	0.35	0.57	0.21	0.48	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.73	0.75	0.29	0.25	0.11	0.26	0.07	0.24	0.05
d, Delay for Lane Group [s/veh]	33.85	34.17	35.44	46.20	26.73	12.15	9.62	12.09	9.36	7.94
Lane Group LOS	C	C	D	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.18	9.04	8.79	0.83	2.25	0.85	2.82	0.51	2.61	0.38
50th-Percentile Queue Length [ft/ln]	54.61	226.09	219.81	20.79	56.22	21.22	70.57	12.82	65.24	9.57
95th-Percentile Queue Length [veh/ln]	3.93	13.98	13.66	1.50	4.05	1.53	5.08	0.92	4.70	0.69
95th-Percentile Queue Length [ft/ln]	98.30	349.39	341.38	37.43	101.19	38.20	127.03	23.08	117.43	17.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.85	34.67	35.44	46.20	26.73	26.73	12.15	9.62	9.62	12.09	9.36	7.94
Movement LOS	C	C	D	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	34.68			30.87			10.13			9.52		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	24.28											
Intersection LOS	C											
Intersection V/C	0.383											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	672	30	20	20	70	0	0	0	6	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	672	30	20	20	70	0	0	0	6	130	30
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	189	8	6	6	22	0	0	0	2	39	9
Total Analysis Volume [veh/h]	15	755	34	26	26	89	0	0	0	6	155	36
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	41	41	4	49		40
g / C, Green / Cycle	0.41	0.41	0.04	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.21	0.03	0.01	0.07		0.10
s, saturation flow rate [veh/h]	3618	1342	1810	1610		1830
c, Capacity [veh/h]	1485	551	65	793		742
d1, Uniform Delay [s]	21.95	17.82	47.10	13.86		19.73
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.25	0.22	1.45	0.38		0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

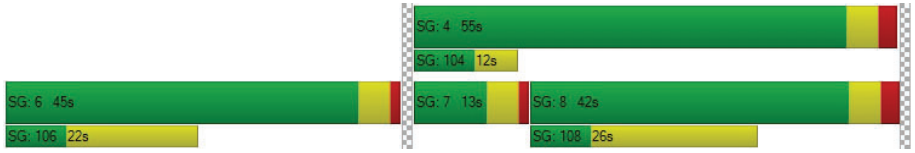
X, volume / capacity	0.51	0.06	0.40	0.15		0.26
d, Delay for Lane Group [s/veh]	23.20	18.04	48.55	14.24		20.57
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.68	0.50	0.65	1.44		3.08
50th-Percentile Queue Length [ft/ln]	167.05	12.57	16.26	36.06		77.07
95th-Percentile Queue Length [veh/ln]	10.92	0.90	1.17	2.60		5.55
95th-Percentile Queue Length [ft/ln]	273.04	22.62	29.27	64.91		138.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.20	18.04	48.55	14.24	14.24	0.00	0.00	0.00	0.00	20.57	20.57
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.98			20.57			0.00			20.57		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	22.26											
Intersection LOS	C											
Intersection V/C	0.327											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	111	40	100	190	49	70	343	30	40	290	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	111	40	100	190	49	70	343	30	40	290	110
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	11	28	53	14	20	99	9	11	81	31
Total Analysis Volume [veh/h]	21	119	43	112	212	55	81	395	35	45	324	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.54	0.09	0.08	0.23	0.05	0.17	0.09
s, saturation flow rate [veh/h]	600	600	600	600	1009	1835	945	1900	1296
c, Capacity [veh/h]	278	219	288	219	474	924	403	957	652
d1, Uniform Delay [s]	18.40	15.19	25.28	15.53	15.20	11.27	17.10	10.40	9.53
k, delay calibration	0.04	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.16	90.65	0.22	0.78	1.68	0.56	0.96	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

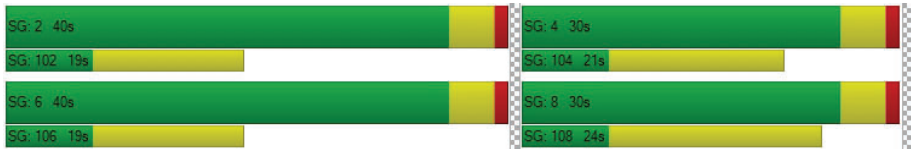
X, volume / capacity	0.50	0.20	1.12	0.25	0.17	0.47	0.11	0.34	0.19
d, Delay for Lane Group [s/veh]	18.93	15.36	115.93	15.75	15.98	12.95	17.66	11.36	10.17
Lane Group LOS	B	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.77	0.45	12.03	0.59	0.93	4.22	0.55	2.89	1.03
50th-Percentile Queue Length [ft/ln]	44.32	11.22	300.77	14.69	23.22	105.53	13.80	72.27	25.82
95th-Percentile Queue Length [veh/ln]	3.19	0.81	19.00	1.06	1.67	7.59	0.99	5.20	1.86
95th-Percentile Queue Length [ft/ln]	79.77	20.20	474.95	26.44	41.80	189.77	24.84	130.08	46.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.93	18.93	15.36	115.93	115.93	15.75	15.98	12.95	12.95	17.66	11.36	10.17
Movement LOS	B	B	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	18.09			101.39			13.43			11.64		
Approach LOS	B			F			B			B		
d_I, Intersection Delay [s/veh]	34.71											
Intersection LOS	C											
Intersection V/C	0.774											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	170	70	30	90	20	60	373	60	60	310	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	170	70	30	90	20	60	373	60	60	310	40
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	54	22	11	34	7	16	101	16	17	90	12
Total Analysis Volume [veh/h]	77	217	89	45	134	30	65	405	65	70	359	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	42	42	42	42	42	42	42	42
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	17	17	17	17
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.41	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.07	0.18	0.04	0.09	0.07	0.28	0.08	0.23
s, saturation flow rate [veh/h]	1071	1721	1036	1740	891	1707	828	1777
c, Capacity [veh/h]	456	646	371	653	343	692	288	721
d1, Uniform Delay [s]	12.20	9.96	14.31	9.04	14.77	10.24	16.91	9.61
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.20	0.05	0.07	0.10	0.44	0.16	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

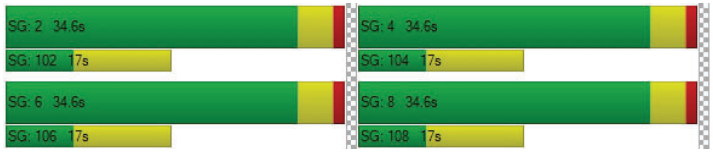
X, volume / capacity	0.17	0.47	0.12	0.25	0.19	0.68	0.24	0.56
d, Delay for Lane Group [s/veh]	12.26	10.17	14.37	9.12	14.87	10.68	17.07	9.86
Lane Group LOS	B	B	B	A	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.46	1.59	0.30	0.77	0.47	2.69	0.56	2.16
50th-Percentile Queue Length [ft/ln]	11.50	39.70	7.55	19.21	11.65	67.34	13.90	54.03
95th-Percentile Queue Length [veh/ln]	0.83	2.86	0.54	1.38	0.84	4.85	1.00	3.89
95th-Percentile Queue Length [ft/ln]	20.71	71.46	13.59	34.58	20.96	121.20	25.03	97.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.26	10.17	10.17	14.37	9.12	9.12	14.87	10.68	10.68	17.07	9.86	9.86
Movement LOS	B	B	B	B	A	A	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	10.59			10.25			11.19			10.93		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.84											
Intersection LOS	B											
Intersection V/C	0.453											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	145	360	270	65	392	20	20	545	172	220	549	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	360	270	65	392	20	20	545	172	220	549	44
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	99	75	18	107	5	6	156	49	59	147	12
Total Analysis Volume [veh/h]	160	398	298	71	426	22	23	624	197	235	586	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.19	0.07	0.12	0.12	0.03	0.17	0.13	0.24	0.16	0.03
s, saturation flow rate [veh/h]	1199	1900	1560	994	1900	1858	836	3618	1551	993	3618	1542
c, Capacity [veh/h]	429	670	551	111	442	432	348	1574	675	565	2008	856
d1, Uniform Delay [s]	23.65	26.49	25.89	48.95	33.40	33.44	23.05	19.29	18.29	12.33	11.81	10.21
k, delay calibration	0.28	0.09	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.38	0.68	0.33	2.30	0.34	0.35	0.37	0.75	1.10	2.25	0.37	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.59	0.54	0.64	0.51	0.51	0.07	0.40	0.29	0.42	0.29	0.05
d, Delay for Lane Group [s/veh]	25.03	27.17	26.21	51.25	33.74	33.80	23.41	20.04	19.38	14.58	12.18	10.33
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.81	7.72	5.60	1.82	4.70	4.64	0.41	5.00	3.10	2.85	3.34	0.48
50th-Percentile Queue Length [ft/ln]	70.27	192.97	140.12	45.56	117.40	115.99	10.18	124.97	77.48	71.36	83.53	11.95
95th-Percentile Queue Length [veh/ln]	5.06	12.28	9.49	3.28	8.25	8.17	0.73	8.67	5.58	5.14	6.01	0.86
95th-Percentile Queue Length [ft/ln]	126.49	306.88	237.19	82.01	206.24	204.30	18.33	216.63	139.47	128.46	150.35	21.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.03	27.17	26.21	51.25	33.77	33.80	23.41	20.04	19.38	14.58	12.18	10.33
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	26.44			36.16			19.98			12.73		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.45											
Intersection LOS	C											
Intersection V/C	0.453											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	49.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	130	616	120	20	684	40	30	110	80	70	140	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	616	120	20	684	40	30	110	80	70	140	50
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	169	33	5	181	11	10	37	27	19	38	14
Total Analysis Volume [veh/h]	142	674	131	21	723	42	41	150	109	76	153	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	56	56	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.56	0.56	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.22	0.03	0.20	0.21	0.39	0.08	0.57	0.04
s, saturation flow rate [veh/h]	878	1900	1740	790	1900	1830	493	1325	400	1413
c, Capacity [veh/h]	572	1056	967	515	985	949	179	364	158	388
d1, Uniform Delay [s]	8.34	12.61	12.72	7.74	14.54	14.61	32.07	28.66	40.42	27.36
k, delay calibration	0.42	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.88	1.10	1.26	0.15	1.17	1.26	85.95	0.17	234.90	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

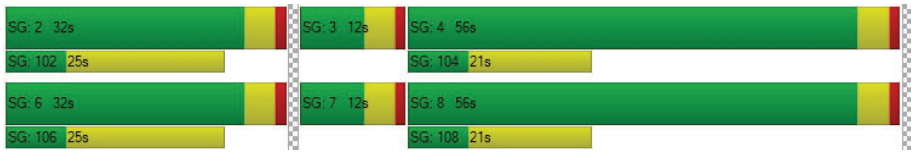
X, volume / capacity	0.25	0.39	0.40	0.04	0.39	0.40	1.07	0.30	1.45	0.14
d, Delay for Lane Group [s/veh]	9.22	13.71	13.98	7.89	15.71	15.87	118.02	28.82	275.32	27.43
Lane Group LOS	A	B	B	A	B	B	F	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.26	5.32	5.09	0.18	5.40	5.34	7.65	2.04	14.18	0.98
50th-Percentile Queue Length [ft/ln]	31.57	132.89	127.37	4.40	134.89	133.42	191.16	51.03	354.60	24.55
95th-Percentile Queue Length [veh/ln]	2.27	9.10	8.80	0.32	9.21	9.13	12.60	3.67	24.08	1.77
95th-Percentile Queue Length [ft/ln]	56.82	227.42	219.92	7.92	230.13	228.14	315.01	91.85	601.98	44.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.22	13.81	13.98	7.89	15.79	15.87	118.02	118.02	28.82	275.32	275.32	27.43
Movement LOS	A	B	B	A	B	B	F	F	C	F	F	C
d_A, Approach Delay [s/veh]	13.15			15.58			85.61			227.31		
Approach LOS	B			B			F			F		
d_I, Intersection Delay [s/veh]	49.61											
Intersection LOS	D											
Intersection V/C	0.816											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	746	190	70	734	30	30	330	120	110	322	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	746	190	70	734	30	30	330	120	110	322	120
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	198	51	20	207	8	8	90	33	29	84	31
Total Analysis Volume [veh/h]	117	794	202	79	829	34	33	358	130	115	338	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	58	47	47	58	46	46	22	22	22	33	33	33
g / C, Green / Cycle	0.58	0.47	0.47	0.58	0.46	0.46	0.22	0.22	0.22	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.14	0.27	0.28	0.10	0.23	0.23	0.03	0.13	0.14	0.10	0.18	0.08
s, saturation flow rate [veh/h]	838	1900	1740	764	1900	1866	1029	1900	1659	1172	1900	1514
c, Capacity [veh/h]	488	888	813	431	879	863	126	416	363	377	631	503
d1, Uniform Delay [s]	11.16	19.49	19.62	11.83	18.73	18.76	46.37	35.20	35.55	24.79	27.12	24.32
k, delay calibration	0.31	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.09	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.72	2.77	3.15	0.93	1.99	2.04	0.40	0.54	0.73	0.39	0.26	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

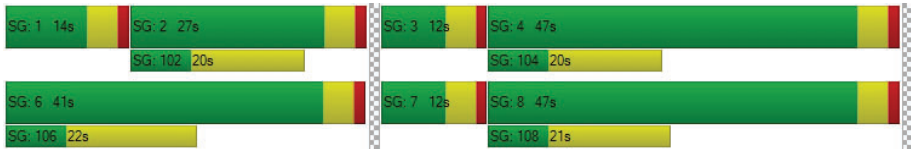
X, volume / capacity	0.24	0.58	0.59	0.18	0.49	0.50	0.26	0.61	0.65	0.31	0.54	0.25
d, Delay for Lane Group [s/veh]	11.88	22.26	22.77	12.76	20.72	20.79	46.78	35.74	36.28	25.18	27.38	24.42
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.21	9.12	8.63	0.85	7.28	7.20	0.81	5.55	5.22	1.96	6.48	2.16
50th-Percentile Queue Length [ft/ln]	30.34	228.06	215.81	21.22	182.05	180.02	20.31	138.70	130.48	49.07	162.00	54.11
95th-Percentile Queue Length [veh/ln]	2.18	14.08	13.45	1.53	11.71	11.60	1.46	9.41	8.97	3.53	10.65	3.90
95th-Percentile Queue Length [ft/ln]	54.60	351.89	336.28	38.20	292.69	290.04	36.56	235.27	224.15	88.32	266.37	97.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.88	22.44	22.77	12.76	20.75	20.79	46.78	35.90	36.28	25.18	27.38	24.42
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	21.39			20.09			36.68			26.30		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	24.43											
Intersection LOS	C											
Intersection V/C	0.489											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	100	966	180	30	884	40	50	193	140	140	221	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	966	180	30	884	40	50	193	140	140	221	50
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	247	46	8	233	11	15	57	41	40	63	14
Total Analysis Volume [veh/h]	102	990	184	32	933	42	59	227	165	160	252	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	7	51	51	40	40	40	26	26	26	35	35
g / C, Green / Cycle	0.07	0.51	0.51	0.40	0.40	0.40	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.32	0.33	0.07	0.26	0.26	0.05	0.12	0.11	0.31	0.04
s, saturation flow rate [veh/h]	1810	1900	1734	485	1900	1852	1146	1900	1481	1323	1486
c, Capacity [veh/h]	130	978	893	139	755	736	73	488	380	470	524
d1, Uniform Delay [s]	45.66	17.21	17.56	39.70	24.49	24.58	50.00	31.36	31.07	30.13	21.76
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.94	2.89	3.52	3.81	4.32	4.56	7.94	0.26	0.29	20.02	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

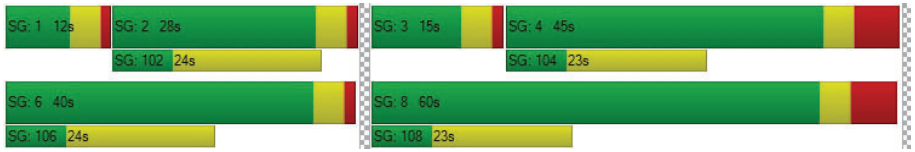
X, volume / capacity	0.79	0.61	0.64	0.23	0.65	0.66	0.81	0.47	0.43	0.88	0.11
d, Delay for Lane Group [s/veh]	49.61	20.10	21.07	43.51	28.82	29.14	57.94	31.62	31.36	50.15	21.80
Lane Group LOS	D	C	C	D	C	C	E	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.62	10.12	9.93	0.87	10.09	10.01	1.62	4.55	3.28	10.47	0.89
50th-Percentile Queue Length [ft/ln]	65.46	252.95	248.20	21.71	252.24	250.25	40.38	113.77	82.09	261.69	22.13
95th-Percentile Queue Length [veh/ln]	4.71	15.33	15.10	1.56	15.30	15.20	2.91	8.05	5.91	15.77	1.59
95th-Percentile Queue Length [ft/ln]	117.82	383.37	377.39	39.08	382.47	379.97	72.69	201.24	147.76	394.34	39.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.61	20.48	21.07	43.51	28.97	29.14	57.94	31.62	31.36	50.15	50.15	21.80
Movement LOS	D	C	C	D	C	C	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	22.90			29.44			34.97			46.71		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.14											
Intersection LOS	C											
Intersection V/C	0.546											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	71.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	80	1246	120	20	1154	20	6	70	70	66	110	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	1246	120	20	1154	20	6	70	70	66	110	40
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	339	33	5	316	5	2	23	23	18	33	12
Total Analysis Volume [veh/h]	87	1355	131	22	1266	22	7	92	92	70	133	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	6	33	33	3	30	30	40	40
g / C, Green / Cycle	0.07	0.37	0.37	0.03	0.33	0.33	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.05	0.39	0.40	0.01	0.34	0.34	0.11	0.10
s, saturation flow rate [veh/h]	1810	1900	1821	1810	1900	1883	1717	1795
c, Capacity [veh/h]	126	701	671	62	633	627	762	797
d1, Uniform Delay [s]	40.95	28.43	28.43	42.54	30.04	30.04	15.59	15.48
k, delay calibration	0.04	0.50	0.50	0.04	0.44	0.45	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	54.56	63.87	1.30	38.98	40.29	0.75	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

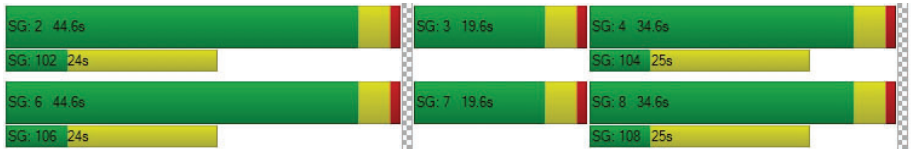
X, volume / capacity	0.69	1.07	1.10	0.36	1.02	1.02	0.24	0.23
d, Delay for Lane Group [s/veh]	43.44	82.99	92.30	43.84	69.02	70.33	16.34	16.15
Lane Group LOS	D	F	F	D	F	F	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	24.93	25.63	0.50	19.94	19.99	2.43	2.36
50th-Percentile Queue Length [ft/ln]	48.78	623.25	640.74	12.41	498.44	499.70	60.73	59.11
95th-Percentile Queue Length [veh/ln]	3.51	34.72	36.11	0.89	27.64	27.77	4.37	4.26
95th-Percentile Queue Length [ft/ln]	87.81	867.97	902.70	22.33	690.92	694.14	109.31	106.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.44	87.15	92.30	43.84	69.66	70.33	0.00	16.34	16.34	0.00	16.15	16.15
Movement LOS	D	F	F	D	F	E		B	B		B	B
d_A, Approach Delay [s/veh]	85.16			69.24			16.34			16.15		
Approach LOS	F			E			B			B		
d_I, Intersection Delay [s/veh]	70.99											
Intersection LOS	E											
Intersection V/C	0.523											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	90.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.962

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	260	679	0	0	1224	40	0	0	0	720	250	797
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	679	0	0	1224	40	0	0	0	720	250	797
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	195	0	0	343	11	0	0	0	190	66	211
Total Analysis Volume [veh/h]	299	781	0	0	1371	45	0	0	0	762	265	843
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	17	50	29	29		30	30	30	30
g / C, Green / Cycle	0.18	0.56	0.32	0.32		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.17	0.22	0.26	0.25		0.54	0.26	0.29	0.53
s, saturation flow rate [veh/h]	1810	3618	3618	1867		900	1846	1475	900
c, Capacity [veh/h]	334	2026	1174	606		304	624	498	304
d1, Uniform Delay [s]	35.86	11.11	27.78	27.47		29.80	26.73	27.90	29.80
k, delay calibration	0.23	0.50	0.50	0.50		0.50	0.24	0.31	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.09	0.56	5.89	9.56		278.3	4.51	12.27	265.6
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.39	0.80	0.78		1.58	0.77	0.87	1.56
d, Delay for Lane Group [s/veh]	51.95	11.67	33.67	37.03		308.1	31.23	40.17	295.4
Lane Group LOS	D	B	C	D		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	7.76	4.20	9.90	10.45		29.47	9.28	9.63	28.39
50th-Percentile Queue Length [ft/ln]	194.03	104.95	247.59	261.35		736.7	232.1	240.7	709.8
95th-Percentile Queue Length [veh/ln]	12.33	7.56	15.06	15.76		47.97	14.28	14.72	46.13
95th-Percentile Queue Length [ft/ln]	308.25	188.92	376.62	393.92		1199.	357.0	368.0	1153.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.95	11.67	0.00	0.00	34.72	37.03	0.00	0.00	0.00	200.94	33.32	187.41
Movement LOS	D	B			C	D				F	C	F
d_A, Approach Delay [s/veh]	22.82			34.79			0.00			171.47		
Approach LOS	C			C			A			F		
d_I, Intersection Delay [s/veh]	90.37											
Intersection LOS	F											
Intersection V/C	0.962											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	38.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	799	740	808	1096	0	200	480	270	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	799	740	808	1096	0	200	480	270	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	228	211	234	317	0	67	161	90	0	0	0
Total Analysis Volume [veh/h]	0	910	843	936	1270	0	268	643	362	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	29	29	29	22	55	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.24	0.62	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.27	0.35	0.26	0.25	0.23
s, saturation flow rate [veh/h]	3618	1522	1522	3514	3618	1847	1729	1585
c, Capacity [veh/h]	1165	490	490	853	2228	521	488	447
d1, Uniform Delay [s]	27.33	29.08	29.08	34.11	10.24	31.17	31.14	30.09
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.11	0.11	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	2.37	2.37	60.83	1.07	6.46	6.63	1.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

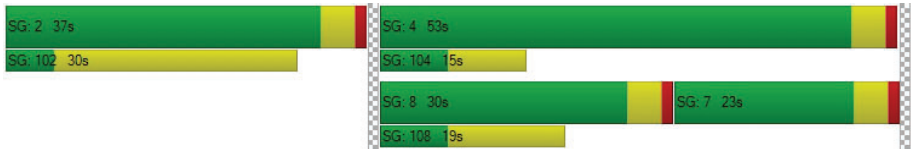
X, volume / capacity	0.75	0.89	0.89	1.10	0.57	0.90	0.90	0.81
d, Delay for Lane Group [s/veh]	27.70	31.45	31.45	94.94	11.31	37.63	37.77	32.03
Lane Group LOS	C	C	C	F	B	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.07	8.85	8.85	16.25	6.90	10.33	9.66	7.21
50th-Percentile Queue Length [ft/ln]	201.85	221.23	221.23	406.13	172.58	258.26	241.52	180.23
95th-Percentile Queue Length [veh/ln]	12.73	13.73	13.73	24.07	11.21	15.60	14.76	11.61
95th-Percentile Queue Length [ft/ln]	318.34	343.20	343.20	601.78	280.31	390.04	368.95	290.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	27.70	31.45	94.94	11.31	0.00	37.63	37.72	32.03	0.00	0.00	0.00
Movement LOS		C	C	F	B		D	D	C			
d_A, Approach Delay [s/veh]	29.58			46.79			36.08			0.00		
Approach LOS	C			D			D			A		
d_I, Intersection Delay [s/veh]	38.42											
Intersection LOS	D											
Intersection V/C	0.809											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	843	140	60	577	40	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	843	140	60	577	40	88
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	241	40	16	156	12	26
Total Analysis Volume [veh/h]	965	160	65	624	48	105
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	76	76	76	76	10	10
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.27	0.10	0.11	0.17	0.03	0.09
s, saturation flow rate [veh/h]	3618	1557	590	3618	1396	1166
c, Capacity [veh/h]	2765	1190	459	2765	145	121
d1, Uniform Delay [s]	3.79	3.10	6.65	3.36	41.59	44.13
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.23	0.65	0.19	0.49	7.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.13	0.14	0.23	0.33	0.87
d, Delay for Lane Group [s/veh]	4.14	3.33	7.29	3.55	42.08	51.17
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.55	0.73	0.57	1.45	1.10	2.75
50th-Percentile Queue Length [ft/ln]	63.63	18.28	14.24	36.36	27.57	68.75
95th-Percentile Queue Length [veh/ln]	4.58	1.32	1.03	2.62	1.98	4.95
95th-Percentile Queue Length [ft/ln]	114.53	32.90	25.63	65.45	49.62	123.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.14	3.33	7.29	3.55	42.08	51.17
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.02		3.90		48.32	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.43					
Intersection LOS	A					
Intersection V/C	0.357					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	50	30	0	20	40	50	0	30	170	30	0	20	171	40
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	50	30	0	20	40	50	0	30	170	30	0	20	171	40
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	15	9	0	7	14	18	0	10	57	10	0	5	46	11
Total Analysis Volume [veh/h]	0	35	59	35	0	29	58	72	0	40	229	40	0	22	185	43
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	565	655	569	660	632	732	627	721
Degree of Utilization, x	0.17	0.05	0.15	0.11	0.43	0.05	0.33	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.59	0.17	0.54	0.37	2.12	0.17	1.44	0.19
95th-Percentile Queue Length [ft]	14.84	4.22	13.41	9.14	53.10	4.33	36.03	4.75
Approach Delay [s/veh]	9.85		9.55		11.95		10.70	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.81							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	302	131	0	40	480	0	140	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	302	131	0	40	480	0	140	60
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	89	38	0	11	134	0	37	16
Total Analysis Volume [veh/h]	0	355	154	0	45	538	0	149	64
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.19	0.10	0.04	0.28	0.09	0.05
s, saturation flow rate [veh/h]	1900	1615	1043	1900	1711	1351
c, Capacity [veh/h]	1192	953	614	1122	391	309
d1, Uniform Delay [s]	5.25	4.72	7.96	5.95	16.56	15.87
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	0.36	0.23	1.47	0.23	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.16	0.07	0.48	0.38	0.21
d, Delay for Lane Group [s/veh]	5.88	5.08	8.19	7.42	16.79	15.99
Lane Group LOS	A	A	A	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.47	0.59	0.27	2.62	1.37	0.56
50th-Percentile Queue Length [ft/ln]	36.73	14.66	6.66	65.50	34.20	14.09
95th-Percentile Queue Length [veh/ln]	2.64	1.06	0.48	4.72	2.46	1.01
95th-Percentile Queue Length [ft/ln]	66.11	26.40	11.99	117.90	61.56	25.35

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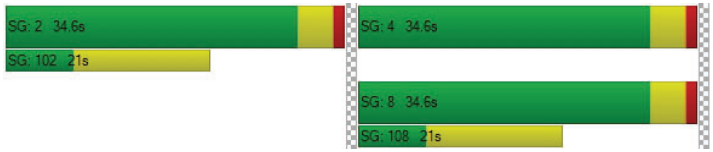
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.88	5.88	5.08	8.19	8.19	7.42	16.79	16.79	15.99
Movement LOS	A	A	A	A	A	A	B	B	B
d_A, Approach Delay [s/veh]	5.64			7.48			16.55		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	8.24								
Intersection LOS	A								
Intersection V/C	0.370								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	60	20	20	130	10	20	158	20	20	114	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	60	20	20	130	10	20	158	20	20	114	20
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	17	6	6	36	3	7	54	7	6	33	6
Total Analysis Volume [veh/h]	34	69	23	22	144	11	27	215	27	23	133	23
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	680	687	727	710
Degree of Utilization, x	0.19	0.26	0.37	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.67	1.03	1.71	1.00
95th-Percentile Queue Length [ft]	16.87	25.66	42.76	24.88
Approach Delay [s/veh]	9.49	10.06	10.83	9.76
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	10.17			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	110	50	40	210	30	31	157	30	40	103	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	50	40	210	30	31	157	30	40	103	30
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	19	12	61	9	10	53	10	11	29	8
Total Analysis Volume [veh/h]	31	168	76	47	245	35	42	213	41	44	114	33
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	600	601	588	566
Degree of Utilization, x	0.46	0.54	0.50	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.40	3.27	2.82	1.48
95th-Percentile Queue Length [ft]	59.90	81.74	70.47	37.06
Approach Delay [s/veh]	13.97	15.91	15.15	12.57
Approach LOS	B	C	C	B
Intersection Delay [s/veh]	14.63			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	38.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.878

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	113	210	30	30	300	30	10	80	117	60	150	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	210	30	30	300	30	10	80	117	60	150	40
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	60	9	8	85	8	3	24	35	22	54	14
Total Analysis Volume [veh/h]	130	242	35	34	339	34	12	97	142	87	217	58
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	423	474	430	474	438	451
Degree of Utilization, x	0.88	0.07	0.87	0.07	0.57	0.80

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.03	0.24	8.81	0.23	3.51	7.35
95th-Percentile Queue Length [ft]	225.63	5.95	220.33	5.78	87.72	183.71
Approach Delay [s/veh]	44.77		43.00		21.73	36.26
Approach LOS	E		E		C	E
Intersection Delay [s/veh]	38.05					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	93.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.691

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	30	201	410	70	92	10	20	350	60	110	60	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	201	410	70	92	10	20	350	60	110	60	30
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	51	105	20	26	3	6	110	19	29	16	8
Total Analysis Volume [veh/h]	31	206	420	79	104	11	25	438	75	115	63	31
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	38	46	39	16	16	16	16
g / C, Green / Cycle	0.58	0.47	0.58	0.49	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.39	0.08	0.06	0.02	0.28	0.13	0.06
s, saturation flow rate [veh/h]	1355	1625	957	1848	1184	1810	901	1674
c, Capacity [veh/h]	875	765	418	905	251	372	90	344
d1, Uniform Delay [s]	7.25	18.28	12.39	11.15	30.57	31.87	40.12	26.82
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.15	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	9.49	1.00	0.29	0.06	175.14	131.11	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

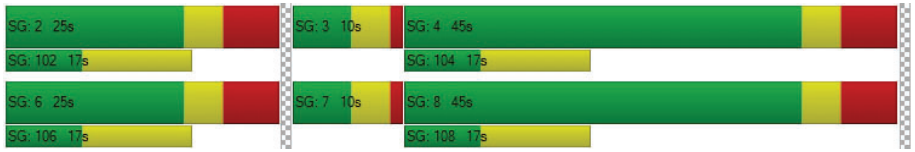
X, volume / capacity	0.04	0.82	0.19	0.13	0.10	1.38	1.28	0.27
d, Delay for Lane Group [s/veh]	7.26	27.77	13.39	11.44	30.63	207.01	171.23	26.98
Lane Group LOS	A	C	B	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.20	10.84	0.65	1.11	0.42	25.06	5.01	1.47
50th-Percentile Queue Length [ft/ln]	4.96	271.09	16.26	27.74	10.55	626.38	125.22	36.67
95th-Percentile Queue Length [veh/ln]	0.36	16.24	1.17	2.00	0.76	38.59	9.02	2.64
95th-Percentile Queue Length [ft/ln]	8.92	406.10	29.26	49.94	18.99	964.67	225.39	66.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.26	27.77	27.77	13.39	11.44	11.44	30.63	207.01	207.01	171.23	26.98	26.98
Movement LOS	A	C	C	B	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	26.80			12.23			198.82			106.35		
Approach LOS	C			B			F			F		
d_I, Intersection Delay [s/veh]	93.35											
Intersection LOS	F											
Intersection V/C	0.691											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	66	110	20	10	80	10	10	148	30	20	124	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	110	20	10	80	10	10	148	30	20	124	10
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	31	6	3	22	3	3	51	10	6	35	3
Total Analysis Volume [veh/h]	74	123	22	11	88	11	14	204	41	23	141	11
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	673	723	696
Degree of Utilization, x	0.32	0.16	0.36	0.25

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.36	0.58	1.63	0.99
95th-Percentile Queue Length [ft]	34.08	14.54	40.74	24.81
Approach Delay [s/veh]	10.62	9.39	10.74	9.90
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	10.32			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	121	10	20	211	30	20	90	40	40	90	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	121	10	20	211	30	20	90	40	40	90	30
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	34	3	6	60	8	6	26	12	13	28	9
Total Analysis Volume [veh/h]	33	134	11	23	239	34	23	104	46	50	113	38
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	665	695	666	665
Degree of Utilization, x	0.27	0.43	0.26	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.08	2.14	1.03	1.27
95th-Percentile Queue Length [ft]	26.96	53.40	25.85	31.82
Approach Delay [s/veh]	10.39	11.97	10.28	10.75
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.01			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.839

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2623	110	0	3700	210	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2623	110	0	3700	210	10
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	755	32	0	949	69	3
Total Analysis Volume [veh/h]	3018	127	0	3795	276	13
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	87	87	87	87
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	67	67	67	10
g / C, Green / Cycle	0.76	0.76	0.76	0.11
(v / s)_i Volume / Saturation Flow Rate	0.66	0.64	0.62	0.18
s, saturation flow rate [veh/h]	3192	1641	6089	1588
c, Capacity [veh/h]	2441	1255	4656	182
d1, Uniform Delay [s]	7.03	6.68	6.40	38.54
k, delay calibration	0.04	0.15	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	2.12	0.14	287.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.84	0.82	1.58
d, Delay for Lane Group [s/veh]	7.39	8.80	6.54	326.18
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.71	8.89	7.12	18.38
50th-Percentile Queue Length [ft/ln]	217.68	222.33	178.03	459.56
95th-Percentile Queue Length [veh/ln]	13.55	13.78	11.50	29.61
95th-Percentile Queue Length [ft/ln]	338.66	344.60	287.44	740.19

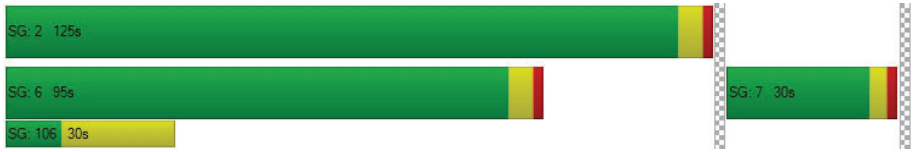
Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.82	8.80	0.00	6.54	326.18	326.18
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.86		6.54		326.18	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	19.89					
Intersection LOS	B					
Intersection V/C	0.839					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	104.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.025

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2153	480	30	170	560	10	568	280	0	0	380	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2153	480	30	170	560	10	568	280	0	0	380	230
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	633	141	9	49	163	3	142	72	0	0	118	71
Total Analysis Volume [veh/h]	2533	565	35	198	651	12	568	287	0	0	471	285
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	146	146	146	146	146	146	146
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	85	85	85	25	25	25	25
g / C, Green / Cycle	0.59	0.59	0.59	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.53	0.55	0.42	0.27	0.27	0.18	0.20
s, saturation flow rate [veh/h]	3192	1522	1425	1597	1591	1597	3783
c, Capacity [veh/h]	1869	891	835	274	273	274	649
d1, Uniform Delay [s]	26.57	28.10	21.61	60.38	60.38	60.38	60.38
k, delay calibration	0.04	0.41	0.21	0.50	0.50	0.45	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	17.33	2.31	274.88	276.26	64.93	75.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.95	0.72	1.57	1.58	1.05	1.17
d, Delay for Lane Group [s/veh]	27.28	45.44	23.92	335.26	336.65	125.31	136.21
Lane Group LOS	C	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	25.09	30.64	14.93	31.03	31.04	15.06	12.55
50th-Percentile Queue Length [ft/ln]	627.31	765.90	373.35	775.86	775.89	376.62	313.85
95th-Percentile Queue Length [veh/ln]	33.31	39.71	21.27	48.17	48.19	21.95	19.70
95th-Percentile Queue Length [ft/ln]	832.69	992.83	531.80	1204.18	1204.78	548.79	492.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.47	23.92	23.92	335.26	336.65	336.65	0.00	125.31	0.00	0.00	136.21	136.21
Movement LOS	C	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	31.53			335.95			125.31			136.21		
Approach LOS	C			F			F			F		
d_I, Intersection Delay [s/veh]	104.62											
Intersection LOS	F											
Intersection V/C	1.025											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	31	72	57	0	20	39	30	0	10	161	0	0	43	169	40
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	31	72	57	0	20	39	30	0	10	161	0	0	43	169	40
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	9	21	17	0	6	12	9	0	3	47	0	0	13	49	12
Total Analysis Volume [veh/h]	0	36	84	66	0	24	46	35	0	12	186	0	0	50	198	47
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	698	677	703	732
Degree of Utilization, x	0.27	0.16	0.28	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.07	0.55	1.16	1.96
95th-Percentile Queue Length [ft]	26.83	13.67	28.88	48.90
Approach Delay [s/veh]	10.03	9.29	10.12	11.20
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.39			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	62	30	10	19	10	10	60	20	40	70	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	62	30	10	19	10	10	60	20	40	70	20
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	19	9	3	5	3	4	21	7	12	21	6
Total Analysis Volume [veh/h]	25	78	38	11	21	11	14	85	28	48	84	24
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	671	792	652	775	694	814	683	820
Degree of Utilization, x	0.15	0.05	0.05	0.01	0.14	0.03	0.19	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.54	0.15	0.15	0.04	0.50	0.11	0.71	0.09
95th-Percentile Queue Length [ft]	13.50	3.77	3.86	1.08	12.41	2.67	17.79	2.26
Approach Delay [s/veh]	8.62		8.23		8.43		8.92	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.63							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	40	0	1093	210	190	887	0	32	1085	209	50	0	50
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	1093	210	190	887	0	32	1085	209	50	0	50
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	299	57	49	228	0	8	271	52	15	0	15
Total Analysis Volume [veh/h]	40	0	1197	230	195	911	0	32	1085	209	61	0	61
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	56	56	66	58		15	15
g / C, Green / Cycle	0.04	0.62	0.62	0.73	0.64		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.33	0.14	0.31	0.25		0.04	0.04
s, saturation flow rate [veh/h]	1810	3618	1615	632	3618		1729	1501
c, Capacity [veh/h]	64	2245	1002	488	2321		293	254
d1, Uniform Delay [s]	42.79	9.68	7.55	6.61	7.72		32.18	32.36
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.59	0.91	0.53	2.43	0.50		0.13	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.53	0.23	0.40	0.39		0.21	0.24
d, Delay for Lane Group [s/veh]	46.38	10.59	8.09	9.04	8.22		32.31	32.54
Lane Group LOS	D	B	A	A	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.93	6.17	1.91	1.18	3.85		1.14	1.15
50th-Percentile Queue Length [ft/ln]	23.32	154.33	47.86	29.55	96.28		28.54	28.75
95th-Percentile Queue Length [veh/ln]	1.68	10.25	3.45	2.13	6.93		2.05	2.07
95th-Percentile Queue Length [ft/ln]	41.97	256.19	86.15	53.19	173.30		51.37	51.75

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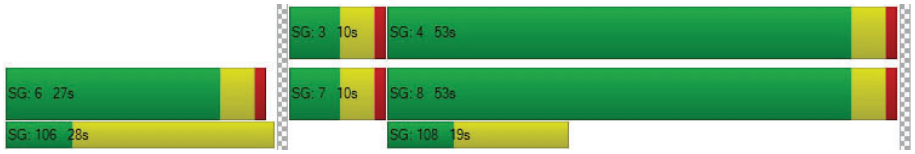
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.38	0.00	10.59	8.09	9.04	8.22	0.00	0.00	0.00	0.00	32.31	0.00	32.54
Movement LOS	D		B	A	A	A					C		C
d_A, Approach Delay [s/veh]	11.17				8.37			0.00			32.42		
Approach LOS	B				A			A			C		
d_I, Intersection Delay [s/veh]	10.98												
Intersection LOS	B												
Intersection V/C	0.410												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	47.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.008

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2510	2	291	2280	30	10	10	20	84	30	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2510	2	291	2280	30	10	10	20	84	30	300
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	728	1	74	583	8	4	4	8	25	9	90
Total Analysis Volume [veh/h]	35	2913	2	298	2332	31	16	16	32	101	36	361
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	242	242	242	242	242	242	242	242
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	137	45	176	176	45	45	95
g / C, Green / Cycle	0.03	0.57	0.19	0.73	0.73	0.19	0.19	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.56	0.16	0.43	0.43	0.28	0.23	0.22
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1887	228	596	1615
c, Capacity [veh/h]	46	2933	339	2633	1373	61	136	630
d1, Uniform Delay [s]	117.32	52.09	95.91	15.73	15.79	92.07	102.55	58.11
k, delay calibration	0.04	0.04	0.09	0.04	0.05	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	3.41	6.22	0.08	0.19	130.64	78.14	3.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

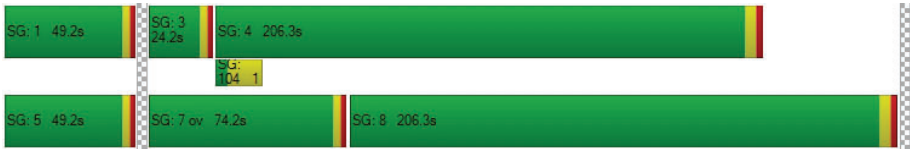
X, volume / capacity	0.75	0.99	0.88	0.59	0.59	1.05	1.00	0.57
d, Delay for Lane Group [s/veh]	126.20	55.50	102.13	15.81	15.98	222.71	180.69	61.87
Lane Group LOS	F	E	F	B	B	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.33	57.83	18.84	20.08	21.16	6.13	11.79	18.52
50th-Percentile Queue Length [ft/ln]	58.21	1445.77	471.06	501.98	529.01	153.22	294.68	462.98
95th-Percentile Queue Length [veh/ln]	4.19	70.30	25.96	27.43	28.70	10.42	17.45	25.58
95th-Percentile Queue Length [ft/ln]	104.79	1757.56	649.03	685.70	717.62	260.60	436.37	639.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	126.20	55.50	0.00	102.13	15.87	15.98	222.71	222.71	222.71	180.69	180.69	61.87
Movement LOS	F	E		F	B	B	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	56.34			25.53			222.71			94.56		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	47.86											
Intersection LOS	D											
Intersection V/C	1.008											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	157.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.292

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	236	515	92	32	429	78	60	130	191	0	62	131	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	236	515	92	32	429	78	60	130	191	0	62	131	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	63	137	25	9	123	22	16	36	52	0	19	41	22
Total Analysis Volume [veh/h]	251	549	98	37	491	89	66	142	209	0	78	165	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	61	61	3	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.61	0.61	0.03	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.14	0.29	0.08	0.02	0.26	0.07	0.61	0.14	0.90	0.10
s, saturation flow rate [veh/h]	1810	1900	1266	1810	1900	1352	340	1518	271	860
c, Capacity [veh/h]	189	1149	765	58	1012	720	110	570	98	159
d1, Uniform Delay [s]	44.75	10.97	8.46	47.80	14.73	11.69	40.53	22.60	41.38	36.93
k, delay calibration	0.17	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	159.93	1.42	0.34	4.28	1.67	0.35	429.87	0.15	697.67	1.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

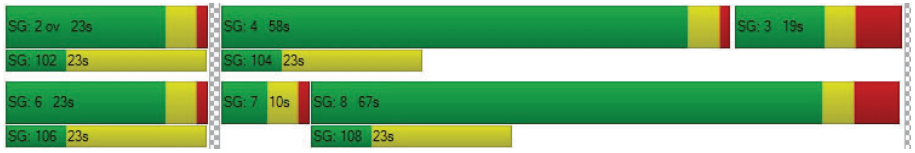
X, volume / capacity	1.33	0.48	0.13	0.64	0.49	0.12	1.88	0.37	2.48	0.55
d, Delay for Lane Group [s/veh]	204.69	12.40	8.80	52.08	16.40	12.05	470.40	22.75	739.05	38.02
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	13.03	6.69	0.93	0.98	7.14	1.03	15.96	3.59	21.36	1.94
50th-Percentile Queue Length [ft/ln]	325.85	167.22	23.28	24.38	178.52	25.77	398.93	89.68	534.09	48.48
95th-Percentile Queue Length [veh/ln]	20.97	10.93	1.68	1.76	11.52	1.86	27.63	6.46	36.78	3.49
95th-Percentile Queue Length [ft/ln]	524.13	273.26	41.90	43.89	288.08	46.38	690.67	161.42	919.58	87.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	204.69	12.40	8.80	52.08	16.40	12.05	470.40	470.40	22.75	739.0	739.0	739.0	38.02
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	65.75			17.91			246.04			554.23			
Approach LOS	E			B			F			F			
d_I, Intersection Delay [s/veh]	157.20												
Intersection LOS	F												
Intersection V/C	1.292												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	641	163	0	103	560	0	243	242
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	641	163	0	103	560	0	243	242
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	173	44	0	27	148	0	70	70
Total Analysis Volume [veh/h]	0	693	176	0	109	591	0	280	279
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.13	0.12	0.16	0.15	0.11	0.17
s, saturation flow rate [veh/h]	1900	1729	1371	903	3618	1299	1696	1064
c, Capacity [veh/h]	1139	1004	796	656	2509	226	296	186
d1, Uniform Delay [s]	10.86	10.86	10.08	5.60	5.61	40.18	38.25	40.85
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.09	0.04	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.74	0.88	0.64	0.55	0.22	8.14	0.81	23.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

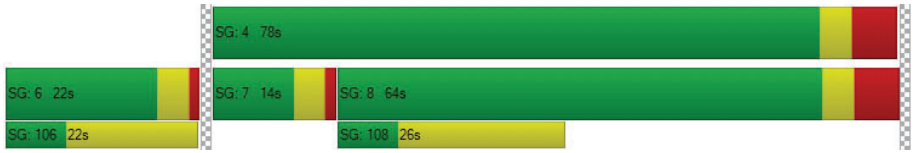
X, volume / capacity	0.32	0.33	0.22	0.17	0.24	0.87	0.63	0.95
d, Delay for Lane Group [s/veh]	11.60	11.74	10.72	6.15	5.83	48.32	39.07	64.82
Lane Group LOS	B	B	B	A	A	D	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.16	3.82	1.91	0.75	2.06	5.18	4.24	5.48
50th-Percentile Queue Length [ft/ln]	103.94	95.39	47.72	18.78	51.55	129.42	105.90	136.95
95th-Percentile Queue Length [veh/ln]	7.48	6.87	3.44	1.35	3.71	8.91	7.61	9.32
95th-Percentile Queue Length [ft/ln]	187.09	171.70	85.89	33.81	92.79	222.71	190.28	232.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.60	11.66	10.72	6.15	6.15	5.83	48.32	45.35	55.99
Movement LOS	B	B	B	A	A	A	D	D	E
d_A, Approach Delay [s/veh]	11.47			5.88			50.46		
Approach LOS	B			A			D		
d_I, Intersection Delay [s/veh]	19.87								
Intersection LOS	B								
Intersection V/C	0.381								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	643	100	70	733	110	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	643	100	70	733	110	110
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	27	19	195	32	32
Total Analysis Volume [veh/h]	707	110	74	779	130	130
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.20	0.08	0.10	0.22	0.15
s, saturation flow rate [veh/h]	3618	1339	743	3618	1707
c, Capacity [veh/h]	2235	827	444	2235	427
d1, Uniform Delay [s]	9.06	7.94	13.79	9.29	33.15
k, delay calibration	0.50	0.50	0.50	0.50	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.33	0.81	0.43	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.13	0.17	0.35	0.61
d, Delay for Lane Group [s/veh]	9.43	8.28	14.60	9.72	33.97
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.51	1.00	1.00	3.96	5.53
50th-Percentile Queue Length [ft/ln]	87.64	25.04	24.99	99.09	138.29
95th-Percentile Queue Length [veh/ln]	6.31	1.80	1.80	7.13	9.39
95th-Percentile Queue Length [ft/ln]	157.76	45.06	44.99	178.37	234.72

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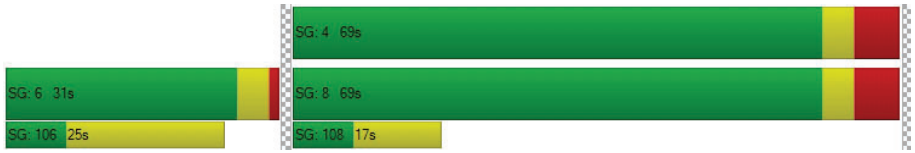
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.43	8.28	14.60	9.72	33.97	33.97
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.28		10.14		33.97	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.99					
Intersection LOS	B					
Intersection V/C	0.368					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	663	210	110	703	160	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	663	210	110	703	160	130
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	187	59	31	201	44	36
Total Analysis Volume [veh/h]	747	237	126	803	176	143
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.21	0.18	0.14	0.22	0.21	0.12
s, saturation flow rate [veh/h]	3618	1296	873	3618	832	1238
c, Capacity [veh/h]	2190	785	666	2618	120	325
d1, Uniform Delay [s]	9.81	9.53	4.72	4.90	42.78	30.73
k, delay calibration	0.50	0.50	0.50	0.50	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.99	0.63	0.30	233.74	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

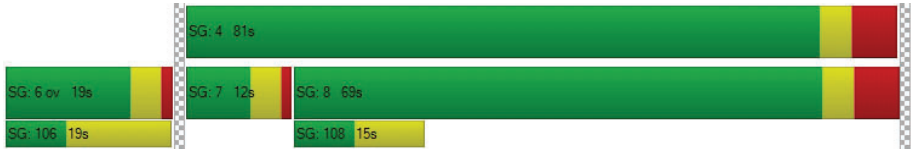
X, volume / capacity	0.34	0.30	0.19	0.31	1.47	0.44
d, Delay for Lane Group [s/veh]	10.24	10.52	5.35	5.21	276.52	31.08
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.94	2.56	0.76	2.58	10.73	2.87
50th-Percentile Queue Length [ft/ln]	98.46	64.07	19.11	64.50	268.15	71.84
95th-Percentile Queue Length [veh/ln]	7.09	4.61	1.38	4.64	18.42	5.17
95th-Percentile Queue Length [ft/ln]	177.23	115.33	34.40	116.10	460.38	129.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.24	10.52	5.35	5.21	276.52	31.08
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.30		5.23		166.49	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	30.51					
Intersection LOS	C					
Intersection V/C	0.444					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	47.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	40	805	142	67	843	80	50	13	110	150	40	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	805	142	67	843	80	50	13	110	150	40	140
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	226	41	18	221	21	15	6	32	42	11	39
Total Analysis Volume [veh/h]	45	903	165	71	885	84	59	24	129	169	45	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	81	81	72	72	13	20	20
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.09	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.06	0.25	0.26	0.26	0.11	0.12	0.12
s, saturation flow rate [veh/h]	692	3618	1900	1832	1671	1828	1283
c, Capacity [veh/h]	335	1960	917	884	149	250	175
d1, Uniform Delay [s]	19.07	20.98	26.94	27.28	68.27	63.31	63.69
k, delay calibration	0.04	0.50	0.50	0.50	0.46	0.04	0.06
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.78	2.18	2.44	156.40	3.48	9.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

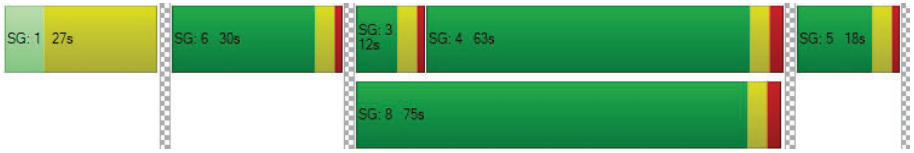
X, volume / capacity	0.13	0.46	0.53	0.55	1.26	0.86	0.90
d, Delay for Lane Group [s/veh]	19.14	21.76	29.11	29.72	224.67	66.79	73.04
Lane Group LOS	B	C	C	C	F	E	E
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.75	9.96	12.69	12.89	12.21	8.32	6.41
50th-Percentile Queue Length [ft/ln]	18.85	249.01	317.21	322.20	305.18	207.88	160.35
95th-Percentile Queue Length [veh/ln]	1.36	15.14	18.53	18.78	19.44	13.04	10.57
95th-Percentile Queue Length [ft/ln]	33.92	378.40	463.25	469.38	485.89	326.10	264.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.14	21.76	0.00	0.00	29.39	29.72	224.67	0.00	224.67	66.79	66.79	73.04
Movement LOS	B	C			C	C	F		F	E	E	E
d_A, Approach Delay [s/veh]	21.64			29.41			224.67			69.44		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	47.26											
Intersection LOS	D											
Intersection V/C	0.512											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	300	715	1013	70	110	660
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	715	1013	70	110	660
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	188	260	18	29	172
Total Analysis Volume [veh/h]	315	750	1040	72	115	688
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	80	80	80	13	31
g / C, Green / Cycle	0.11	0.66	0.66	0.66	0.11	0.26
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21	0.29	0.05	0.09	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1347	1221	2859
c, Capacity [veh/h]	398	2403	2403	895	131	740
d1, Uniform Delay [s]	51.79	8.53	9.48	7.14	52.74	43.36
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.36	0.34	0.57	0.18	6.98	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

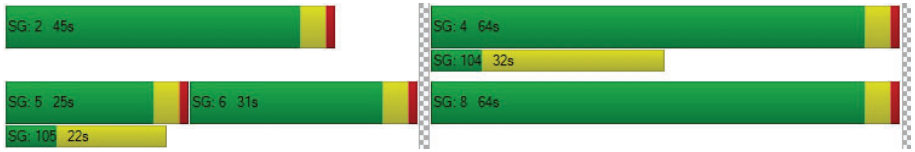
X, volume / capacity	0.79	0.31	0.43	0.08	0.88	0.93
d, Delay for Lane Group [s/veh]	53.15	8.87	10.05	7.32	59.72	45.74
Lane Group LOS	D	A	B	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.69	4.04	6.25	0.68	3.83	10.73
50th-Percentile Queue Length [ft/ln]	117.20	101.07	156.31	16.89	95.86	268.27
95th-Percentile Queue Length [veh/ln]	8.24	7.28	10.35	1.22	6.90	16.10
95th-Percentile Queue Length [ft/ln]	205.97	181.93	258.83	30.40	172.54	402.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.15	8.87	10.05	7.32	59.72	45.74
Movement LOS	D	A	B	A	E	D
d_A, Approach Delay [s/veh]	21.96		9.88		47.74	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.40					
Intersection LOS	C					
Intersection V/C	0.528					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	60	100	80	0	340	0	180	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	20	33	26	0	90	0	48	59
Total Analysis Volume [veh/h]	0	0	0	0	79	132	106	0	358	0	193	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.42	0.42	0.42	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate		0.07	0.07	0.08	0.28	0.10	0.16
s, saturation flow rate [veh/h]		1159	1900	1355	1264	1900	1460
c, Capacity [veh/h]		462	797	569	684	988	759
d1, Uniform Delay [s]		27.43	21.61	22.05	19.10	15.40	16.50
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.80	0.42	0.79	2.85	0.44	1.07
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.17	0.16	0.20	0.52	0.20	0.31
d, Delay for Lane Group [s/veh]		28.23	22.02	22.84	21.96	15.84	17.57
Lane Group LOS		C	C	C	C	B	B
Critical Lane Group		No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]		1.68	2.25	2.14	6.30	2.89	3.86
50th-Percentile Queue Length [ft/ln]		42.09	56.18	53.58	157.46	72.30	96.40
95th-Percentile Queue Length [veh/ln]		3.03	4.04	3.86	10.41	5.21	6.94
95th-Percentile Queue Length [ft/ln]		75.76	101.12	96.45	260.36	130.14	173.52

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	28.23	22.07	22.84	0.00	21.96	0.00	15.84	17.57
Movement LOS					C	C	C		C		B	B
d_A, Approach Delay [s/veh]	0.00				23.86				19.14			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.93											
Intersection LOS	D											
Intersection V/C	0.573											

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	755	120	140	1273	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	755	120	140	1273	0	40
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	200	32	39	353	0	10
Total Analysis Volume [veh/h]	0	53	801	127	155	1412	0	42
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	48	48	48
g / C, Green / Cycle	0.29	0.29	0.29	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.14	0.22	0.10	0.16	0.38	0.39
s, saturation flow rate [veh/h]	372	3618	1278	953	1900	1863
c, Capacity [veh/h]	60	1056	373	334	767	752
d1, Uniform Delay [s]	59.98	38.63	33.39	26.55	34.63	34.93
k, delay calibration	0.04	0.04	0.04	0.04	0.29	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.43	0.20	0.37	15.55	21.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

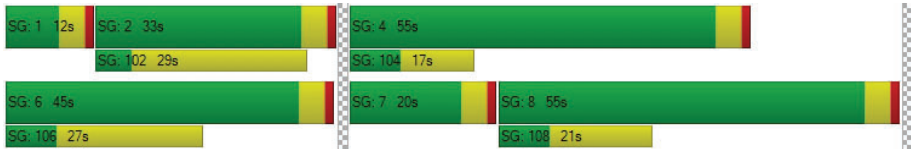
X, volume / capacity	0.88	0.76	0.34	0.46	0.95	0.96
d, Delay for Lane Group [s/veh]	74.28	39.06	33.59	26.92	50.18	56.48
Lane Group LOS	E	D	C	C	D	E
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	10.71	2.94	2.92	23.42	24.66
50th-Percentile Queue Length [ft/ln]	46.30	267.82	73.50	72.88	585.40	616.56
95th-Percentile Queue Length [veh/ln]	3.33	16.08	5.29	5.25	31.35	32.81
95th-Percentile Queue Length [ft/ln]	83.33	402.01	132.30	131.18	783.79	820.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	39.06	33.59	26.92	53.22	0.00	56.48
Movement LOS		E	D	C	C	D		E
d_A, Approach Delay [s/veh]	40.25				50.77			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.93							
Intersection LOS	D							
Intersection V/C	0.573							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	165.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	66	127	181	0	62	77	69	0	26	231	66	0	120	313	137
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	66	127	181	0	62	77	69	0	26	231	66	0	120	313	137
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	34	48	0	17	21	19	0	7	66	19	0	31	81	35
Total Analysis Volume [veh/h]	0	70	135	193	0	67	83	75	0	30	266	76	0	124	323	142
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.87	0.03	0.07	0.05	0.11	0.13	0.13
s, saturation flow rate [veh/h]	1248	1689	258	942	3618	1577	1131	1900	1670
c, Capacity [veh/h]	73	262	84	417	1709	745	531	898	789
d1, Uniform Delay [s]	50.02	42.26	44.13	20.74	15.02	14.62	19.83	15.96	16.05
k, delay calibration	0.04	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.27	120.52	787.12	0.33	0.19	0.27	1.03	0.74	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.96	1.25	2.68	0.07	0.16	0.10	0.23	0.27	0.28
d, Delay for Lane Group [s/veh]	71.29	162.78	831.25	21.08	15.22	14.90	20.85	16.70	16.94
Lane Group LOS	E	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.16	15.09	20.46	0.49	1.73	0.99	2.05	3.46	3.20
50th-Percentile Queue Length [ft/ln]	53.97	377.28	511.39	12.35	43.32	24.87	51.15	86.51	80.06
95th-Percentile Queue Length [veh/ln]	3.89	23.64	34.92	0.89	3.12	1.79	3.68	6.23	5.76
95th-Percentile Queue Length [ft/ln]	97.14	591.02	872.94	22.24	77.98	44.77	92.06	155.72	144.11

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	71.29	71.29	162.7	162.7	831.2	831.2	831.2	831.2	21.08	21.08	15.22	14.90	20.85	20.85	16.76	16.94
Movement LOS	E	E	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	146.69				831.25				15.62				17.67			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	165.17															
Intersection LOS	F															
Intersection V/C	1.007															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	90	223	130	30	163	40	60	80	60	70	100	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	223	130	30	163	40	60	80	60	70	100	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	59	34	9	48	12	18	25	18	20	28	26
Total Analysis Volume [veh/h]	95	235	137	35	193	47	74	99	74	79	113	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	46	46
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.09	0.03	0.13	0.18	0.27
s, saturation flow rate [veh/h]	1158	1900	1545	1163	1816	1388	1100
c, Capacity [veh/h]	195	455	370	205	435	683	550
d1, Uniform Delay [s]	43.51	32.98	31.71	40.41	33.30	17.44	20.02
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.34	0.23	0.14	0.41	1.49	3.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

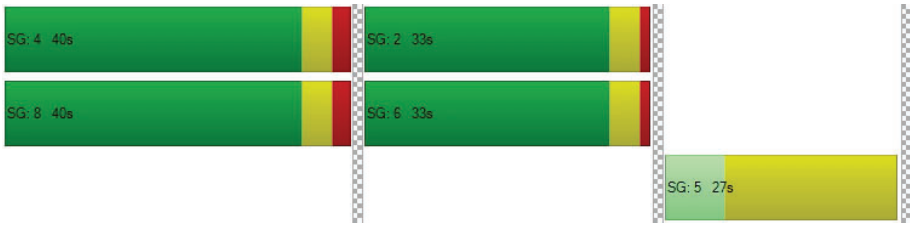
X, volume / capacity	0.49	0.52	0.37	0.17	0.55	0.36	0.53
d, Delay for Lane Group [s/veh]	44.21	33.32	31.94	40.55	33.71	18.93	23.72
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	4.88	2.73	0.78	5.04	3.82	5.43
50th-Percentile Queue Length [ft/ln]	57.20	121.97	68.36	19.61	125.91	95.51	135.87
95th-Percentile Queue Length [veh/ln]	4.12	8.50	4.92	1.41	8.72	6.88	9.26
95th-Percentile Queue Length [ft/ln]	102.96	212.53	123.06	35.30	217.92	171.92	231.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.21	33.32	31.94	40.55	33.71	33.71	18.93	18.93	18.93	23.72	23.72	23.72
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	35.13			34.58			18.93			23.72		
Approach LOS	D			C			B			C		
d_I, Intersection Delay [s/veh]	29.28											
Intersection LOS	C											
Intersection V/C	0.399											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	96.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.135

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	80	213	180	70	153	70	80	140	70	60	170	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	213	180	70	153	70	80	140	70	60	170	200
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	60	51	19	43	19	22	38	19	17	49	57
Total Analysis Volume [veh/h]	90	240	203	78	170	78	87	152	76	69	195	230
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.25	0.07	0.14	0.88	0.05	0.76	0.15
s, saturation flow rate [veh/h]	1150	1900	800	1158	1767	271	1570	347	1581
c, Capacity [veh/h]	124	370	156	141	344	185	789	220	795
d1, Uniform Delay [s]	48.66	37.10	40.25	47.30	37.71	31.76	12.99	26.19	14.46
k, delay calibration	0.04	0.04	0.40	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.00	0.72	168.75	1.25	1.08	164.30	0.24	125.74	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

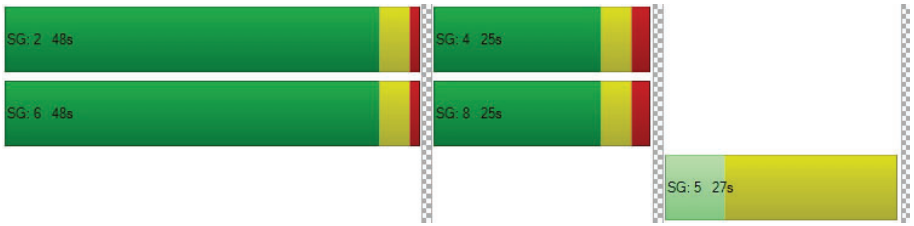
X, volume / capacity	0.73	0.65	1.30	0.55	0.72	1.29	0.10	1.20	0.29
d, Delay for Lane Group [s/veh]	51.67	37.82	209.00	48.55	38.79	196.06	13.23	151.93	15.38
Lane Group LOS	D	D	F	D	D	F	B	F	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.32	5.37	11.02	1.97	5.66	13.08	0.92	10.40	3.14
50th-Percentile Queue Length [ft/ln]	58.07	134.14	275.46	49.31	141.51	326.92	23.11	260.09	78.47
95th-Percentile Queue Length [veh/ln]	4.18	9.16	18.44	3.55	9.56	22.10	1.66	17.55	5.65
95th-Percentile Queue Length [ft/ln]	104.52	229.11	460.96	88.76	239.05	552.48	41.60	438.75	141.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.67	37.82	209.00	48.55	38.79	38.79	196.06	196.06	13.23	151.93	151.93	15.38
Movement LOS	D	D	F	D	D	D	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	105.36			41.12			151.95			88.35		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	96.57											
Intersection LOS	F											
Intersection V/C	1.135											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.281

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	50	211	100	71	171	40	70	150	100	70	158	202
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	211	100	71	171	40	70	150	100	70	158	202
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	63	30	19	46	11	18	39	26	20	46	58
Total Analysis Volume [veh/h]	59	250	119	76	183	43	73	157	105	81	182	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	22	22	22	22	45	45	45	45	45
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.08	0.07	0.12	0.06	0.15	0.07	0.10	0.15
s, saturation flow rate [veh/h]	1173	1900	1463	1148	1824	1221	1749	1135	1900	1560
c, Capacity [veh/h]	181	427	329	170	410	532	793	456	861	707
d1, Uniform Delay [s]	43.29	34.61	32.71	44.80	34.30	20.67	17.58	23.57	16.53	17.57
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.48	0.25	0.69	0.43	0.54	1.12	0.85	0.56	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

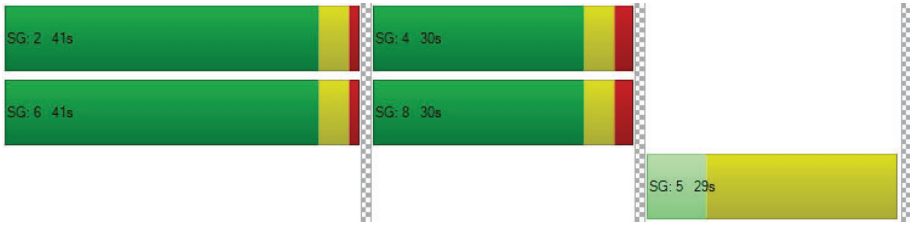
X, volume / capacity	0.33	0.59	0.36	0.45	0.55	0.14	0.33	0.18	0.21	0.33
d, Delay for Lane Group [s/veh]	43.68	35.08	32.96	45.48	34.74	21.20	18.70	24.42	17.09	18.82
Lane Group LOS	D	D	C	D	C	C	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.39	5.36	2.41	1.85	4.80	1.18	3.97	1.44	2.57	3.55
50th-Percentile Queue Length [ft/ln]	34.77	133.98	60.22	46.17	120.03	29.57	99.22	35.99	64.14	88.85
95th-Percentile Queue Length [veh/ln]	2.50	9.16	4.34	3.32	8.39	2.13	7.14	2.59	4.62	6.40
95th-Percentile Queue Length [ft/ln]	62.58	228.90	108.40	83.10	209.86	53.22	178.59	64.78	115.45	159.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.68	35.08	32.96	45.48	34.74	34.74	21.20	18.70	18.70	24.42	17.09	18.82
Movement LOS	D	D	C	D	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	35.68			37.44			19.24			19.10		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.22											
Intersection LOS	C											
Intersection V/C	0.281											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	20	251	0	29	321	60	66	90	0	90	210	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	251	0	29	321	60	66	90	0	90	210	120
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	67	0	8	86	16	20	27	0	24	56	32
Total Analysis Volume [veh/h]	21	269	0	31	345	64	79	108	0	96	223	127
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28		63	63
g / C, Green / Cycle	0.23	0.23	0.23	0.23		0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.02	0.14	0.19	0.05		0.13	0.13
s, saturation flow rate [veh/h]	1031	1863	1863	1368		1863	1525
c, Capacity [veh/h]	100	438	438	322		971	795
d1, Uniform Delay [s]	56.57	41.01	43.06	36.81		15.78	15.89
k, delay calibration	0.04	0.04	0.29	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.38	0.52	8.26	0.11		0.61	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.61	0.79	0.20		0.25	0.26
d, Delay for Lane Group [s/veh]	56.95	41.53	51.32	36.92		16.39	16.68
Lane Group LOS	E	D	D	D		B	B
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.64	7.17	10.49	1.51		3.83	3.33
50th-Percentile Queue Length [ft/ln]	15.89	179.37	262.16	37.83		95.65	83.35
95th-Percentile Queue Length [veh/ln]	1.14	11.57	15.80	2.72		6.89	6.00
95th-Percentile Queue Length [ft/ln]	28.61	289.19	394.93	68.10		172.18	150.04

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.95	41.53	0.00	0.00	51.32	36.92	0.00	0.00	0.00	16.39	16.49	16.68
Movement LOS	E	D			D	D				B	B	B
d_A, Approach Delay [s/veh]	42.65			49.07			0.00			16.53		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	34.77											
Intersection LOS	C											
Intersection V/C	0.320											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.247

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	70	60	0	516	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	60	0	516	100
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	20	0	143	28
Total Analysis Volume [veh/h]	0	0	0	0	93	80	0	571	111
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.05	0.05	0.19	0.20
s, saturation flow rate [veh/h]	771	3618	1810	1581	1900	1613
c, Capacity [veh/h]	404	2045	130	114	1110	912
d1, Uniform Delay [s]	0.00	0.00	45.38	45.34	11.70	11.74
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.72	2.95	0.80	1.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.71	0.70	0.33	0.35
d, Delay for Lane Group [s/veh]	0.00	0.00	48.10	48.29	12.49	12.78
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.32	2.00	4.41	3.86
50th-Percentile Queue Length [ft/ln]	0.00	0.00	58.03	50.09	110.16	96.49
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.18	3.61	7.85	6.95
95th-Percentile Queue Length [ft/ln]	0.00	0.00	104.46	90.17	196.23	173.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	48.10	48.10	48.29	12.49	12.59	12.78
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			48.19			12.62		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	19.82								
Intersection LOS	B								
Intersection V/C	0.247								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	30	160	60	80	141	40	30	230	20	50	231	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	160	60	80	141	40	30	230	20	50	231	80
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	16	23	40	11	9	71	6	14	63	22
Total Analysis Volume [veh/h]	31	168	63	90	159	45	37	285	25	54	250	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	10	10	14	14
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.04	0.08	0.08	0.03	0.19	0.24
s, saturation flow rate [veh/h]	1216	1900	1413	1171	1900	1485	1781	1650
c, Capacity [veh/h]	440	582	433	427	582	455	871	819
d1, Uniform Delay [s]	11.51	8.98	8.57	12.27	8.93	8.44	6.96	7.30
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.10	0.06	0.09	0.09	0.03	0.11	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

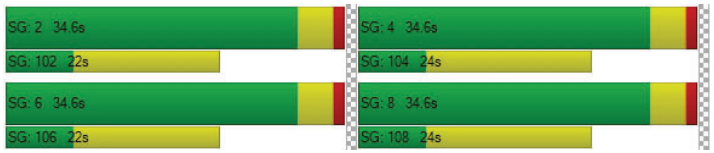
X, volume / capacity	0.07	0.29	0.15	0.21	0.27	0.10	0.40	0.48
d, Delay for Lane Group [s/veh]	11.53	9.08	8.62	12.36	9.03	8.48	7.07	7.46
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.15	0.65	0.23	0.48	0.65	0.17	1.21	1.32
50th-Percentile Queue Length [ft/ln]	3.69	16.17	5.81	11.98	16.20	4.34	30.30	33.09
95th-Percentile Queue Length [veh/ln]	0.27	1.16	0.42	0.86	1.17	0.31	2.18	2.38
95th-Percentile Queue Length [ft/ln]	6.64	29.11	10.46	21.56	29.17	7.82	54.55	59.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.53	9.08	8.62	12.36	9.03	8.48	7.07	7.07	7.07	7.46	7.46	7.46
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.26			9.96			7.07			7.46		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.29											
Intersection LOS	A											
Intersection V/C	0.325											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.346

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	199	60	20	180	21	31	175	49	30	142	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	199	60	20	180	21	31	175	49	30	142	60
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	59	18	5	48	6	9	51	14	8	39	17
Total Analysis Volume [veh/h]	83	236	71	22	194	23	36	206	58	33	157	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	12	12	12	12	11	11
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.02	0.12	0.17	0.15
s, saturation flow rate [veh/h]	1146	1763	1046	1844	1745	1692
c, Capacity [veh/h]	492	659	417	689	714	697
d1, Uniform Delay [s]	10.10	7.53	10.85	7.05	8.38	8.20
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.19	0.02	0.10	0.15	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

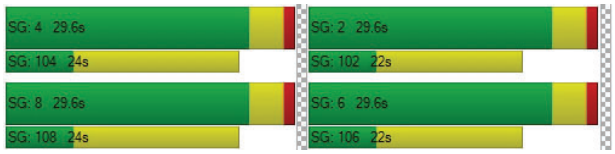
X, volume / capacity	0.17	0.47	0.05	0.31	0.42	0.37
d, Delay for Lane Group [s/veh]	10.16	7.72	10.87	7.14	8.53	8.32
Lane Group LOS	B	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.92	0.09	0.61	1.58	0.85
50th-Percentile Queue Length [ft/ln]	8.35	23.04	2.35	15.13	39.58	21.23
95th-Percentile Queue Length [veh/ln]	0.60	1.66	0.17	1.09	2.85	1.53
95th-Percentile Queue Length [ft/ln]	15.02	41.47	4.23	27.23	71.24	38.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.16	7.72	7.72	10.87	7.14	7.14	8.53	8.53	8.53	8.32	8.32	8.32
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.24			7.49			8.53			8.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.18											
Intersection LOS	A											
Intersection V/C	0.346											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.297

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	58	130	100	110	179	60	19	381	84	130	538	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	130	100	110	179	60	19	381	84	130	538	110
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	42	32	30	48	16	5	101	22	36	148	30
Total Analysis Volume [veh/h]	75	168	129	118	193	65	20	405	89	143	593	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.08	0.10	0.10	0.04	0.03	0.11	0.06	0.12	0.19	0.20
s, saturation flow rate [veh/h]	1209	1900	1577	1237	1900	1581	748	3618	1579	1172	1900	1772
c, Capacity [veh/h]	172	368	306	190	368	307	199	1187	518	541	844	787
d1, Uniform Delay [s]	44.97	35.73	35.47	45.30	36.25	33.97	35.47	25.49	23.98	17.26	19.18	19.23
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	0.33	0.34	1.23	0.43	0.13	1.01	0.78	0.72	0.10	1.63	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

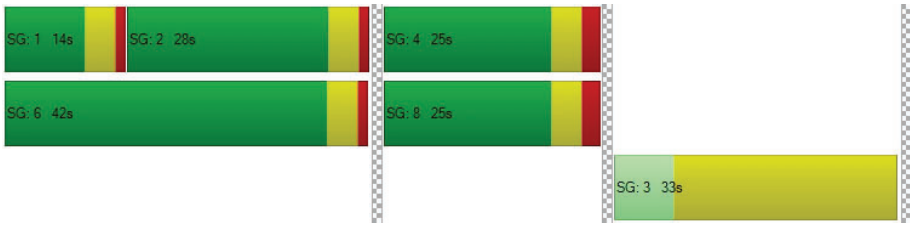
X, volume / capacity	0.44	0.46	0.42	0.62	0.52	0.21	0.10	0.34	0.17	0.26	0.44	0.44
d, Delay for Lane Group [s/veh]	45.61	36.06	35.82	46.53	36.68	34.09	36.48	26.27	24.70	17.35	20.81	21.02
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.82	3.59	2.74	2.94	4.19	1.32	0.47	3.73	1.59	1.97	6.11	5.81
50th-Percentile Queue Length [ft/ln]	45.56	89.80	68.54	73.50	104.79	32.99	11.76	93.23	39.81	49.17	152.81	145.15
95th-Percentile Queue Length [veh/ln]	3.28	6.47	4.94	5.29	7.55	2.38	0.85	6.71	2.87	3.54	10.17	9.76
95th-Percentile Queue Length [ft/ln]	82.01	161.64	123.38	132.29	188.63	59.38	21.17	167.81	71.66	88.50	254.17	243.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.61	36.06	35.82	46.53	36.68	34.09	36.48	26.27	24.70	17.35	20.89	21.02
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	37.90			39.32			26.40			20.32		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.25											
Intersection LOS	C											
Intersection V/C	0.297											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	40	168	60	50	294	60	30	150	100	60	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	168	60	50	294	60	30	150	100	60	190	50
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	47	17	16	94	19	9	43	28	17	53	14
Total Analysis Volume [veh/h]	45	190	68	64	377	77	34	170	114	66	211	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	41	41	41	41	41	41	27	27
g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.41	0.41	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.05	0.10	0.04	0.05	0.12	0.13	0.21	0.25
s, saturation flow rate [veh/h]	952	1900	1555	1212	1900	1767	1542	1338
c, Capacity [veh/h]	362	776	635	464	776	722	454	403
d1, Uniform Delay [s]	25.36	19.43	18.28	24.14	19.92	19.99	32.87	35.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.16	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	0.75	0.34	0.62	0.99	1.10	2.93	11.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

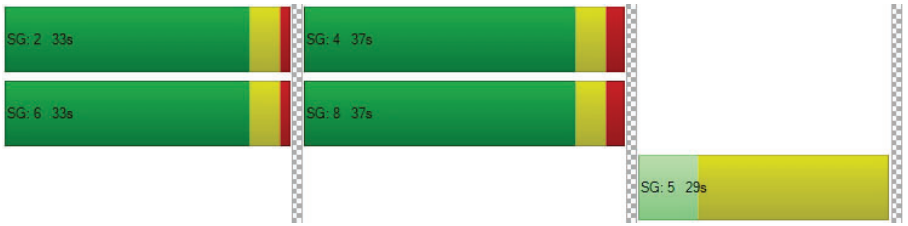
X, volume / capacity	0.12	0.24	0.11	0.14	0.30	0.31	0.70	0.82
d, Delay for Lane Group [s/veh]	26.07	20.18	18.62	24.75	20.91	21.09	35.81	46.81
Lane Group LOS	C	C	B	C	C	C	D	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.84	2.97	1.01	1.14	3.73	3.59	7.24	9.02
50th-Percentile Queue Length [ft/ln]	20.88	74.22	25.14	28.44	93.31	89.79	181.12	225.59
95th-Percentile Queue Length [veh/ln]	1.50	5.34	1.81	2.05	6.72	6.46	11.66	13.95
95th-Percentile Queue Length [ft/ln]	37.58	133.60	45.25	51.19	167.96	161.62	291.48	348.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.07	20.18	18.62	24.75	20.98	21.09	35.81	35.81	35.81	46.81	46.81	46.81
Movement LOS	C	C	B	C	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	20.70			21.46			35.81			46.81		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.13											
Intersection LOS	C											
Intersection V/C	0.374											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.279

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	60	188	80	70	314	30	0	280	130	0	360	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	188	80	70	314	30	0	280	130	0	360	70
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	57	24	19	85	8	0	76	35	0	102	20
Total Analysis Volume [veh/h]	73	228	97	76	339	32	0	303	141	0	410	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	52	52	52	52	52	52	18	18	18	18
g / C, Green / Cycle	0.52	0.52	0.52	0.52	0.52	0.52	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.06	0.06	0.10	0.10	0.16	0.09	0.13	0.14
s, saturation flow rate [veh/h]	1027	1900	1583	1171	1900	1835	1900	1560	1900	1780
c, Capacity [veh/h]	518	983	819	566	983	949	341	280	341	320
d1, Uniform Delay [s]	17.22	13.24	12.41	17.87	12.93	12.95	40.02	36.98	38.62	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.57	0.55	0.30	0.49	0.43	0.45	3.15	0.52	1.07	1.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.23	0.12	0.13	0.19	0.19	0.89	0.50	0.72	0.77
d, Delay for Lane Group [s/veh]	17.78	13.79	12.71	18.37	13.36	13.40	43.17	37.50	39.69	40.46
Lane Group LOS	B	B	B	B	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.07	2.81	1.13	1.13	2.26	2.21	7.48	3.13	5.70	5.79
50th-Percentile Queue Length [ft/ln]	26.75	70.32	28.22	28.20	56.38	55.36	186.88	78.16	142.51	144.63
95th-Percentile Queue Length [veh/ln]	1.93	5.06	2.03	2.03	4.06	3.99	11.96	5.63	9.62	9.73
95th-Percentile Queue Length [ft/ln]	48.15	126.57	50.80	50.75	101.48	99.65	298.98	140.69	240.40	243.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.78	13.79	12.71	18.37	13.38	13.40	0.00	43.17	37.50	0.00	40.00	40.46
Movement LOS	B	B	B	B	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	14.26			14.23			41.37			40.07		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.13											
Intersection LOS	C											
Intersection V/C	0.279											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	148	288	110	80	424	80	0	211	120	190	342	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	288	110	80	424	80	0	211	120	190	342	80
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	83	32	26	136	26	0	59	33	54	98	23
Total Analysis Volume [veh/h]	171	333	127	103	545	103	0	235	134	217	391	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	13	48	48	59	41	41	17	35	29	29	29
g / C, Green / Cycle	0.11	0.40	0.40	0.49	0.34	0.34	0.14	0.29	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.08	0.09	0.18	0.18	0.12	0.09	0.16	0.21	0.06
s, saturation flow rate [veh/h]	1810	1900	1567	1183	1900	1779	1900	1558	1387	1900	1564
c, Capacity [veh/h]	198	751	620	529	651	610	268	450	285	458	377
d1, Uniform Delay [s]	52.56	26.60	23.87	17.69	31.45	31.54	50.57	33.22	42.91	43.54	36.74
k, delay calibration	0.07	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.15	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	1.89	0.75	0.82	2.85	3.12	3.64	0.14	17.29	6.22	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

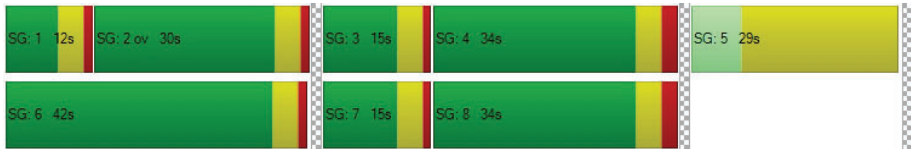
X, volume / capacity	0.86	0.44	0.20	0.19	0.51	0.52	0.88	0.30	0.76	0.85	0.24
d, Delay for Lane Group [s/veh]	59.56	28.49	24.62	18.51	34.31	34.66	54.21	33.36	60.20	49.76	36.86
Lane Group LOS	E	C	C	B	C	C	D	C	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.40	7.27	2.48	1.63	8.10	7.74	7.18	3.07	6.84	11.72	2.18
50th-Percentile Queue Length [ft/ln]	135.01	181.78	62.05	40.87	202.60	193.56	179.52	76.71	171.12	293.07	54.59
95th-Percentile Queue Length [veh/ln]	9.21	11.69	4.47	2.94	12.77	12.31	11.58	5.52	11.14	17.34	3.93
95th-Percentile Queue Length [ft/ln]	230.29	292.33	111.69	73.57	319.32	307.65	289.39	138.08	278.39	433.44	98.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.56	28.49	24.62	18.51	34.44	34.66	0.00	54.21	33.36	60.20	49.76	36.86
Movement LOS	E	C	C	B	C	C		D	C	E	D	D
d_A, Approach Delay [s/veh]	36.13			32.29			46.63			51.30		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.87											
Intersection LOS	D											
Intersection V/C	0.496											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	190	536	0	0	734	100	181	0	84	190	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	536	0	0	734	100	181	0	84	190	140	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	160	0	0	202	28	52	0	24	52	38	8
Total Analysis Volume [veh/h]	227	641	0	0	810	110	208	0	96	209	154	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	75	75	61	61		16	16
g / C, Green / Cycle	0.62	0.62	0.51	0.51		0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.28	0.18	0.24	0.26		0.12	0.11
s, saturation flow rate [veh/h]	798	3618	1900	1802		1810	1669
c, Capacity [veh/h]	481	2255	972	922		241	223
d1, Uniform Delay [s]	12.56	10.35	18.88	19.21		50.97	50.77
k, delay calibration	0.31	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.06	0.32	1.65	1.93		3.66	3.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

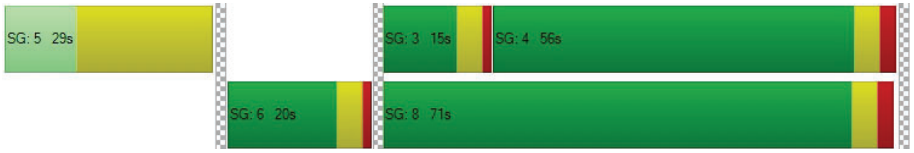
X, volume / capacity	0.47	0.28	0.47	0.50		0.87	0.84
d, Delay for Lane Group [s/veh]	14.62	10.67	20.53	21.14		54.63	54.04
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	3.87	8.43	8.62		6.45	5.73
50th-Percentile Queue Length [ft/ln]	69.62	96.64	210.65	215.39		161.14	143.20
95th-Percentile Queue Length [veh/ln]	5.01	6.96	13.19	13.43		10.61	9.65
95th-Percentile Queue Length [ft/ln]	125.31	173.95	329.66	335.73		265.23	241.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.62	10.67	0.00	0.00	20.79	21.14	0.00	0.00	0.00	54.63	54.04	54.04
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	11.70			20.83			0.00			54.35		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.28											
Intersection LOS	C											
Intersection V/C	0.430											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.578

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	323	0	0	934	860	413
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	323	0	0	934	860	413
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	264	236	113
Total Analysis Volume [veh/h]	369	0	0	1056	945	454
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	37	37
g / C, Green / Cycle	0.62	0.62	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.10	0.29	0.27	0.29
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2227	2227	1081	488
d1, Uniform Delay [s]	9.86	12.51	39.27	40.22
k, delay calibration	0.50	0.50	0.04	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	0.73	0.91	15.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.47	0.87	0.93
d, Delay for Lane Group [s/veh]	10.02	13.24	40.18	55.79
Lane Group LOS	B	B	D	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.09	7.63	12.43	14.21
50th-Percentile Queue Length [ft/ln]	52.28	190.87	310.76	355.24
95th-Percentile Queue Length [veh/ln]	3.76	12.17	18.21	20.39
95th-Percentile Queue Length [ft/ln]	94.11	304.16	455.31	509.79

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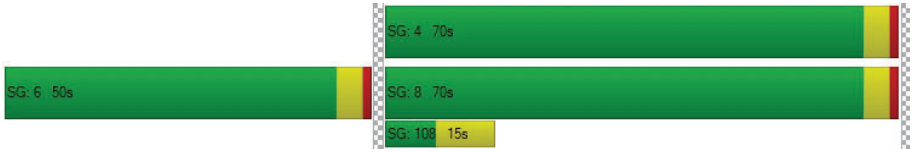
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.02	0.00	0.00	13.24	40.18	55.79
Movement LOS	B			B	D	E
d_A, Approach Delay [s/veh]	10.02		13.24		45.25	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	28.68					
Intersection LOS	C					
Intersection V/C	0.578					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	20	293	190	352	1242	160	30	360	60	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	293	190	352	1242	160	30	360	60	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	75	49	98	347	45	9	108	18	0	0	0
Total Analysis Volume [veh/h]	20	300	194	393	1388	179	36	430	72	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	24	24	68	89	89	15	15	15
g / C, Green / Cycle	0.02	0.20	0.20	0.56	0.74	0.74	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.16	0.11	0.11	0.41	0.44	0.10	0.10	0.11
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1780	1882	1729	1585
c, Capacity [veh/h]	37	372	353	1984	1406	1317	234	215	197
d1, Uniform Delay [s]	58.14	46.01	43.42	12.80	6.90	7.24	51.20	51.18	51.44
k, delay calibration	0.04	0.21	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.43	7.76	0.50	0.02	1.60	1.99	2.78	2.96	4.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

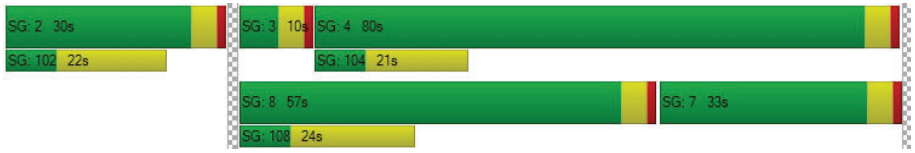
X, volume / capacity	0.54	0.81	0.55	0.20	0.56	0.59	0.82	0.82	0.86
d, Delay for Lane Group [s/veh]	62.57	53.77	43.92	12.82	8.49	9.22	53.99	54.15	55.54
Lane Group LOS	E	D	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.65	9.32	5.25	2.58	8.32	8.81	5.78	5.30	5.15
50th-Percentile Queue Length [ft/ln]	16.19	232.94	131.15	64.43	208.12	220.24	144.46	132.42	128.68
95th-Percentile Queue Length [veh/ln]	1.17	14.32	9.00	4.64	13.06	13.68	9.72	9.07	8.87
95th-Percentile Queue Length [ft/ln]	29.13	358.09	225.05	115.97	326.41	341.93	243.01	226.78	221.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.57	53.77	43.92	12.82	8.81	9.22	53.99	54.40	55.54	0.00	0.00	0.00
Movement LOS	E	D	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	50.39			9.65			54.53			0.00		
Approach LOS	D			A			D			A		
d_I, Intersection Delay [s/veh]	24.62											
Intersection LOS	C											
Intersection V/C	0.558											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	97	277	140	40	70	30	30	511	50	80	651	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	277	140	40	70	30	30	511	50	80	651	110
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	77	39	11	18	8	8	133	13	21	174	29
Total Analysis Volume [veh/h]	108	307	155	42	74	32	31	533	52	86	697	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	26	26	26	26	26	61	61	61	61	61	61
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.11	0.04	0.06	0.05	0.15	0.04	0.10	0.22	0.24
s, saturation flow rate [veh/h]	1161	1900	1456	1050	1689	676	3618	1421	862	1900	1677
c, Capacity [veh/h]	294	495	380	177	440	383	2196	863	515	1153	1018
d1, Uniform Delay [s]	35.98	32.51	30.50	42.14	29.08	15.23	9.04	8.00	13.09	9.88	10.10
k, delay calibration	0.04	0.06	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.29	0.69	0.26	0.26	0.10	0.41	0.26	0.13	0.70	0.88	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

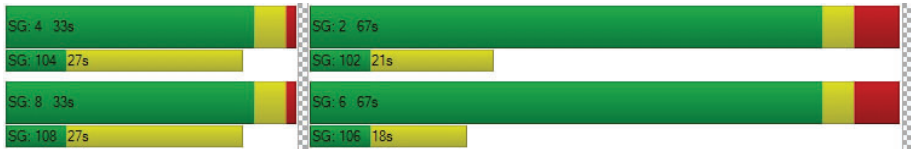
X, volume / capacity	0.37	0.62	0.41	0.24	0.24	0.08	0.24	0.06	0.17	0.36	0.39
d, Delay for Lane Group [s/veh]	36.27	33.20	30.77	42.40	29.19	15.65	9.30	8.13	13.78	10.76	11.23
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.32	6.46	3.04	0.97	1.98	0.44	2.59	0.47	1.11	4.58	4.50
50th-Percentile Queue Length [ft/ln]	58.09	161.55	76.10	24.22	49.48	10.92	64.72	11.63	27.82	114.57	112.40
95th-Percentile Queue Length [veh/ln]	4.18	10.63	5.48	1.74	3.56	0.79	4.66	0.84	2.00	8.09	7.97
95th-Percentile Queue Length [ft/ln]	104.57	265.77	136.98	43.60	89.07	19.66	116.50	20.94	50.07	202.34	199.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.27	33.20	30.77	42.40	29.19	29.19	15.65	9.30	8.13	13.78	10.95	11.23
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	33.12			32.93			9.52			11.26		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	17.79											
Intersection LOS	B											
Intersection V/C	0.398											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	394	40	10	100	40	20	230	30	20	180	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	394	40	10	100	40	20	230	30	20	180	30
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	107	11	3	30	12	6	67	9	6	54	9
Total Analysis Volume [veh/h]	87	429	44	12	118	47	23	267	35	24	217	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	68	68	68	68	68	23	23
g / C, Green / Cycle	0.68	0.68	0.68	0.68	0.68	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.13	0.01	0.10	0.19	0.17
s, saturation flow rate [veh/h]	1185	1900	1800	921	1736	1710	1626
c, Capacity [veh/h]	806	1290	1222	629	1179	430	412
d1, Uniform Delay [s]	7.80	5.89	5.92	7.88	5.69	36.46	35.26
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	0.32	0.35	0.06	0.25	2.72	1.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.19	0.19	0.02	0.14	0.76	0.67
d, Delay for Lane Group [s/veh]	8.07	6.21	6.27	7.94	5.94	39.18	37.18
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.76	1.70	1.67	0.11	1.14	7.65	6.27
50th-Percentile Queue Length [ft/ln]	18.98	42.62	41.81	2.63	28.47	191.26	156.67
95th-Percentile Queue Length [veh/ln]	1.37	3.07	3.01	0.19	2.05	12.19	10.37
95th-Percentile Queue Length [ft/ln]	34.17	76.72	75.27	4.73	51.25	304.66	259.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.07	6.24	6.27	7.94	5.94	5.94	39.18	39.18	39.18	37.18	37.18	37.18
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	6.52			6.08			39.18			37.18		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	20.73											
Intersection LOS	C											
Intersection V/C	0.320											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	130	424	110	60	120	30	30	360	40	70	300	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	424	110	60	120	30	30	360	40	70	300	40
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	121	31	17	34	8	9	105	12	22	94	12
Total Analysis Volume [veh/h]	148	483	125	68	135	34	35	421	47	87	375	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	28	28	28	28	28	59	59	59	59	59	59
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.13	0.17	0.18	0.08	0.10	0.03	0.12	0.13	0.10	0.20	0.04
s, saturation flow rate [veh/h]	1158	1900	1634	821	1752	1002	1900	1767	907	1900	1406
c, Capacity [veh/h]	284	529	455	156	488	540	1120	1042	531	1120	829
d1, Uniform Delay [s]	38.29	31.21	31.74	43.95	28.82	14.72	9.62	9.68	13.48	10.49	8.73
k, delay calibration	0.04	0.05	0.09	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	0.47	1.24	0.72	0.16	0.23	0.43	0.49	0.66	0.81	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

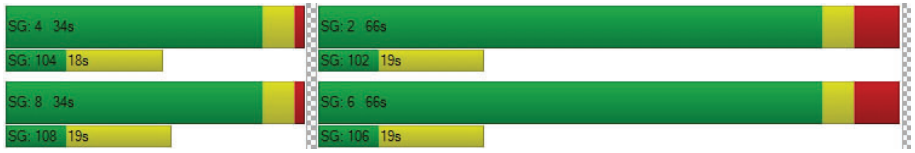
X, volume / capacity	0.52	0.59	0.65	0.44	0.35	0.06	0.21	0.22	0.16	0.33	0.06
d, Delay for Lane Group [s/veh]	38.84	31.68	32.99	44.66	28.98	14.95	10.05	10.17	14.14	11.29	8.87
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.37	6.45	6.22	1.65	3.19	0.47	2.44	2.40	1.14	4.23	0.47
50th-Percentile Queue Length [ft/ln]	84.22	161.35	155.48	41.25	79.76	11.67	60.99	60.01	28.48	105.63	11.83
95th-Percentile Queue Length [veh/ln]	6.06	10.62	10.31	2.97	5.74	0.84	4.39	4.32	2.05	7.60	0.85
95th-Percentile Queue Length [ft/ln]	151.60	265.51	257.72	74.25	143.56	21.01	109.77	108.03	51.26	189.90	21.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.84	32.13	32.99	44.66	28.98	28.98	14.95	10.10	10.17	14.14	11.29	8.87
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	33.59			33.48			10.45			11.54		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.16											
Intersection LOS	C											
Intersection V/C	0.377											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	150	504	120	40	100	90	110	251	70	60	352	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	504	120	40	100	90	110	251	70	60	352	50
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	132	31	11	28	25	29	67	19	17	97	14
Total Analysis Volume [veh/h]	157	529	126	45	111	100	117	267	75	66	389	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	28	28	63	63	63	63	63
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.63	0.63	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.18	0.19	0.06	0.13	0.12	0.19	0.06	0.20	0.04
s, saturation flow rate [veh/h]	1167	1900	1678	789	1655	992	1771	1030	1900	1435
c, Capacity [veh/h]	255	533	470	147	464	578	1112	604	1193	900
d1, Uniform Delay [s]	41.06	31.51	31.92	43.43	29.68	13.62	8.59	12.49	8.71	7.21
k, delay calibration	0.04	0.06	0.09	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.90	0.73	1.41	0.43	0.26	0.79	0.72	0.37	0.73	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.64	0.67	0.31	0.45	0.20	0.31	0.11	0.33	0.06
d, Delay for Lane Group [s/veh]	41.96	32.23	33.34	43.86	29.94	14.41	9.31	12.85	9.44	7.34
Lane Group LOS	D	C	C	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.75	7.06	6.78	1.07	4.12	1.52	3.28	0.79	3.77	0.45
50th-Percentile Queue Length [ft/ln]	93.73	176.47	169.43	26.73	102.94	37.99	82.08	19.71	94.36	11.14
95th-Percentile Queue Length [veh/ln]	6.75	11.42	11.05	1.92	7.41	2.73	5.91	1.42	6.79	0.80
95th-Percentile Queue Length [ft/ln]	168.71	285.40	276.16	48.12	185.28	68.37	147.74	35.48	169.85	20.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.96	32.63	33.34	43.86	29.94	29.94	14.41	9.31	9.31	12.85	9.44	7.34
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	34.54			32.39			10.61			9.66		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	22.65											
Intersection LOS	C											
Intersection V/C	0.393											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	674	40	20	20	120	0	0	0	6	220	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	674	40	20	20	120	0	0	0	6	220	70
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	185	11	6	6	35	0	0	0	2	73	23
Total Analysis Volume [veh/h]	15	741	44	24	24	142	0	0	0	6	291	93
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	41	41	3	49		40
g / C, Green / Cycle	0.41	0.41	0.03	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.20	0.03	0.01	0.10		0.21
s, saturation flow rate [veh/h]	3618	1353	1810	1588		1811
c, Capacity [veh/h]	1494	559	62	783		733
d1, Uniform Delay [s]	21.65	17.80	47.26	14.34		22.48
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.18	0.27	1.48	0.62		2.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.50	0.08	0.39	0.21		0.52
d, Delay for Lane Group [s/veh]	22.83	18.07	48.74	14.95		25.14
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.49	0.65	0.60	2.17		7.20
50th-Percentile Queue Length [ft/ln]	162.27	16.31	15.06	54.13		179.97
95th-Percentile Queue Length [veh/ln]	10.67	1.17	1.08	3.90		11.60
95th-Percentile Queue Length [ft/ln]	266.73	29.36	27.10	97.43		289.97

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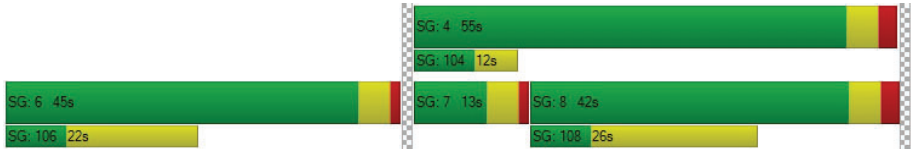
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	22.83	18.07	48.74	14.95	14.95	0.00	0.00	0.00	0.00	25.14	25.14
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.57			19.22			0.00			25.14		
Approach LOS	C			B			A			C		
d_I, Intersection Delay [s/veh]	22.83											
Intersection LOS	C											
Intersection V/C	0.430											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	30	170	60	90	150	49	70	380	30	30	351	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	170	60	90	150	49	70	380	30	30	351	160
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	49	17	25	42	14	21	115	9	8	96	44
Total Analysis Volume [veh/h]	35	196	69	102	169	55	85	459	36	33	384	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.39	0.12	0.45	0.09	0.09	0.27	0.04	0.20	0.13
s, saturation flow rate [veh/h]	600	600	600	600	970	1844	902	1900	1325
c, Capacity [veh/h]	278	219	290	219	437	928	362	957	667
d1, Uniform Delay [s]	22.88	15.94	24.67	15.53	16.50	11.79	18.45	10.81	9.94
k, delay calibration	0.34	0.04	0.47	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.51	0.30	37.15	0.22	0.99	2.19	0.50	1.26	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

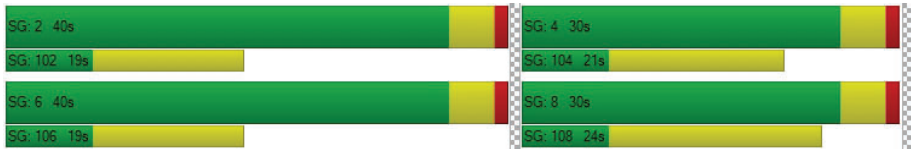
X, volume / capacity	0.83	0.32	0.94	0.25	0.19	0.53	0.09	0.40	0.26
d, Delay for Lane Group [s/veh]	40.39	16.24	61.81	15.75	17.50	13.98	18.95	12.07	10.90
Lane Group LOS	D	B	E	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.91	0.76	7.48	0.59	1.04	5.13	0.43	3.58	1.54
50th-Percentile Queue Length [ft/ln]	122.86	18.94	186.94	14.69	25.95	128.26	10.63	89.52	38.44
95th-Percentile Queue Length [veh/ln]	8.55	1.36	11.96	1.06	1.87	8.84	0.77	6.45	2.77
95th-Percentile Queue Length [ft/ln]	213.75	34.09	299.06	26.44	46.71	221.12	19.13	161.14	69.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.39	40.39	16.24	61.81	61.81	15.75	17.50	13.98	13.98	18.95	12.07	10.90
Movement LOS	D	D	B	E	E	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	34.83			54.04			14.50			12.10		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	24.27											
Intersection LOS	C											
Intersection V/C	0.720											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	100	160	90	30	50	10	30	440	50	50	411	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	160	90	30	50	10	30	440	50	50	411	30
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	45	25	11	18	4	9	138	16	14	112	8
Total Analysis Volume [veh/h]	112	179	100	44	73	15	38	552	63	55	449	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	36	36	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	10	10	10	17	17	17	17
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.04	0.05	0.05	0.34	0.07	0.26
s, saturation flow rate [veh/h]	1274	1698	1081	1812	836	1822	786	1821
c, Capacity [veh/h]	443	474	290	506	385	851	310	851
d1, Uniform Delay [s]	13.00	11.28	15.83	9.91	11.47	7.77	14.36	7.00
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.11	0.43	0.09	0.06	0.04	0.44	0.10	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

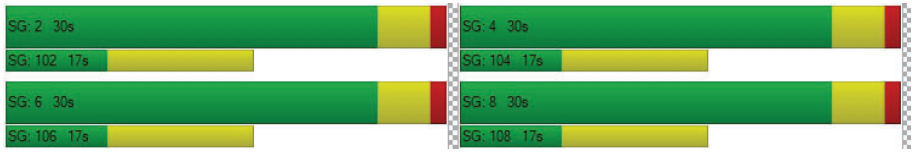
X, volume / capacity	0.25	0.59	0.15	0.17	0.10	0.72	0.18	0.57
d, Delay for Lane Group [s/veh]	13.11	11.71	15.92	9.97	11.51	8.21	14.46	7.22
Lane Group LOS	B	B	B	A	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	1.44	0.29	0.39	0.20	2.39	0.35	1.67
50th-Percentile Queue Length [ft/ln]	15.78	36.05	7.18	9.80	5.01	59.87	8.71	41.74
95th-Percentile Queue Length [veh/ln]	1.14	2.60	0.52	0.71	0.36	4.31	0.63	3.01
95th-Percentile Queue Length [ft/ln]	28.41	64.90	12.92	17.65	9.03	107.76	15.68	75.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.11	11.71	11.71	15.92	9.97	9.97	11.51	8.21	8.21	14.46	7.22	7.22
Movement LOS	B	B	B	B	A	A	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.11			11.95			8.41			7.97		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.39											
Intersection LOS	A											
Intersection V/C	0.502											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	210	411	270	42	273	40	20	613	165	130	664	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	411	270	42	273	40	20	613	165	130	664	54
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	109	71	13	85	12	5	161	43	35	177	14
Total Analysis Volume [veh/h]	222	435	286	52	340	50	21	643	173	139	707	58
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.18	0.23	0.19	0.05	0.10	0.11	0.03	0.18	0.12	0.14	0.20	0.04
s, saturation flow rate [veh/h]	1237	1900	1525	956	1900	1790	737	3618	1487	972	3618	1443
c, Capacity [veh/h]	449	670	538	89	442	417	303	1593	655	552	2008	801
d1, Uniform Delay [s]	24.44	27.16	25.77	49.71	32.86	32.97	24.23	19.04	17.72	11.59	12.30	10.31
k, delay calibration	0.50	0.13	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.33	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.84	1.32	0.30	2.23	0.26	0.30	0.44	0.76	0.98	0.72	0.49	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.65	0.53	0.58	0.45	0.46	0.07	0.40	0.26	0.25	0.35	0.07
d, Delay for Lane Group [s/veh]	28.28	28.48	26.08	51.93	33.13	33.27	24.67	19.80	18.70	12.31	12.79	10.49
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	8.75	5.35	1.34	4.05	3.94	0.39	5.12	2.66	1.50	4.20	0.60
50th-Percentile Queue Length [ft/ln]	107.39	218.84	133.83	33.45	101.37	98.59	9.68	128.08	66.49	37.62	105.12	14.97
95th-Percentile Queue Length [veh/ln]	7.69	13.61	9.15	2.41	7.30	7.10	0.70	8.84	4.79	2.71	7.57	1.08
95th-Percentile Queue Length [ft/ln]	192.37	340.14	228.70	60.21	182.47	177.47	17.42	220.88	119.68	67.71	189.19	26.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.28	28.48	26.08	51.93	33.19	33.27	24.67	19.80	18.70	12.31	12.79	10.49
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	27.71			35.40			19.70			12.57		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	22.27											
Intersection LOS	C											
Intersection V/C	0.448											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	38.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.801

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	90	811	80	40	528	30	20	190	160	50	140	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	811	80	40	528	30	20	190	160	50	140	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	214	21	12	156	9	5	50	43	14	38	11
Total Analysis Volume [veh/h]	95	855	84	47	625	36	21	202	170	55	153	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	54	54	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.54	0.54	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.25	0.25	0.06	0.18	0.18	0.25	0.12	0.53	0.03
s, saturation flow rate [veh/h]	933	1900	1815	752	1900	1850	894	1461	389	1508
c, Capacity [veh/h]	623	1022	977	493	996	970	283	399	152	411
d1, Uniform Delay [s]	7.58	14.24	14.31	8.11	13.73	13.76	31.01	29.92	33.15	27.23
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.28	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	1.53	1.64	0.38	0.91	0.94	11.86	0.27	203.18	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

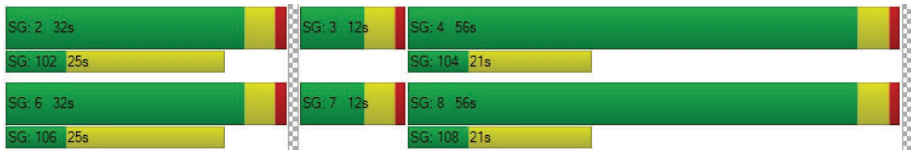
X, volume / capacity	0.15	0.47	0.47	0.10	0.33	0.34	0.79	0.43	1.37	0.11
d, Delay for Lane Group [s/veh]	7.70	15.77	15.95	8.50	14.64	14.70	42.87	30.19	236.33	27.28
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	6.78	6.62	0.40	4.44	4.37	5.25	3.31	11.37	0.78
50th-Percentile Queue Length [ft/ln]	18.72	169.41	165.54	10.08	110.91	109.33	131.17	82.85	284.35	19.46
95th-Percentile Queue Length [veh/ln]	1.35	11.05	10.84	0.73	7.89	7.80	9.00	5.97	19.53	1.40
95th-Percentile Queue Length [ft/ln]	33.69	276.14	271.04	18.15	197.26	195.08	225.08	149.14	488.27	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.70	15.85	15.95	8.50	14.67	14.70	42.87	42.87	30.19	236.33	236.33	27.28
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	15.11			14.26			37.38			199.83		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	38.03											
Intersection LOS	D											
Intersection V/C	0.801											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	100	841	150	120	638	40	50	424	170	120	387	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	841	150	120	638	40	50	424	170	120	387	110
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	216	39	32	169	11	14	118	47	33	107	30
Total Analysis Volume [veh/h]	103	865	154	127	675	42	56	471	189	132	426	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.11	0.28	0.28	0.16	0.19	0.19	0.06	0.18	0.20	0.13	0.22	0.08
s, saturation flow rate [veh/h]	925	1900	1767	777	1900	1845	964	1900	1597	1055	1900	1452
c, Capacity [veh/h]	514	820	763	408	824	800	111	470	395	343	688	526
d1, Uniform Delay [s]	11.96	22.29	22.47	14.23	19.81	19.86	48.63	34.63	35.28	24.06	26.21	22.18
k, delay calibration	0.16	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.14	0.23	0.11	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	3.77	4.28	1.98	1.70	1.78	1.33	1.96	4.61	1.53	0.92	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

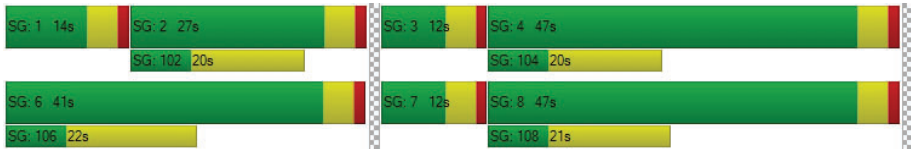
X, volume / capacity	0.20	0.64	0.65	0.31	0.44	0.44	0.51	0.74	0.80	0.39	0.62	0.23
d, Delay for Lane Group [s/veh]	12.25	26.06	26.75	16.21	21.51	21.64	49.97	36.59	39.90	25.59	27.13	22.26
Lane Group LOS	B	C	C	B	C	C	D	D	D	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.11	10.18	9.82	1.56	6.15	6.05	1.44	7.86	7.56	2.26	8.31	1.97
50th-Percentile Queue Length [ft/ln]	27.65	254.47	245.57	38.91	153.63	151.21	35.88	196.46	188.91	56.38	207.76	49.18
95th-Percentile Queue Length [veh/ln]	1.99	15.41	14.96	2.80	10.21	10.08	2.58	12.46	12.06	4.06	13.04	3.54
95th-Percentile Queue Length [ft/ln]	49.76	385.27	374.07	70.04	255.27	252.04	64.58	311.40	301.62	101.48	325.95	88.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.25	26.33	26.75	16.21	21.57	21.64	49.97	37.47	39.90	25.59	27.13	22.26
Movement LOS	B	C	C	B	C	C	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	25.10			20.77			39.09			25.97		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	27.17											
Intersection LOS	C											
Intersection V/C	0.570											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	130	951	180	30	818	40	60	251	150	100	282	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	951	180	30	818	40	60	251	150	100	282	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	258	49	8	222	11	16	65	39	27	76	22
Total Analysis Volume [veh/h]	141	1031	195	33	890	44	62	260	155	108	304	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	9	51	51	37	37	37	26	26	26	35	35
g / C, Green / Cycle	0.09	0.51	0.51	0.37	0.37	0.37	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.08	0.33	0.35	0.07	0.25	0.25	0.06	0.14	0.11	0.30	0.06
s, saturation flow rate [veh/h]	1810	1900	1700	462	1900	1836	1092	1900	1352	1392	1366
c, Capacity [veh/h]	172	978	876	114	711	687	72	488	347	486	482
d1, Uniform Delay [s]	44.42	17.56	18.15	44.42	26.05	26.20	50.00	31.99	31.19	29.09	22.33
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.68	3.22	4.31	6.26	4.82	5.24	10.27	0.34	0.34	16.54	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

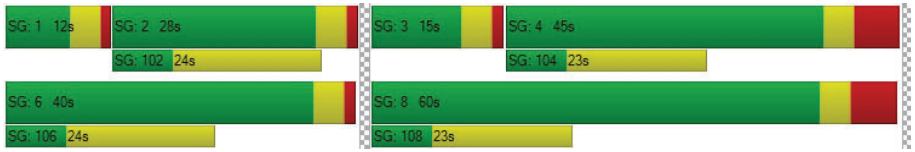
X, volume / capacity	0.82	0.64	0.68	0.29	0.66	0.67	0.86	0.53	0.45	0.85	0.18
d, Delay for Lane Group [s/veh]	48.10	20.78	22.47	50.68	30.87	31.44	60.27	32.33	31.52	45.63	22.40
Lane Group LOS	D	C	C	D	C	C	E	C	C	D	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.58	10.80	10.84	0.99	10.04	9.99	1.74	5.32	3.10	10.07	1.37
50th-Percentile Queue Length [ft/ln]	89.49	270.11	271.06	24.83	250.90	249.67	43.40	133.06	77.48	251.87	34.29
95th-Percentile Queue Length [veh/ln]	6.44	16.20	16.24	1.79	15.23	15.17	3.12	9.11	5.58	15.28	2.47
95th-Percentile Queue Length [ft/ln]	161.08	404.88	406.06	44.69	380.79	379.24	78.11	227.65	139.47	382.01	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.10	21.44	22.47	50.68	31.14	31.44	60.27	32.33	31.52	45.63	45.63	22.40
Movement LOS	D	C	C	D	C	C	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	24.34			31.82			35.70			41.62		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.76											
Intersection LOS	C											
Intersection V/C	0.585											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	52.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	130	1241	50	40	1028	20	6	80	110	66	150	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	1241	50	40	1028	20	6	80	110	66	150	50
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	327	13	10	268	5	2	24	32	18	42	14
Total Analysis Volume [veh/h]	137	1309	53	42	1071	21	7	95	130	70	169	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	32	32	5	28	28	40	40
g / C, Green / Cycle	0.09	0.35	0.35	0.05	0.31	0.31	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.36	0.36	0.02	0.29	0.29	0.13	0.12
s, saturation flow rate [veh/h]	1810	1900	1860	1810	1900	1878	1682	1808
c, Capacity [veh/h]	172	672	658	93	590	583	743	799
d1, Uniform Delay [s]	40.10	29.23	29.23	41.66	30.22	30.28	16.26	16.08
k, delay calibration	0.04	0.50	0.50	0.04	0.32	0.32	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	39.27	42.90	1.26	16.53	17.40	1.05	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	1.02	1.03	0.45	0.93	0.93	0.30	0.28
d, Delay for Lane Group [s/veh]	43.32	68.50	72.13	42.92	46.75	47.68	17.31	16.96
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.09	21.21	21.43	0.93	13.82	13.88	3.10	3.05
50th-Percentile Queue Length [ft/ln]	77.37	530.35	535.81	23.32	345.45	346.92	77.52	76.23
95th-Percentile Queue Length [veh/ln]	5.57	29.13	29.62	1.68	19.91	19.99	5.58	5.49
95th-Percentile Queue Length [ft/ln]	139.27	728.14	740.43	41.98	497.85	499.66	139.54	137.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.32	70.23	72.13	42.92	47.20	47.68	0.00	17.31	17.31	0.00	16.96	16.96
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	67.84			47.05			17.31			16.96		
Approach LOS	E			D			B			B		
d_I, Intersection Delay [s/veh]	52.79											
Intersection LOS	D											
Intersection V/C	0.521											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	40.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.705

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	240	632	0	0	1198	70	0	0	0	650	270	779
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	632	0	0	1198	70	0	0	0	650	270	779
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	181	0	0	315	18	0	0	0	179	74	214
Total Analysis Volume [veh/h]	276	726	0	0	1262	74	0	0	0	715	297	857
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	20	72	47	47		39	39	39	39
g / C, Green / Cycle	0.17	0.60	0.39	0.39		0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.15	0.20	0.25	0.24		0.27	0.26	0.30	0.31
s, saturation flow rate [veh/h]	1810	3618	3618	1840		1810	1855	1434	1544
c, Capacity [veh/h]	301	2172	1430	727		584	599	463	499
d1, Uniform Delay [s]	49.12	11.98	29.08	28.92		37.44	37.16	39.29	39.59
k, delay calibration	0.25	0.50	0.50	0.50		0.26	0.25	0.35	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.06	0.42	2.05	3.82		6.97	5.85	21.71	23.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.33	0.62	0.61		0.82	0.81	0.93	0.95
d, Delay for Lane Group [s/veh]	70.18	12.40	31.13	32.74		44.40	43.00	61.00	63.38
Lane Group LOS	E	B	C	C		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.86	4.87	10.62	10.93		13.59	13.38	14.50	16.22
50th-Percentile Queue Length [ft/ln]	246.59	121.69	265.42	273.13		339.6	334.6	362.5	405.5
95th-Percentile Queue Length [veh/ln]	15.01	8.49	15.96	16.35		19.63	19.38	20.75	22.83
95th-Percentile Queue Length [ft/ln]	375.36	212.14	399.01	408.65		490.8	484.6	518.6	570.7

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.18	12.40	0.00	0.00	31.60	32.74	0.00	0.00	0.00	43.92	45.84	62.35
Movement LOS	E	B			C	C				D	D	E
d_A, Approach Delay [s/veh]	28.31			31.67			0.00			52.67		
Approach LOS	C			C			A			D		
d_I, Intersection Delay [s/veh]	40.20											
Intersection LOS	D											
Intersection V/C	0.705											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	812	260	546	1242	0	110	170	250	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	812	260	546	1242	0	110	170	250	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	225	72	147	333	0	32	49	72	0	0	0
Total Analysis Volume [veh/h]	0	901	288	586	1334	0	126	195	287	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	56	87	24	24	24
g / C, Green / Cycle	0.22	0.22	0.22	0.47	0.73	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.17	0.19	0.20	0.17	0.37	0.09	0.09	0.18
s, saturation flow rate [veh/h]	3618	1553	1454	3514	3618	1830	1729	1577
c, Capacity [veh/h]	797	342	320	1644	2628	360	340	310
d1, Uniform Delay [s]	43.72	45.20	45.47	20.38	7.11	42.53	42.51	47.29
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	2.88	3.73	0.61	0.70	0.34	0.36	18.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.88	0.90	0.36	0.51	0.46	0.46	0.92
d, Delay for Lane Group [s/veh]	44.27	48.08	49.20	20.99	7.81	42.87	42.86	65.40
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.30	8.79	8.55	5.36	6.85	4.34	4.08	9.86
50th-Percentile Queue Length [ft/ln]	207.43	219.71	213.63	134.06	171.13	108.42	101.88	246.49
95th-Percentile Queue Length [veh/ln]	13.02	13.65	13.34	9.16	11.14	7.75	7.34	15.01
95th-Percentile Queue Length [ft/ln]	325.53	341.25	333.48	229.01	278.39	193.80	183.38	375.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	44.73	49.20	20.99	7.81	0.00	42.87	42.86	65.40	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	46.43			11.83			53.50			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.72											
Intersection LOS	C											
Intersection V/C	0.551											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	715	260	90	783	110	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	715	260	90	783	110	178
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	200	73	28	245	32	51
Total Analysis Volume [veh/h]	798	290	113	982	126	204
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.17	0.27	0.15	0.28
s, saturation flow rate [veh/h]	3618	1353	681	3618	832	734
c, Capacity [veh/h]	2509	938	470	2509	145	128
d1, Uniform Delay [s]	6.03	5.98	10.37	6.45	40.14	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.36
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.86	1.21	0.46	5.92	291.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.31	0.24	0.39	0.87	1.59
d, Delay for Lane Group [s/veh]	6.36	6.84	11.58	6.91	46.06	332.70
Lane Group LOS	A	A	B	A	D	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.99	2.30	1.33	3.95	3.18	13.45
50th-Percentile Queue Length [ft/ln]	74.87	57.47	33.28	98.75	79.56	336.31
95th-Percentile Queue Length [veh/ln]	5.39	4.14	2.40	7.11	5.73	23.01
95th-Percentile Queue Length [ft/ln]	134.77	103.44	59.90	177.74	143.21	575.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.36	6.84	11.58	6.91	46.06	332.70
Movement LOS	A	A	B	A	D	F
d_A, Approach Delay [s/veh]	6.49		7.39		223.26	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	35.35					
Intersection LOS	D					
Intersection V/C	0.549					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	50	40	0	20	40	20	0	30	186	40	0	20	173	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	50	40	0	20	40	20	0	30	186	40	0	20	173	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	17	13	0	6	12	6	0	8	52	11	0	6	48	8
Total Analysis Volume [veh/h]	0	27	67	54	0	25	50	25	0	34	209	45	0	22	192	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	585	678	576	670	648	753	645	746
Degree of Utilization, x	0.16	0.08	0.13	0.04	0.38	0.06	0.33	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.57	0.26	0.45	0.12	1.74	0.19	1.45	0.14
95th-Percentile Queue Length [ft]	14.24	6.47	11.14	2.91	43.52	4.76	36.27	3.47
Approach Delay [s/veh]	9.47		9.48		10.97		10.59	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	10.37							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	470	130	0	60	351	0	111	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	470	130	0	60	351	0	111	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	34	0	16	92	0	36	26
Total Analysis Volume [veh/h]	0	493	136	0	63	367	0	142	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.26	0.09	0.07	0.19	0.09	0.09
s, saturation flow rate [veh/h]	1900	1581	918	1900	1538	1208
c, Capacity [veh/h]	1107	866	451	1041	437	343
d1, Uniform Delay [s]	7.54	6.11	12.48	6.92	15.47	15.35
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.30	0.39	0.65	0.94	0.16	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

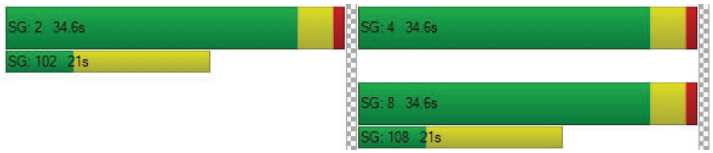
X, volume / capacity	0.45	0.16	0.14	0.35	0.33	0.30
d, Delay for Lane Group [s/veh]	8.84	6.50	13.13	7.86	15.63	15.53
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.04	0.68	0.56	2.08	1.31	0.94
50th-Percentile Queue Length [ft/ln]	76.04	17.09	13.88	51.91	32.67	23.60
95th-Percentile Queue Length [veh/ln]	5.47	1.23	1.00	3.74	2.35	1.70
95th-Percentile Queue Length [ft/ln]	136.87	30.76	24.98	93.44	58.81	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.84	8.84	6.50	13.13	13.13	7.86	15.63	15.63	15.53
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.34			8.63			15.58		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.80								
Intersection LOS	A								
Intersection V/C	0.352								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.437

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	150	40	10	80	10	20	195	30	20	145	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	150	40	10	80	10	20	195	30	20	145	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	45	12	3	21	3	6	59	9	6	44	6
Total Analysis Volume [veh/h]	36	178	47	11	86	11	24	238	37	24	175	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	663	625	684	667
Degree of Utilization, x	0.39	0.17	0.44	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.88	0.62	2.23	1.47
95th-Percentile Queue Length [ft]	46.96	15.52	55.71	36.70
Approach Delay [s/veh]	11.92	9.96	12.29	11.09
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.60			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.627

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	220	60	30	140	20	20	195	50	20	145	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	220	60	30	140	20	20	195	50	20	145	40
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	65	18	8	38	5	6	55	14	5	39	11
Total Analysis Volume [veh/h]	48	262	71	33	154	22	23	220	56	21	156	43
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	608	568	587	570
Degree of Utilization, x	0.63	0.37	0.51	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.37	1.69	2.89	1.81
95th-Percentile Queue Length [ft]	109.16	42.13	72.15	45.29
Approach Delay [s/veh]	18.34	12.99	15.34	13.24
Approach LOS	C	B	C	B
Intersection Delay [s/veh]	15.51			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	27.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.902

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	75	330	30	30	220	30	20	130	105	30	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	330	30	30	220	30	20	130	105	30	130	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	92	8	8	61	8	6	36	29	9	38	9
Total Analysis Volume [veh/h]	83	367	33	33	245	33	22	144	116	35	152	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	499	563	475	530	511	486
Degree of Utilization, x	0.90	0.06	0.59	0.06	0.55	0.46

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	10.29	0.19	3.68	0.20	3.31	2.36
95th-Percentile Queue Length [ft]	257.19	4.66	92.05	4.96	82.82	58.93
Approach Delay [s/veh]	43.78		19.31		18.38	16.50
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	27.73					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	40	201	130	110	261	10	50	150	60	90	120	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	201	130	110	261	10	50	150	60	90	120	20
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	56	37	31	73	3	13	39	16	26	35	6
Total Analysis Volume [veh/h]	45	226	146	124	294	11	52	157	63	105	141	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	48	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.04	0.22	0.11	0.16	0.05	0.13	0.09	0.10
s, saturation flow rate [veh/h]	1169	1690	1127	1877	1025	1723	1150	1716
c, Capacity [veh/h]	749	884	688	1007	159	315	131	314
d1, Uniform Delay [s]	6.88	13.14	7.70	11.56	40.43	34.49	44.13	33.27
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.47	0.58	0.77	0.44	1.05	4.34	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

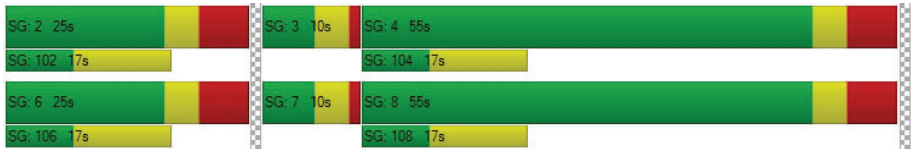
X, volume / capacity	0.06	0.42	0.18	0.30	0.33	0.70	0.80	0.52
d, Delay for Lane Group [s/veh]	6.89	14.61	8.27	12.33	40.87	35.54	48.46	33.77
Lane Group LOS	A	B	A	B	D	D	D	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.29	4.57	0.97	3.38	1.13	4.52	2.46	3.19
50th-Percentile Queue Length [ft/ln]	7.26	114.30	24.26	84.57	28.17	113.07	61.45	79.71
95th-Percentile Queue Length [veh/ln]	0.52	8.08	1.75	6.09	2.03	8.01	4.42	5.74
95th-Percentile Queue Length [ft/ln]	13.07	201.96	43.67	152.22	50.71	200.26	110.61	143.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.89	14.61	14.61	8.27	12.33	12.33	40.87	35.54	35.54	48.46	33.77	33.77
Movement LOS	A	B	B	A	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	13.77			11.16			36.56			39.51		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.42											
Intersection LOS	C											
Intersection V/C	0.379											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	77	190	30	10	50	10	20	185	50	20	155	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	190	30	10	50	10	20	185	50	20	155	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	54	8	3	15	3	6	56	15	5	42	5
Total Analysis Volume [veh/h]	87	215	34	12	60	12	24	225	61	21	166	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	657	608	669	642
Degree of Utilization, x	0.51	0.14	0.46	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.93	0.48	2.45	1.40
95th-Percentile Queue Length [ft]	73.31	11.95	61.35	35.02
Approach Delay [s/veh]	14.10	9.88	12.93	11.27
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	12.71			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	210	30	30	171	20	10	80	20	20	130	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	210	30	30	171	20	10	80	20	20	130	50
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	60	9	8	44	5	3	25	6	6	38	15
Total Analysis Volume [veh/h]	34	239	34	31	174	20	13	101	25	23	151	58
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	680	662	632	657
Degree of Utilization, x	0.45	0.34	0.22	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.35	1.50	0.83	1.59
95th-Percentile Queue Length [ft]	58.78	37.62	20.86	39.74
Approach Delay [s/veh]	12.58	11.22	10.29	11.44
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.60			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2640	70	0	2771	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2640	70	0	2771	100	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	717	19	0	709	27	8
Total Analysis Volume [veh/h]	2870	76	0	2836	110	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	62	62	62	62
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	45	45	45	7
g / C, Green / Cycle	0.72	0.72	0.72	0.11
(v / s)_i Volume / Saturation Flow Rate	0.62	0.59	0.47	0.09
s, saturation flow rate [veh/h]	3192	1654	6089	1553
c, Capacity [veh/h]	2289	1186	4366	178
d1, Uniform Delay [s]	6.49	6.14	4.67	26.91
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.58	0.06	3.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.83	0.65	0.80
d, Delay for Lane Group [s/veh]	6.87	6.73	4.73	30.12
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.24	5.04	2.68	2.11
50th-Percentile Queue Length [ft/ln]	131.12	126.11	67.07	52.86
95th-Percentile Queue Length [veh/ln]	9.00	8.73	4.83	3.81
95th-Percentile Queue Length [ft/ln]	225.02	218.20	120.73	95.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.82	6.73	0.00	4.73	30.12	30.12
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.82		4.73		30.12	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.38					
Intersection LOS	A					
Intersection V/C	0.707					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	82.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1960	690	40	340	450	10	568	210	0	0	290	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1960	690	40	340	450	10	568	210	0	0	290	180
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	538	189	11	100	132	3	142	55	0	0	85	53
Total Analysis Volume [veh/h]	2151	757	44	399	528	12	568	219	0	0	338	210
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	79	79	79	30	30	23	23
g / C, Green / Cycle	0.55	0.55	0.55	0.21	0.21	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.46	0.50	0.52	0.29	0.29	0.14	0.14
s, saturation flow rate [veh/h]	3192	1466	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1766	811	789	335	334	261	619
d1, Uniform Delay [s]	26.49	28.68	29.54	56.40	56.40	57.88	58.40
k, delay calibration	0.04	0.22	0.24	0.50	0.50	0.05	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	8.22	11.42	197.19	198.81	3.21	1.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.91	0.94	1.40	1.40	0.84	0.88
d, Delay for Lane Group [s/veh]	26.90	36.90	40.96	253.59	255.21	61.09	60.13
Lane Group LOS	C	D	D	F	F	E	E
Critical Lane Group	No	No	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	20.45	23.88	25.19	30.44	30.49	7.91	6.56
50th-Percentile Queue Length [ft/ln]	511.17	596.98	629.72	760.90	762.34	197.85	164.10
95th-Percentile Queue Length [veh/ln]	27.86	31.89	33.42	46.25	46.37	12.53	10.77
95th-Percentile Queue Length [ft/ln]	696.57	797.33	835.49	1156.34	1159.33	313.20	269.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.75	40.62	40.96	253.59	255.21	255.21	0.00	61.09	0.00	0.00	60.13	60.13
Movement LOS	C	D	D	F	F	F		E			E	F
d_A, Approach Delay [s/veh]	32.92			254.40			61.09			60.13		
Approach LOS	C			F			E			E		
d_I, Intersection Delay [s/veh]	82.09											
Intersection LOS	F											
Intersection V/C	0.958											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	81	120	76	0	20	89	20	0	20	129	63	0	52	140	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	81	120	76	0	20	89	20	0	20	129	63	0	52	140	30
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	24	35	22	0	6	26	6	0	6	37	18	0	15	41	9
Total Analysis Volume [veh/h]	0	94	140	89	0	24	105	24	0	23	149	73	0	61	164	35
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	650	610	642	631
Degree of Utilization, x	0.50	0.25	0.38	0.41

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.77	0.99	1.79	2.01
95th-Percentile Queue Length [ft]	69.36	24.71	44.69	50.29
Approach Delay [s/veh]	13.88	10.87	12.03	12.63
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.62			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.229

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	90	30	20	49	20	10	50	30	30	80	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	90	30	20	49	20	10	50	30	30	80	20
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	5	13	5	4	18	11	9	24	6
Total Analysis Volume [veh/h]	38	113	38	22	53	22	14	71	42	36	96	24
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	659	778	646	761	656	765	654	771
Degree of Utilization, x	0.23	0.05	0.12	0.03	0.13	0.05	0.20	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.15	0.39	0.09	0.44	0.17	0.75	0.10
95th-Percentile Queue Length [ft]	21.96	3.85	9.81	2.23	11.11	4.35	18.76	2.41
Approach Delay [s/veh]	9.33		8.68		8.57		9.28	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	895	80	180	1403	0	32	1085	209	80	0	90
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	895	80	180	1403	0	32	1085	209	80	0	90
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	240	21	50	387	0	8	271	52	25	0	28
Total Analysis Volume [veh/h]	36	0	960	86	198	1547	0	32	1085	209	100	0	112
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	107	107	117	109		23	23
g / C, Green / Cycle	0.03	0.71	0.71	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.05	0.29	0.43		0.08	0.10
s, saturation flow rate [veh/h]	1810	3618	1585	685	3618		1231	1132
c, Capacity [veh/h]	47	2570	1126	544	2625		192	177
d1, Uniform Delay [s]	72.54	8.56	6.65	5.32	9.85		58.07	59.21
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.42	0.13	1.88	0.98		0.81	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.37	0.08	0.36	0.59		0.52	0.63
d, Delay for Lane Group [s/veh]	81.74	8.97	6.78	7.21	10.83		58.88	60.61
Lane Group LOS	F	A	A	A	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.14	0.87	1.66	11.89		3.55	4.08
50th-Percentile Queue Length [ft/ln]	37.61	153.46	21.87	41.43	297.16		88.87	101.98
95th-Percentile Queue Length [veh/ln]	2.71	10.20	1.57	2.98	17.54		6.40	7.34
95th-Percentile Queue Length [ft/ln]	67.70	255.05	39.37	74.57	438.51		159.97	183.56

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	8.97	6.78	7.21	10.83	0.00	0.00	0.00	0.00	58.88	0.00	60.61
Movement LOS	F		A	A	A	B					E		E
d_A, Approach Delay [s/veh]	11.22				10.42			0.00			59.80		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	14.15												
Intersection LOS	B												
Intersection V/C	0.546												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 6: 6 Approval Plus Project - Alt Access Report File: \...\AP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	90.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.204

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	40	2010	2	361	2530	20	20	30	30	157	20	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	2010	2	361	2530	20	20	30	30	157	20	340
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	583	1	92	647	5	8	12	12	47	6	102
Total Analysis Volume [veh/h]	46	2333	2	369	2588	20	32	48	48	189	24	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	328	328	328	328	328	328	328	328
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	10	200	69	258	258	45	45	118
g / C, Green / Cycle	0.03	0.61	0.21	0.79	0.79	0.14	0.14	0.36
(v / s)_i Volume / Saturation Flow Rate	0.03	0.45	0.20	0.47	0.47	0.55	0.42	0.25
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1893	233	510	1615
c, Capacity [veh/h]	56	3150	379	2845	1489	46	91	580
d1, Uniform Delay [s]	157.96	45.76	128.78	14.17	14.22	134.69	146.70	90.14
k, delay calibration	0.04	0.04	0.43	0.04	0.28	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.63	0.13	36.91	0.08	1.03	868.29	639.30	7.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

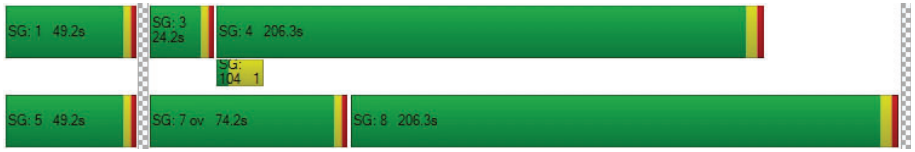
X, volume / capacity	0.82	0.74	0.97	0.60	0.60	2.80	2.35	0.70
d, Delay for Lane Group [s/veh]	168.59	45.89	165.70	14.25	15.25	1002.98	786.00	97.17
Lane Group LOS	F	D	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.16	45.49	35.63	25.79	27.57	15.05	24.14	31.65
50th-Percentile Queue Length [ft/ln]	104.12	1137.33	890.68	644.65	689.37	376.18	603.43	791.26
95th-Percentile Queue Length [veh/ln]	7.50	56.55	45.42	34.11	36.19	26.54	40.09	40.88
95th-Percentile Queue Length [ft/ln]	187.41	1413.87	1135.40	852.84	904.67	663.59	1002.23	1021.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	168.59	45.89	0.00	165.70	14.59	15.25	1002.98	1002.98	1002.98	786.00	786.00	97.17
Movement LOS	F	D		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	48.26			33.32			1002.98			333.06		
Approach LOS	D			C			F			F		
d_I, Intersection Delay [s/veh]	90.00											
Intersection LOS	F											
Intersection V/C	1.204											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	163.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.240

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	303	391	66	45	441	96	70	130	221	0	32	159	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	303	391	66	45	441	96	70	130	221	0	32	159	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	81	104	18	13	126	27	19	36	61	0	10	50	22
Total Analysis Volume [veh/h]	323	417	70	51	504	110	77	142	242	0	40	200	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	10	58	58	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	60	60	4	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.60	0.60	0.04	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.18	0.22	0.06	0.03	0.27	0.08	0.80	0.16	0.43	0.10
s, saturation flow rate [veh/h]	1810	1900	1263	1810	1900	1352	275	1518	560	860
c, Capacity [veh/h]	189	1139	757	68	1012	720	100	570	146	159
d1, Uniform Delay [s]	44.75	10.27	8.49	47.64	14.87	11.89	41.38	23.19	38.88	36.93
k, delay calibration	0.34	0.50	0.50	0.04	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	334.17	0.91	0.24	6.15	1.75	0.45	571.08	0.19	319.89	1.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

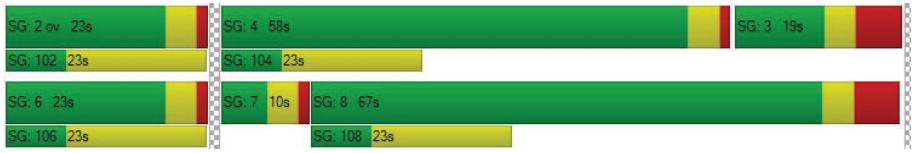
X, volume / capacity	1.71	0.37	0.09	0.75	0.50	0.15	2.20	0.42	1.65	0.55
d, Delay for Lane Group [s/veh]	378.92	11.18	8.73	53.79	16.62	12.34	612.46	23.37	358.77	38.02
Lane Group LOS	F	B	A	D	B	B	F	C	F	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	22.18	4.68	0.66	1.37	7.41	1.30	18.30	4.26	16.54	1.94
50th-Percentile Queue Length [ft/ln]	554.47	117.11	16.52	34.17	185.14	32.42	457.39	106.57	413.48	48.48
95th-Percentile Queue Length [veh/ln]	35.29	8.23	1.19	2.46	11.87	2.33	31.74	7.65	27.85	3.49
95th-Percentile Queue Length [ft/ln]	882.20	205.85	29.74	61.51	296.71	58.36	793.62	191.23	696.33	87.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	378.92	11.18	8.73	53.79	16.62	12.34	612.46	612.46	23.37	358.7	358.7	358.7	38.02
Movement LOS	F	B	A	D	B	B	F	F	C	F	F	F	D
d_A, Approach Delay [s/veh]	157.61			18.76			303.22			273.43			
Approach LOS	F			B			F			F			
d_I, Intersection Delay [s/veh]	163.21												
Intersection LOS	F												
Intersection V/C	1.240												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	520	182	0	200	590	0	264	225
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	520	182	0	200	590	0	264	225
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	141	49	0	53	156	0	76	65
Total Analysis Volume [veh/h]	0	563	197	0	211	622	0	304	259
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.14	0.21	0.17	0.15	0.11	0.17
s, saturation flow rate [veh/h]	1900	1729	1370	992	3618	1299	1719	1064
c, Capacity [veh/h]	1133	999	791	727	2509	226	300	186
d1, Uniform Delay [s]	10.56	10.56	10.42	5.74	5.67	40.20	38.26	40.87
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.09	0.04	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.56	0.66	0.75	1.01	0.24	8.39	0.81	24.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

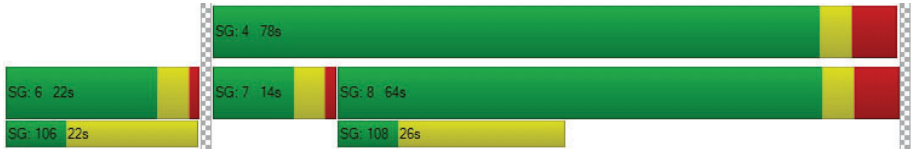
X, volume / capacity	0.26	0.27	0.25	0.29	0.25	0.87	0.63	0.95
d, Delay for Lane Group [s/veh]	11.11	11.22	11.17	6.75	5.90	48.59	39.07	65.51
Lane Group LOS	B	B	B	A	A	D	D	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.26	2.99	2.20	1.55	2.19	5.21	4.30	5.53
50th-Percentile Queue Length [ft/ln]	81.49	74.74	54.98	38.65	54.83	130.18	107.61	138.18
95th-Percentile Queue Length [veh/ln]	5.87	5.38	3.96	2.78	3.95	8.95	7.71	9.38
95th-Percentile Queue Length [ft/ln]	146.67	134.53	98.96	69.58	98.69	223.73	192.67	234.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.11	11.16	11.17	6.75	6.75	5.90	48.59	45.06	57.90
Movement LOS	B	B	B	A	A	A	D	D	E
d_A, Approach Delay [s/veh]	11.16			6.12			50.73		
Approach LOS	B			A			D		
d_I, Intersection Delay [s/veh]	19.55								
Intersection LOS	B								
Intersection V/C	0.368								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	571	150	130	694	100	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	571	150	130	694	100	120
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	41	35	184	30	35
Total Analysis Volume [veh/h]	628	165	138	737	118	142
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.17	0.12	0.17	0.20	0.15
s, saturation flow rate [veh/h]	3618	1339	794	3618	1698
c, Capacity [veh/h]	2235	827	480	2235	424
d1, Uniform Delay [s]	8.82	8.32	14.28	9.16	33.18
k, delay calibration	0.50	0.50	0.50	0.50	0.07
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.54	1.50	0.40	0.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

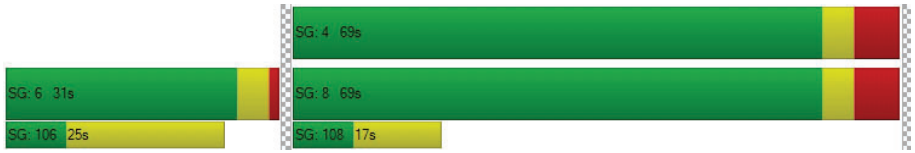
X, volume / capacity	0.28	0.20	0.29	0.33	0.61
d, Delay for Lane Group [s/veh]	9.14	8.86	15.79	9.55	34.05
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.03	1.58	1.97	3.69	5.54
50th-Percentile Queue Length [ft/ln]	75.74	39.42	49.28	92.34	138.55
95th-Percentile Queue Length [veh/ln]	5.45	2.84	3.55	6.65	9.40
95th-Percentile Queue Length [ft/ln]	136.33	70.95	88.71	166.22	235.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.14	8.86	15.79	9.55	34.05	34.05
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.08		10.53		34.05	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	13.11					
Intersection LOS	B					
Intersection V/C	0.357					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	551	240	150	644	180	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	551	240	150	644	180	150
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	155	68	43	184	50	41
Total Analysis Volume [veh/h]	621	271	171	736	198	165
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.18	0.20	0.24	0.13
s, saturation flow rate [veh/h]	3618	1296	951	3618	832	1238
c, Capacity [veh/h]	2190	785	730	2618	120	325
d1, Uniform Delay [s]	9.40	9.84	4.63	4.79	42.78	31.36
k, delay calibration	0.50	0.50	0.50	0.50	0.37	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	1.21	0.75	0.27	318.17	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

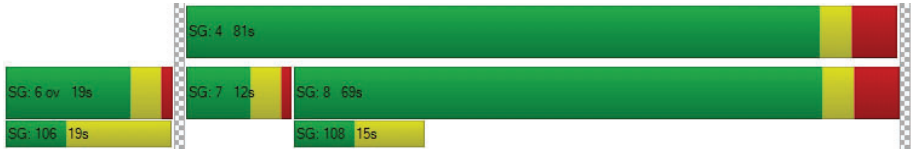
X, volume / capacity	0.28	0.35	0.23	0.28	1.65	0.51
d, Delay for Lane Group [s/veh]	9.72	11.05	5.38	5.06	360.95	31.81
Lane Group LOS	A	B	A	A	F	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.13	3.04	1.06	2.31	13.54	3.39
50th-Percentile Queue Length [ft/ln]	78.31	75.89	26.40	57.71	338.55	84.69
95th-Percentile Queue Length [veh/ln]	5.64	5.46	1.90	4.16	23.09	6.10
95th-Percentile Queue Length [ft/ln]	140.96	136.61	47.53	103.88	577.18	152.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.72	11.05	5.38	5.06	360.95	31.81
Movement LOS	A	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.13		5.12		211.34	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	41.81					
Intersection LOS	D					
Intersection V/C	0.482					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	10	806	142	67	844	20	20	13	70	190	10	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	806	142	67	844	20	20	13	70	190	10	170
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	226	41	18	222	5	6	6	21	53	3	48
Total Analysis Volume [veh/h]	11	904	165	71	887	21	23	24	82	213	11	191
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	80	80	74	74	11	24	24
g / C, Green / Cycle	0.53	0.53	0.49	0.49	0.08	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.24	0.24	0.06	0.12	0.14
s, saturation flow rate [veh/h]	690	3618	1900	1881	1654	1814	1325
c, Capacity [veh/h]	338	1934	934	925	124	287	209
d1, Uniform Delay [s]	18.44	21.65	25.49	25.56	68.48	60.65	62.11
k, delay calibration	0.04	0.50	0.50	0.50	0.08	0.07	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.81	1.81	1.86	10.64	2.96	18.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

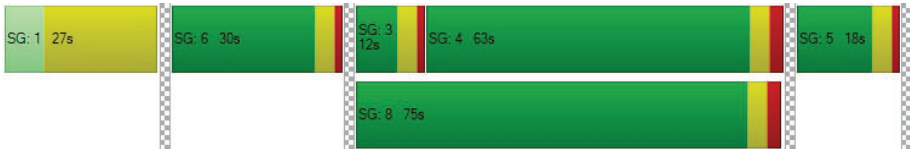
X, volume / capacity	0.03	0.47	0.49	0.49	0.84	0.78	0.91
d, Delay for Lane Group [s/veh]	18.45	22.46	27.30	27.43	79.11	63.60	80.35
Lane Group LOS	B	C	C	C	E	E	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.18	10.16	11.38	11.43	4.34	8.52	8.30
50th-Percentile Queue Length [ft/ln]	4.60	254.04	284.60	285.67	108.45	213.00	207.38
95th-Percentile Queue Length [veh/ln]	0.33	15.39	16.92	16.97	7.75	13.31	13.02
95th-Percentile Queue Length [ft/ln]	8.28	384.74	422.93	424.26	193.85	332.67	325.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.45	22.46	0.00	0.00	27.36	27.43	79.11	0.00	79.11	63.60	63.60	80.35
Movement LOS	B	C			C	C	E		E	E	E	F
d_A, Approach Delay [s/veh]	22.41			27.36			79.11			71.31		
Approach LOS	C			C			E			E		
d_I, Intersection Delay [s/veh]	35.53											
Intersection LOS	D											
Intersection V/C	0.457											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	400	676	804	170	130	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	676	804	170	130	570
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	177	206	44	34	149
Total Analysis Volume [veh/h]	420	709	825	174	135	594
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	17	75	75	75	15	36
g / C, Green / Cycle	0.14	0.62	0.62	0.62	0.12	0.30
(v / s)_i Volume / Saturation Flow Rate	0.12	0.20	0.23	0.13	0.11	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1331	1240	2859
c, Capacity [veh/h]	485	2258	2258	831	152	855
d1, Uniform Delay [s]	50.59	10.54	10.97	9.75	51.78	37.17
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.86	0.36	0.46	0.57	6.60	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

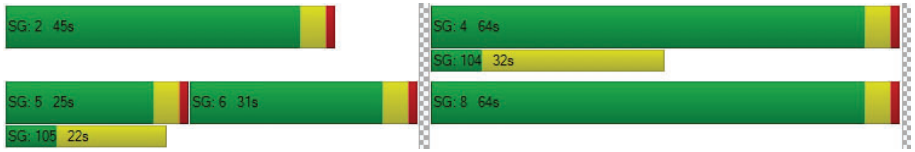
X, volume / capacity	0.87	0.31	0.37	0.21	0.89	0.69
d, Delay for Lane Group [s/veh]	52.45	10.90	11.43	10.32	58.38	37.56
Lane Group LOS	D	B	B	B	E	D
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.29	4.37	5.30	2.06	4.47	8.22
50th-Percentile Queue Length [ft/ln]	157.18	109.16	132.43	51.56	111.84	205.53
95th-Percentile Queue Length [veh/ln]	10.40	7.79	9.07	3.71	7.94	12.92
95th-Percentile Queue Length [ft/ln]	259.99	194.84	226.79	92.81	198.56	323.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.45	10.90	11.43	10.32	58.38	37.56
Movement LOS	D	B	B	B	E	D
d_A, Approach Delay [s/veh]	26.36		11.24		41.41	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.91					
Intersection LOS	C					
Intersection V/C	0.456					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	70	160	70	0	270	0	290	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	160	70	0	270	0	290	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	53	23	0	71	0	78	75
Total Analysis Volume [veh/h]	0	0	0	0	93	212	93	0	285	0	311	300
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		52	52	52	64	64	64
g / C, Green / Cycle		0.44	0.44	0.44	0.54	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate		0.09	0.08	0.10	0.24	0.16	0.20
s, saturation flow rate [veh/h]		1058	1900	1501	1203	1900	1464
c, Capacity [veh/h]		406	830	656	667	1020	786
d1, Uniform Delay [s]		29.75	20.75	21.09	15.78	15.39	16.18
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.31	0.51	0.79	2.00	0.77	1.41
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.23	0.19	0.22	0.43	0.30	0.38
d, Delay for Lane Group [s/veh]		31.06	21.26	21.89	17.77	16.16	17.59
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.12	2.81	2.70	4.54	4.80	4.96
50th-Percentile Queue Length [ft/ln]		52.90	70.32	67.48	113.48	120.05	123.94
95th-Percentile Queue Length [veh/ln]		3.81	5.06	4.86	8.03	8.40	8.61
95th-Percentile Queue Length [ft/ln]		95.22	126.57	121.46	200.84	209.90	215.23

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	31.06	21.42	21.89	0.00	17.77	0.00	16.16	17.59
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.78				17.15			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	29.90											
Intersection LOS	C											
Intersection V/C	0.485											

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Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	616	230	160	774	0	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	616	230	160	774	0	130
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	163	61	44	215	0	34
Total Analysis Volume [veh/h]	0	53	654	244	177	858	0	135
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	46	46	46
g / C, Green / Cycle	0.26	0.26	0.26	0.39	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.20	0.17	0.27	0.28
s, saturation flow rate [veh/h]	576	3618	1246	1070	1900	1731
c, Capacity [veh/h]	65	955	329	374	734	669
d1, Uniform Delay [s]	59.94	39.66	40.39	27.10	30.82	31.37
k, delay calibration	0.04	0.04	0.04	0.04	0.09	0.16
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.19	0.33	1.24	0.35	0.95	2.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.68	0.74	0.47	0.69	0.73
d, Delay for Lane Group [s/veh]	69.13	39.98	41.64	27.45	31.76	33.66
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.78	8.68	6.68	3.48	12.37	12.26
50th-Percentile Queue Length [ft/ln]	44.46	217.00	166.95	87.05	309.24	306.57
95th-Percentile Queue Length [veh/ln]	3.20	13.51	10.92	6.27	18.14	18.01
95th-Percentile Queue Length [ft/ln]	80.03	337.79	272.90	156.69	453.43	450.15

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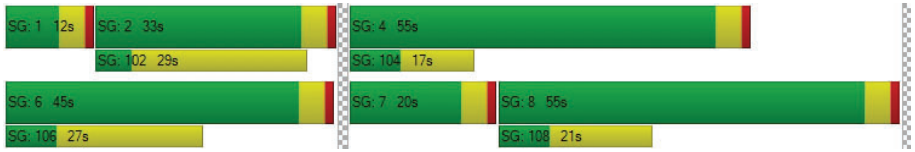
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	69.13	39.98	41.64	27.45	32.54	0.00	33.66
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	42.03				31.90			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	29.90							
Intersection LOS	C							
Intersection V/C	0.485							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	305.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.563

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	67	126	221	0	114	79	46	0	56	203	53	0	171	283	229
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	67	126	221	0	114	79	46	0	56	203	53	0	171	283	229
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	34	59	0	31	21	12	0	16	58	15	0	44	73	59
Total Analysis Volume [veh/h]	0	71	134	235	0	123	86	50	0	64	234	61	0	177	292	237
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.22	7.41	0.07	0.06	0.04	0.15	0.15	0.16
s, saturation flow rate [veh/h]	1273	1674	35	888	3618	1577	1165	1900	1573
c, Capacity [veh/h]	73	260	58	382	1709	745	551	898	743
d1, Uniform Delay [s]	50.02	42.26	48.88	22.81	14.88	14.48	20.43	16.36	16.49
k, delay calibration	0.04	0.18	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.97	197.78	1593.16	0.94	0.17	0.22	1.54	0.92	1.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	1.42	4.45	0.17	0.14	0.08	0.32	0.32	0.33
d, Delay for Lane Group [s/veh]	73.99	240.04	1642.03	23.76	15.05	14.69	21.97	17.29	17.68
Lane Group LOS	E	F	F	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.24	20.53	27.17	1.15	1.51	0.79	3.04	4.15	3.66
50th-Percentile Queue Length [ft/ln]	55.94	513.16	679.24	28.66	37.74	19.75	76.05	103.79	91.44
95th-Percentile Queue Length [veh/ln]	4.03	32.22	45.40	2.06	2.72	1.42	5.48	7.47	6.58
95th-Percentile Queue Length [ft/ln]	100.69	805.50	1135.11	51.59	67.93	35.56	136.90	186.81	164.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.99	73.99	240.0	240.0	1642.	1642.	1642.	1642.	23.76	23.76	15.05	14.69	21.97	21.97	17.30	17.68
Movement LOS	E	E	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	213.24				1642.03				16.54				18.60			
Approach LOS	F				F				B				B			
d_I, Intersection Delay [s/veh]	305.09															
Intersection LOS	F															
Intersection V/C	7.563															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	90	233	130	40	113	30	50	90	60	70	70	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	233	130	40	113	30	50	90	60	70	70	90
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	61	34	12	33	9	15	28	18	20	20	26
Total Analysis Volume [veh/h]	95	246	137	47	134	35	62	111	74	79	79	102
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	21	21	21	21	21	49	49
g / C, Green / Cycle	0.21	0.21	0.21	0.21	0.21	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.09	0.04	0.09	0.16	0.24
s, saturation flow rate [veh/h]	1236	1900	1540	1152	1810	1542	1100
c, Capacity [veh/h]	196	396	321	145	377	800	585
d1, Uniform Delay [s]	43.84	35.98	34.38	45.70	34.55	15.20	17.07
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.69	0.59	0.33	0.47	0.31	1.00	2.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

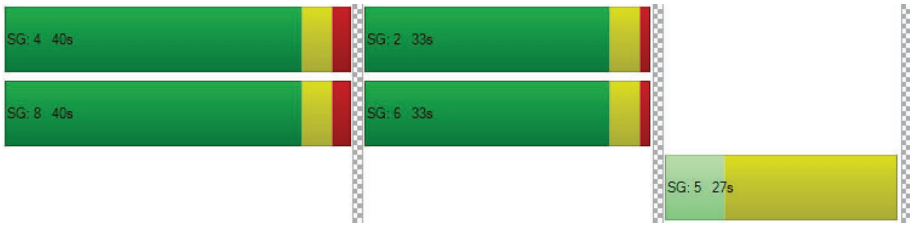
X, volume / capacity	0.48	0.62	0.43	0.32	0.45	0.31	0.44
d, Delay for Lane Group [s/veh]	44.53	36.57	34.71	46.17	34.86	16.20	19.51
Lane Group LOS	D	D	C	D	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	5.40	2.87	1.14	3.55	3.41	4.24
50th-Percentile Queue Length [ft/ln]	57.26	135.04	71.73	28.54	88.81	85.18	106.00
95th-Percentile Queue Length [veh/ln]	4.12	9.21	5.16	2.05	6.39	6.13	7.62
95th-Percentile Queue Length [ft/ln]	103.06	230.32	129.12	51.37	159.86	153.32	190.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.53	36.57	34.71	46.17	34.86	34.86	16.20	16.20	16.20	19.51	19.51	19.51
Movement LOS	D	D	C	D	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	37.62			37.32			16.20			19.51		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.24											
Intersection LOS	C											
Intersection V/C	0.366											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	85.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.088

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	70	263	190	60	153	50	40	230	100	80	170	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	263	190	60	153	50	40	230	100	80	170	190
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	74	53	17	43	14	11	62	27	23	49	55
Total Analysis Volume [veh/h]	79	296	214	67	170	56	43	249	108	92	195	218
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.16	0.27	0.06	0.13	0.51	0.07	0.82	0.14
s, saturation flow rate [veh/h]	1173	1900	800	1100	1794	573	1570	350	1581
c, Capacity [veh/h]	143	370	156	103	349	330	789	224	795
d1, Uniform Delay [s]	47.26	38.40	40.25	49.33	37.09	21.68	13.27	31.33	14.33
k, delay calibration	0.04	0.08	0.44	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	3.06	200.17	2.58	0.76	27.58	0.36	157.39	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

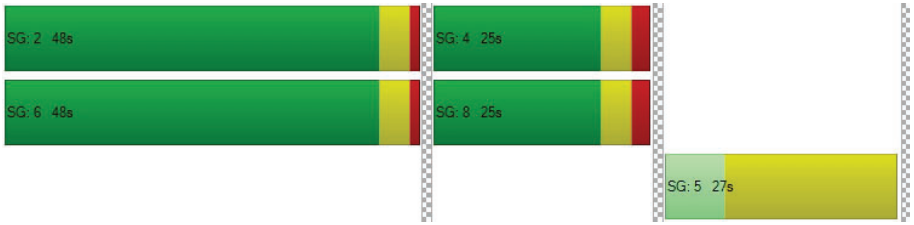
X, volume / capacity	0.55	0.80	1.37	0.65	0.65	0.89	0.14	1.28	0.27
d, Delay for Lane Group [s/veh]	48.50	41.46	240.42	51.91	37.85	49.26	13.63	188.71	15.19
Lane Group LOS	D	D	F	D	D	D	B	F	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.00	7.07	12.38	1.73	5.05	6.29	1.34	15.33	2.95
50th-Percentile Queue Length [ft/ln]	49.91	176.72	309.42	43.15	126.36	157.22	33.61	383.34	73.66
95th-Percentile Queue Length [veh/ln]	3.59	11.43	20.72	3.11	8.74	10.40	2.42	25.34	5.30
95th-Percentile Queue Length [ft/ln]	89.83	285.73	517.89	77.67	218.54	260.04	60.49	633.39	132.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.50	41.46	240.42	51.91	37.85	37.85	49.26	49.26	13.63	188.71	188.71	15.19
Movement LOS	D	D	F	D	D	D	D	D	B	F	F	B
d_A, Approach Delay [s/veh]	114.69			41.06			39.64			113.80		
Approach LOS	F			D			D			F		
d_I, Intersection Delay [s/veh]	85.57											
Intersection LOS	F											
Intersection V/C	1.088											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.350

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	80	202	200	92	201	40	70	210	110	120	195	202
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	202	200	92	201	40	70	210	110	120	195	202
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	60	59	25	54	11	18	55	29	35	56	58
Total Analysis Volume [veh/h]	95	239	237	98	215	43	73	220	115	139	225	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.16	0.08	0.14	0.06	0.19	0.13	0.12	0.15
s, saturation flow rate [veh/h]	1139	1900	1472	1159	1833	1174	1769	1062	1900	1559
c, Capacity [veh/h]	184	461	357	204	445	467	769	369	826	678
d1, Uniform Delay [s]	44.31	32.80	34.18	42.90	33.37	23.48	19.71	29.82	18.12	18.78
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	0.34	0.79	0.65	0.45	0.71	1.79	2.91	0.81	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

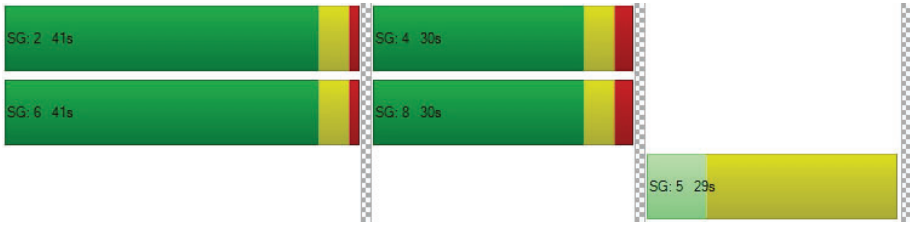
X, volume / capacity	0.51	0.52	0.66	0.48	0.58	0.16	0.44	0.38	0.27	0.34
d, Delay for Lane Group [s/veh]	45.13	33.14	34.97	43.56	33.82	24.20	21.50	32.73	18.93	20.17
Lane Group LOS	D	C	C	D	C	C	C	C	B	C
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.31	4.94	5.14	2.34	5.43	1.29	5.59	3.00	3.40	3.71
50th-Percentile Queue Length [ft/ln]	57.82	123.47	128.43	58.44	135.79	32.15	139.77	75.03	85.07	92.81
95th-Percentile Queue Length [veh/ln]	4.16	8.58	8.85	4.21	9.25	2.32	9.47	5.40	6.12	6.68
95th-Percentile Queue Length [ft/ln]	104.07	214.58	221.36	105.19	231.35	57.88	236.71	135.05	153.12	167.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.13	33.14	34.97	43.56	33.82	33.82	24.20	21.50	21.50	32.73	18.93	20.17
Movement LOS	D	C	C	D	C	C	C	C	C	C	B	C
d_A, Approach Delay [s/veh]	35.89			36.50			21.98			22.63		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.97											
Intersection LOS	C											
Intersection V/C	0.350											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	50	352	0	29	341	130	66	90	0	120	230	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	352	0	29	341	130	66	90	0	120	230	180
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	94	0	8	92	35	20	27	0	32	61	48
Total Analysis Volume [veh/h]	54	378	0	31	367	140	79	108	0	127	244	191
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	32	32	32	32		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.20	0.20	0.10		0.16	0.17
s, saturation flow rate [veh/h]	1011	1863	1863	1397		1861	1487
c, Capacity [veh/h]	130	502	502	377		906	723
d1, Uniform Delay [s]	54.91	40.13	39.84	35.55		18.92	19.09
k, delay calibration	0.04	0.17	0.34	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.79	3.58	6.29	0.23		1.01	1.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.75	0.73	0.37		0.34	0.35
d, Delay for Lane Group [s/veh]	55.70	43.71	46.13	35.78		19.93	20.44
Lane Group LOS	E	D	D	D		B	C
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.63	10.66	10.57	3.32		5.56	4.74
50th-Percentile Queue Length [ft/ln]	40.81	266.59	264.25	83.08		138.90	118.49
95th-Percentile Queue Length [veh/ln]	2.94	16.02	15.90	5.98		9.42	8.31
95th-Percentile Queue Length [ft/ln]	73.46	400.47	397.55	149.55		235.55	207.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.70	43.71	0.00	0.00	46.13	35.78	0.00	0.00	0.00	19.93	20.07	20.44
Movement LOS	E	D			D	D				B	C	C
d_A, Approach Delay [s/veh]	45.21			43.27			0.00			20.16		
Approach LOS	D			D			A			C		
d_I, Intersection Delay [s/veh]	35.18											
Intersection LOS	D											
Intersection V/C	0.375											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	60	40	0	686	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	60	40	0	686	110
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	20	13	0	190	30
Total Analysis Volume [veh/h]	0	0	0	0	80	53	0	759	122
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	57	57	7	7	57	57
g / C, Green / Cycle	0.57	0.57	0.07	0.07	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.04	0.03	0.25	0.25
s, saturation flow rate [veh/h]	640	3618	1810	1580	1900	1630
c, Capacity [veh/h]	327	2058	124	109	1117	927
d1, Uniform Delay [s]	0.00	0.00	45.35	44.85	12.37	12.40
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.06	1.26	1.18	1.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.64	0.49	0.42	0.44
d, Delay for Lane Group [s/veh]	0.00	0.00	47.41	46.11	13.54	13.92
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	1.98	1.29	6.07	5.34
50th-Percentile Queue Length [ft/ln]	0.00	0.00	49.41	32.15	151.83	133.54
95th-Percentile Queue Length [veh/ln]	0.00	0.00	3.56	2.32	10.11	9.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	88.93	57.88	252.86	228.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.41	47.41	46.11	13.54	13.69	13.92
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.89			13.72		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	18.07								
Intersection LOS	B								
Intersection V/C	0.295								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.298

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	90	50	50	123	30	30	240	20	60	211	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	90	50	50	123	30	30	240	20	60	211	70
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	24	13	14	35	8	9	74	6	16	57	19
Total Analysis Volume [veh/h]	21	94	52	57	139	34	37	297	25	65	229	76
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	14	14
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.29	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.05	0.04	0.05	0.07	0.02	0.20	0.22
s, saturation flow rate [veh/h]	1236	1900	1405	1237	1900	1481	1785	1646
c, Capacity [veh/h]	445	558	413	469	558	435	879	828
d1, Uniform Delay [s]	11.10	8.55	8.44	10.90	8.77	8.32	6.70	6.85
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.05	0.05	0.04	0.09	0.03	0.11	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

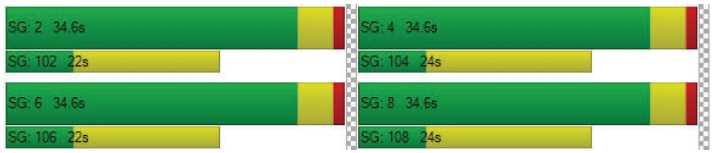
X, volume / capacity	0.05	0.17	0.13	0.12	0.25	0.08	0.41	0.45
d, Delay for Lane Group [s/veh]	11.12	8.60	8.49	10.95	8.85	8.35	6.81	6.99
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.09	0.33	0.18	0.26	0.54	0.12	1.15	1.11
50th-Percentile Queue Length [ft/ln]	2.33	8.24	4.54	6.59	13.38	3.11	28.86	27.85
95th-Percentile Queue Length [veh/ln]	0.17	0.59	0.33	0.47	0.96	0.22	2.08	2.01
95th-Percentile Queue Length [ft/ln]	4.19	14.84	8.16	11.86	24.08	5.60	51.95	50.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.12	8.60	8.49	10.95	8.85	8.35	6.81	6.81	6.81	6.99	6.99	6.99
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.88			9.30			6.81			6.99		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.69											
Intersection LOS	A											
Intersection V/C	0.298											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	129	40	20	210	23	21	188	80	10	215	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	129	40	20	210	23	21	188	80	10	215	30
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	38	12	5	57	6	6	55	24	3	59	8
Total Analysis Volume [veh/h]	47	153	47	22	226	25	25	221	94	11	238	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	31	31	31	31	31	31
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	11	11
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.02	0.14	0.20	0.16
s, saturation flow rate [veh/h]	1113	1758	1139	1847	1730	1806
c, Capacity [veh/h]	451	630	478	662	720	742
d1, Uniform Delay [s]	10.42	7.17	9.71	7.36	8.24	7.87
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.11	0.01	0.13	0.18	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

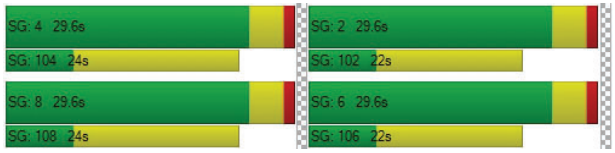
X, volume / capacity	0.10	0.32	0.05	0.38	0.47	0.38
d, Delay for Lane Group [s/veh]	10.46	7.28	9.72	7.49	8.41	7.99
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.19	0.56	0.08	0.72	1.76	0.87
50th-Percentile Queue Length [ft/ln]	4.74	13.88	2.07	17.88	43.96	21.66
95th-Percentile Queue Length [veh/ln]	0.34	1.00	0.15	1.29	3.16	1.56
95th-Percentile Queue Length [ft/ln]	8.54	24.99	3.73	32.19	79.12	38.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.46	7.28	7.28	9.72	7.49	7.49	8.41	8.41	8.41	7.99	7.99	7.99
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.89			7.67			8.41			7.99		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.02											
Intersection LOS	A											
Intersection V/C	0.332											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.331

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	97	130	110	110	140	40	29	487	115	150	649	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	130	110	110	140	40	29	487	115	150	649	120
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	42	36	30	38	11	8	129	31	41	179	33
Total Analysis Volume [veh/h]	125	168	142	118	151	43	31	518	122	165	716	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	32	32	32	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.32	0.32	0.32	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.09	0.10	0.08	0.03	0.05	0.14	0.08	0.15	0.23	0.23
s, saturation flow rate [veh/h]	1256	1900	1577	1237	1900	1581	660	3618	1579	1108	1900	1782
c, Capacity [veh/h]	203	369	306	190	369	307	159	1164	508	496	844	791
d1, Uniform Delay [s]	44.58	35.68	35.74	45.24	35.33	33.44	39.54	26.88	24.96	17.84	20.06	20.12
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	0.33	0.41	1.23	0.27	0.08	2.71	1.23	1.12	0.15	2.25	2.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

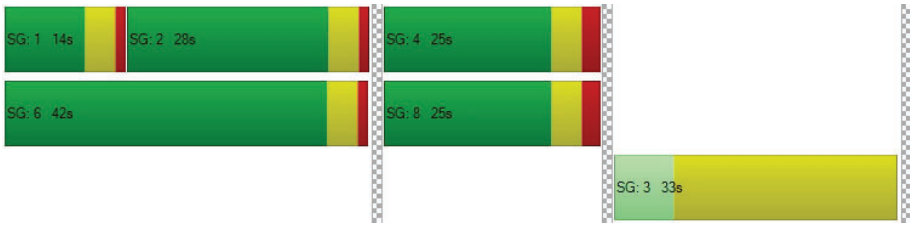
X, volume / capacity	0.62	0.46	0.46	0.62	0.41	0.14	0.19	0.44	0.24	0.33	0.52	0.52
d, Delay for Lane Group [s/veh]	45.71	36.01	36.15	46.47	35.61	33.51	42.25	28.11	26.07	17.99	22.32	22.57
Lane Group LOS	D	D	D	D	D	C	D	C	C	B	C	C
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.09	3.59	3.05	2.94	3.19	0.86	0.81	5.02	2.27	2.30	7.63	7.28
50th-Percentile Queue Length [ft/ln]	77.18	89.73	76.13	73.44	79.81	21.48	20.26	125.56	56.67	57.54	190.78	182.02
95th-Percentile Queue Length [veh/ln]	5.56	6.46	5.48	5.29	5.75	1.55	1.46	8.70	4.08	4.14	12.16	11.71
95th-Percentile Queue Length [ft/ln]	138.93	161.51	137.04	132.19	143.67	38.67	36.46	217.44	102.01	103.57	304.04	292.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.71	36.01	36.15	46.47	35.61	33.51	42.25	28.11	26.07	17.99	22.42	22.57
Movement LOS	D	D	D	D	D	C	D	C	C	B	C	C
d_A, Approach Delay [s/veh]	38.84			39.43			28.39			21.71		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.90											
Intersection LOS	C											
Intersection V/C	0.331											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.382

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	30	167	60	50	284	60	30	140	90	80	150	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	167	60	50	284	60	30	140	90	80	150	70
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	47	17	16	91	19	9	40	26	22	42	19
Total Analysis Volume [veh/h]	34	188	68	64	364	77	34	159	102	89	166	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40	40	40	28	28
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.04	0.05	0.12	0.12	0.19	0.26
s, saturation flow rate [veh/h]	963	1900	1554	1214	1900	1763	1588	1280
c, Capacity [veh/h]	356	757	620	451	757	703	482	402
d1, Uniform Delay [s]	25.78	20.07	18.91	24.97	20.52	20.59	31.34	35.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.10	0.35
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.78	0.36	0.66	1.01	1.13	1.22	13.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

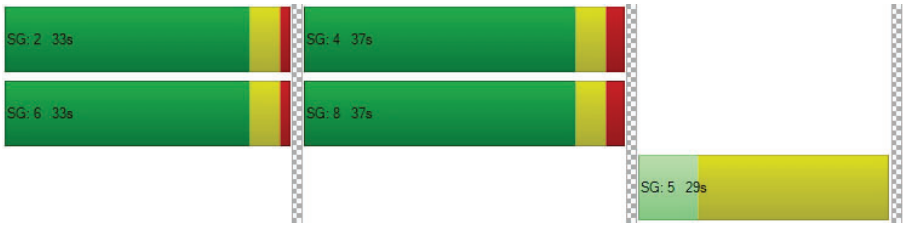
X, volume / capacity	0.10	0.25	0.11	0.14	0.30	0.31	0.61	0.83
d, Delay for Lane Group [s/veh]	26.31	20.85	19.26	25.63	21.52	21.72	32.56	48.60
Lane Group LOS	C	C	B	C	C	C	C	D
Critical Lane Group	No	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.63	3.00	1.03	1.16	3.69	3.55	6.27	9.20
50th-Percentile Queue Length [ft/ln]	15.84	75.02	25.71	29.08	92.34	88.83	156.84	230.08
95th-Percentile Queue Length [veh/ln]	1.14	5.40	1.85	2.09	6.65	6.40	10.38	14.18
95th-Percentile Queue Length [ft/ln]	28.51	135.04	46.27	52.35	166.21	159.89	259.53	354.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.31	20.85	19.26	25.63	21.60	21.72	32.56	32.56	32.56	48.60	48.60	48.60
Movement LOS	C	C	B	C	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	21.12			22.13			32.56			48.60		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.28											
Intersection LOS	C											
Intersection V/C	0.382											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	28.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	207	80	70	364	60	0	310	180	0	360	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	207	80	70	364	60	0	310	180	0	360	70
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	63	24	19	98	16	0	84	49	0	102	20
Total Analysis Volume [veh/h]	36	251	97	76	393	65	0	335	195	0	410	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	50	50	50	50	50	50	20	20	20	20
g / C, Green / Cycle	0.50	0.50	0.50	0.50	0.50	0.50	0.20	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.06	0.07	0.12	0.13	0.18	0.12	0.13	0.14
s, saturation flow rate [veh/h]	948	1900	1583	1147	1900	1794	1900	1563	1900	1781
c, Capacity [veh/h]	452	951	792	526	951	898	373	307	373	350
d1, Uniform Delay [s]	18.68	14.37	13.28	19.55	14.22	14.25	39.19	36.89	37.06	37.43
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.08	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.68	0.32	0.58	0.62	0.67	5.85	0.82	0.74	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.26	0.12	0.14	0.25	0.25	0.90	0.64	0.66	0.70
d, Delay for Lane Group [s/veh]	19.02	15.05	13.60	20.13	14.83	14.92	45.05	37.70	37.80	38.39
Lane Group LOS	B	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.55	3.28	1.18	1.20	3.02	2.92	8.51	4.40	5.54	5.62
50th-Percentile Queue Length [ft/ln]	13.73	82.12	29.49	29.89	75.56	73.03	212.83	110.03	138.61	140.40
95th-Percentile Queue Length [veh/ln]	0.99	5.91	2.12	2.15	5.44	5.26	13.30	7.84	9.41	9.50
95th-Percentile Queue Length [ft/ln]	24.71	147.82	53.08	53.80	136.02	131.45	332.45	196.04	235.16	237.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.02	15.05	13.60	20.13	14.87	14.92	0.00	45.05	37.70	0.00	38.04	38.39
Movement LOS	B	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	15.05			15.62			42.34			38.10		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	28.50											
Intersection LOS	C											
Intersection V/C	0.308											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	40.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	155	297	130	80	344	70	0	221	211	110	382	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	297	130	80	344	70	0	221	211	110	382	90
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	86	38	26	111	22	0	62	59	31	109	26
Total Analysis Volume [veh/h]	179	343	150	103	442	90	0	246	235	126	437	103
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	16	47	47	58	37	37	18	39	30	30	30
g / C, Green / Cycle	0.14	0.39	0.39	0.48	0.31	0.31	0.15	0.32	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.10	0.09	0.14	0.15	0.13	0.15	0.09	0.23	0.07
s, saturation flow rate [veh/h]	1810	1900	1567	1176	1900	1771	1900	1562	1374	1900	1565
c, Capacity [veh/h]	247	739	610	513	588	548	280	503	286	470	388
d1, Uniform Delay [s]	49.70	27.35	24.79	18.23	33.44	33.54	50.13	32.48	37.59	44.14	36.38
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.04	0.09	0.16	0.22	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.14	2.09	0.96	0.88	2.63	2.91	3.50	0.56	1.54	14.73	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

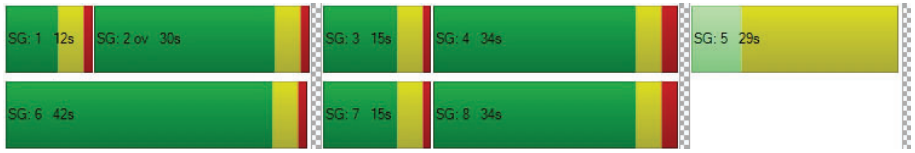
X, volume / capacity	0.73	0.46	0.25	0.20	0.46	0.47	0.88	0.47	0.44	0.93	0.27
d, Delay for Lane Group [s/veh]	53.84	29.44	25.75	19.11	36.07	36.45	53.63	33.04	39.13	58.87	36.52
Lane Group LOS	D	C	C	B	D	D	D	C	D	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.38	7.65	3.02	1.66	6.78	6.49	7.49	5.53	3.10	14.40	2.44
50th-Percentile Queue Length [ft/ln]	134.57	191.22	75.60	41.59	169.53	162.20	187.31	138.25	77.49	360.08	60.97
95th-Percentile Queue Length [veh/ln]	9.19	12.18	5.44	2.99	11.05	10.67	11.98	9.39	5.58	20.63	4.39
95th-Percentile Queue Length [ft/ln]	229.70	304.61	136.07	74.85	276.29	266.63	299.53	234.67	139.49	515.69	109.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.84	29.44	25.75	19.11	36.21	36.45	0.00	53.63	33.04	39.13	58.87	36.52
Movement LOS	D	C	C	B	D	D		D	C	D	E	D
d_A, Approach Delay [s/veh]	35.12			33.47			43.57			51.68		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	40.84											
Intersection LOS	D											
Intersection V/C	0.475											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	190	532	0	0	625	150	181	0	84	170	180	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	532	0	0	625	150	181	0	84	170	180	30
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	159	0	0	172	41	52	0	24	47	49	8
Total Analysis Volume [veh/h]	227	636	0	0	690	166	208	0	96	187	198	33
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	74	74	61	61		16	16
g / C, Green / Cycle	0.62	0.62	0.51	0.51		0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.27	0.18	0.23	0.25		0.12	0.12
s, saturation flow rate [veh/h]	833	3618	1900	1745		1822	1673
c, Capacity [veh/h]	498	2240	963	885		250	230
d1, Uniform Delay [s]	12.45	10.56	18.83	19.32		50.72	50.72
k, delay calibration	0.28	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.69	0.32	1.48	1.89		3.64	3.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

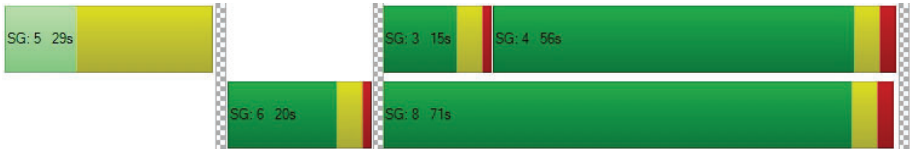
X, volume / capacity	0.46	0.28	0.44	0.48		0.87	0.87
d, Delay for Lane Group [s/veh]	14.14	10.88	20.31	21.21		54.36	54.66
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	2.78	3.88	7.75	8.01		6.71	6.18
50th-Percentile Queue Length [ft/ln]	69.48	97.08	193.71	200.26		167.83	154.60
95th-Percentile Queue Length [veh/ln]	5.00	6.99	12.31	12.65		10.96	10.26
95th-Percentile Queue Length [ft/ln]	125.06	174.74	307.83	316.30		274.06	256.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.14	10.88	0.00	0.00	20.65	21.21	0.00	0.00	0.00	54.36	54.61	54.66
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	11.74			20.76			0.00			54.50		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.72											
Intersection LOS	C											
Intersection V/C	0.425											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	364	0	0	745	650	338
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	364	0	0	745	650	338
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	0	0	211	178	93
Total Analysis Volume [veh/h]	416	0	0	843	714	371
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	80	80	31	31
g / C, Green / Cycle	0.67	0.67	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.11	0.23	0.20	0.23
s, saturation flow rate [veh/h]	3618	3618	3514	1584
c, Capacity [veh/h]	2417	2417	896	404
d1, Uniform Delay [s]	7.46	8.60	41.72	43.41
k, delay calibration	0.50	0.50	0.04	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.40	0.63	9.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

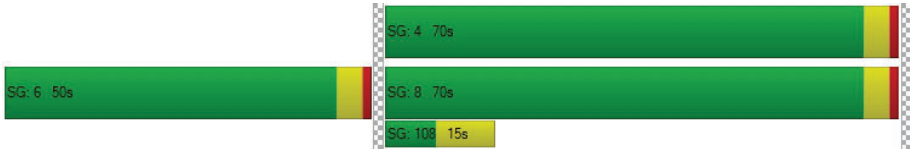
X, volume / capacity	0.17	0.35	0.80	0.92
d, Delay for Lane Group [s/veh]	7.61	9.00	42.35	52.79
Lane Group LOS	A	A	D	D
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.98	4.63	9.39	11.12
50th-Percentile Queue Length [ft/ln]	49.38	115.78	234.65	277.92
95th-Percentile Queue Length [veh/ln]	3.56	8.16	14.41	16.59
95th-Percentile Queue Length [ft/ln]	88.89	204.01	360.26	414.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	9.00	42.35	52.79
Movement LOS	A			A	D	D
d_A, Approach Delay [s/veh]	7.61		9.00		45.92	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	25.84					
Intersection LOS	C					
Intersection V/C	0.467					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	40	314	390	472	622	230	100	590	40	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	314	390	472	622	230	100	590	40	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	80	100	132	174	64	30	176	12	0	0	0
Total Analysis Volume [veh/h]	41	321	399	527	695	257	119	705	48	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	4	25	25	59	80	80	22	22	22
g / C, Green / Cycle	0.03	0.21	0.21	0.49	0.67	0.67	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.17	0.22	0.15	0.26	0.28	0.17	0.17	0.17
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1622	1864	1729	1670
c, Capacity [veh/h]	57	396	376	1733	1274	1087	341	316	305
d1, Uniform Delay [s]	57.47	45.12	47.38	18.10	8.78	9.08	47.90	47.87	47.96
k, delay calibration	0.04	0.25	0.46	0.04	0.50	0.50	0.14	0.14	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.22	8.91	62.28	0.04	0.89	1.21	11.10	11.44	12.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

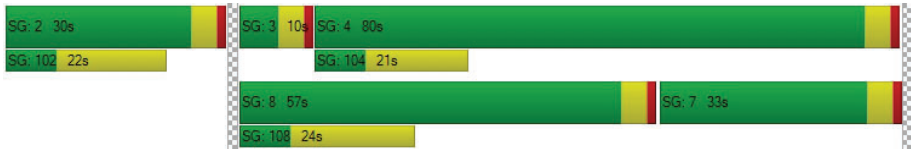
X, volume / capacity	0.72	0.81	1.06	0.30	0.39	0.42	0.90	0.90	0.91
d, Delay for Lane Group [s/veh]	63.69	54.03	109.66	18.13	9.67	10.28	59.00	59.31	60.96
Lane Group LOS	E	D	F	B	A	B	E	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	10.05	17.64	4.35	5.70	5.55	9.96	9.23	9.14
50th-Percentile Queue Length [ft/ln]	33.27	251.18	440.93	108.69	142.42	138.83	248.88	230.85	228.54
95th-Percentile Queue Length [veh/ln]	2.40	15.25	25.36	7.77	9.61	9.42	15.13	14.22	14.10
95th-Percentile Queue Length [ft/ln]	59.88	381.14	633.94	194.19	240.28	235.44	378.24	355.44	352.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.69	54.03	109.66	18.13	9.85	10.28	59.00	59.77	60.96	0.00	0.00	0.00
Movement LOS	E	D	F	B	A	B	E	E	E			
d_A, Approach Delay [s/veh]	83.72			12.88			59.73			0.00		
Approach LOS	F			B			E			A		
d_I, Intersection Delay [s/veh]	43.33											
Intersection LOS	D											
Intersection V/C	0.538											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	109	155	130	40	90	10	20	637	80	100	870	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	155	130	40	90	10	20	637	80	100	870	100
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	43	36	11	24	3	5	166	21	27	233	27
Total Analysis Volume [veh/h]	121	172	144	42	95	11	21	665	83	107	931	107
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.10	0.09	0.10	0.04	0.06	0.04	0.18	0.06	0.14	0.28	0.29
s, saturation flow rate [veh/h]	1154	1900	1449	1167	1820	552	3618	1425	770	1900	1738
c, Capacity [veh/h]	283	474	362	253	454	312	2236	881	462	1174	1074
d1, Uniform Delay [s]	37.19	30.88	31.18	36.93	29.82	16.56	8.91	7.73	14.08	10.08	10.29
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.17	0.26	0.11	0.10	0.42	0.34	0.21	1.17	1.25	1.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.36	0.40	0.17	0.23	0.07	0.30	0.09	0.23	0.45	0.47
d, Delay for Lane Group [s/veh]	37.57	31.05	31.45	37.04	29.92	16.98	9.25	7.94	15.25	11.32	11.80
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.67	3.37	2.86	0.89	2.00	0.32	3.25	0.73	1.49	6.05	6.02
50th-Percentile Queue Length [ft/ln]	66.79	84.25	71.40	22.33	50.11	7.88	81.24	18.30	37.29	151.28	150.40
95th-Percentile Queue Length [veh/ln]	4.81	6.07	5.14	1.61	3.61	0.57	5.85	1.32	2.68	10.09	10.04
95th-Percentile Queue Length [ft/ln]	120.22	151.65	128.53	40.19	90.19	14.19	146.22	32.95	67.12	252.14	250.96

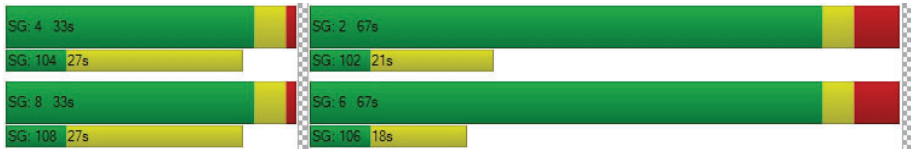
Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.57	31.05	31.45	37.04	29.92	29.92	16.98	9.25	7.94	15.25	11.53	11.80
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	32.99			31.94			9.32			11.90		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	15.98											
Intersection LOS	B											
Intersection V/C	0.398											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	120	264	50	40	220	30	30	320	60	50	230	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	264	50	40	220	30	30	320	60	50	230	70
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	72	14	12	65	9	9	93	17	15	69	21
Total Analysis Volume [veh/h]	131	287	54	47	260	35	35	371	70	60	277	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	54	54	54	54	54	36	36
g / C, Green / Cycle	0.54	0.54	0.54	0.54	0.54	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.12	0.09	0.10	0.05	0.16	0.31	0.34
s, saturation flow rate [veh/h]	1061	1900	1723	1026	1821	1548	1247
c, Capacity [veh/h]	552	1033	936	574	989	603	496
d1, Uniform Delay [s]	17.11	11.47	11.53	13.67	12.43	28.03	29.11
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.17	0.22
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.35	0.42	0.28	0.77	3.68	7.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.17	0.18	0.08	0.30	0.79	0.85
d, Delay for Lane Group [s/veh]	18.13	11.82	11.95	13.95	13.20	31.71	36.99
Lane Group LOS	B	B	B	B	B	C	D
Critical Lane Group	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	1.93	1.88	0.59	3.58	10.34	10.35
50th-Percentile Queue Length [ft/ln]	49.12	48.37	46.96	14.76	89.54	258.50	258.85
95th-Percentile Queue Length [veh/ln]	3.54	3.48	3.38	1.06	6.45	15.61	15.63
95th-Percentile Queue Length [ft/ln]	88.42	87.06	84.53	26.57	161.17	390.34	390.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.13	11.87	11.95	13.95	13.20	13.20	31.71	31.71	31.71	36.99	36.99	36.99
Movement LOS	B	B	B	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	13.62			13.30			31.71			36.99		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	24.34											
Intersection LOS	C											
Intersection V/C	0.500											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	180	344	120	70	230	60	60	420	70	70	270	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	344	120	70	230	60	60	420	70	70	270	60
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	98	34	20	65	17	18	123	20	22	84	19
Total Analysis Volume [veh/h]	205	392	137	79	260	68	70	491	82	87	337	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.19	0.15	0.16	0.09	0.19	0.07	0.15	0.16	0.10	0.18	0.05
s, saturation flow rate [veh/h]	1068	1900	1583	875	1753	1033	1900	1712	833	1900	1400
c, Capacity [veh/h]	193	559	466	196	516	545	1090	982	461	1090	803
d1, Uniform Delay [s]	46.39	29.10	29.61	40.47	30.60	15.72	10.74	10.86	15.85	11.04	9.60
k, delay calibration	0.12	0.04	0.04	0.04	0.11	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	49.00	0.25	0.37	0.50	1.30	0.49	0.61	0.73	0.91	0.74	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

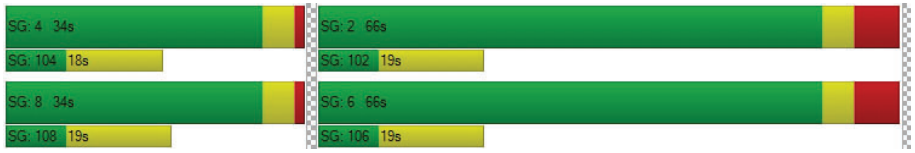
X, volume / capacity	1.06	0.49	0.54	0.40	0.64	0.13	0.27	0.29	0.19	0.31	0.09
d, Delay for Lane Group [s/veh]	95.39	29.35	29.98	40.97	31.90	16.21	11.35	11.59	16.76	11.78	9.83
Lane Group LOS	F	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.40	5.36	5.02	1.83	6.84	0.99	3.28	3.20	1.27	3.89	0.76
50th-Percentile Queue Length [ft/ln]	184.99	133.98	125.38	45.68	170.96	24.64	82.06	79.91	31.82	97.24	19.02
95th-Percentile Queue Length [veh/ln]	12.24	9.16	8.69	3.29	11.13	1.77	5.91	5.75	2.29	7.00	1.37
95th-Percentile Queue Length [ft/ln]	305.97	228.89	217.20	82.22	278.18	44.35	147.71	143.84	57.28	175.03	34.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	95.39	29.53	29.98	40.97	31.90	31.90	16.21	11.45	11.59	16.76	11.78	9.83
Movement LOS	F	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	48.01			33.66			11.98			12.36		
Approach LOS	D			C			B			B		
d_I, Intersection Delay [s/veh]	27.51											
Intersection LOS	C											
Intersection V/C	0.369											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.450

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	120	494	130	60	170	130	100	341	80	80	372	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	494	130	60	170	130	100	341	80	80	372	80
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	130	34	17	47	36	27	91	21	22	103	22
Total Analysis Volume [veh/h]	126	518	136	67	189	145	106	363	85	88	411	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	31	31	59	59	59	59	59
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.12	0.18	0.19	0.08	0.20	0.11	0.25	0.09	0.22	0.06
s, saturation flow rate [veh/h]	1063	1900	1672	790	1682	975	1785	948	1900	1426
c, Capacity [veh/h]	199	594	523	175	526	525	1062	490	1131	848
d1, Uniform Delay [s]	43.92	28.70	29.07	41.31	29.43	16.05	10.93	17.19	10.45	8.73
k, delay calibration	0.04	0.06	0.09	0.04	0.12	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	0.49	0.94	0.51	1.38	0.87	1.23	0.80	0.91	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.57	0.60	0.38	0.63	0.20	0.42	0.18	0.36	0.10
d, Delay for Lane Group [s/veh]	45.16	29.19	30.01	41.83	30.81	16.92	12.16	17.99	11.35	8.97
Lane Group LOS	D	C	C	D	C	B	B	B	B	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.12	6.65	6.34	1.56	6.85	1.53	5.24	1.31	4.56	0.82
50th-Percentile Queue Length [ft/ln]	77.88	166.29	158.45	39.10	171.22	38.13	130.88	32.83	113.90	20.54
95th-Percentile Queue Length [veh/ln]	5.61	10.88	10.47	2.82	11.14	2.75	8.99	2.36	8.06	1.48
95th-Percentile Queue Length [ft/ln]	140.18	272.03	261.67	70.38	278.51	68.63	224.69	59.10	201.42	36.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.16	29.47	30.01	41.83	30.81	30.81	16.92	12.16	12.16	17.99	11.35	8.97
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.10			32.65			13.07			11.99		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.57											
Intersection LOS	C											
Intersection V/C	0.450											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	634	80	60	30	210	0	0	0	6	180	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	634	80	60	30	210	0	0	0	6	180	80
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	174	22	18	9	62	0	0	0	2	59	26
Total Analysis Volume [veh/h]	15	697	88	71	35	248	0	0	0	6	238	106
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.07	0.04	0.18		0.19
s, saturation flow rate [veh/h]	3618	1338	1810	1581		1789
c, Capacity [veh/h]	1398	517	109	780		724
d1, Uniform Delay [s]	23.29	20.13	45.92	15.65		21.91
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.27	0.71	2.42	1.31		2.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.50	0.17	0.65	0.36		0.47
d, Delay for Lane Group [s/veh]	24.56	20.84	48.34	16.96		24.13
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	6.35	1.43	1.77	4.06		6.26
50th-Percentile Queue Length [ft/ln]	158.72	35.84	44.30	101.51		156.56
95th-Percentile Queue Length [veh/ln]	10.48	2.58	3.19	7.31		10.37
95th-Percentile Queue Length [ft/ln]	262.03	64.52	79.73	182.71		259.17

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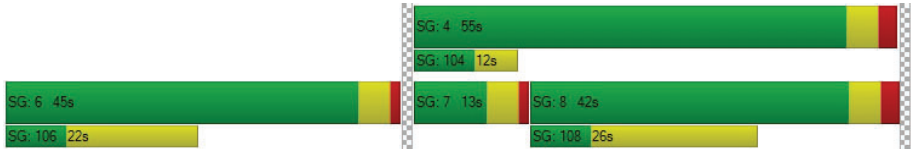
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	24.56	20.84	48.34	16.96	16.96	0.00	0.00	0.00	0.00	24.13	24.13
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	24.15			23.25			0.00			24.13		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.93											
Intersection LOS	C											
Intersection V/C	0.424											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.803

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	140	60	120	170	38	60	350	40	40	281	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	60	120	170	38	60	350	40	40	281	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	40	17	34	48	11	18	106	12	11	77	33
Total Analysis Volume [veh/h]	23	162	69	135	192	43	73	423	48	44	307	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.31	0.12	0.55	0.07	0.07	0.26	0.05	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1021	1823	919	1900	1325
c, Capacity [veh/h]	277	219	292	219	485	918	375	957	667
d1, Uniform Delay [s]	20.39	15.94	25.40	15.19	14.75	11.63	18.18	10.29	9.57
k, delay calibration	0.19	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.79	0.30	89.30	0.16	0.66	2.05	0.64	0.89	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

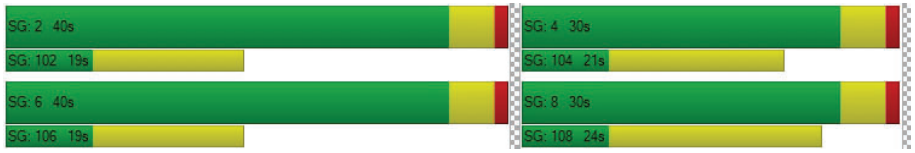
X, volume / capacity	0.67	0.32	1.12	0.20	0.15	0.51	0.12	0.32	0.20
d, Delay for Lane Group [s/veh]	25.19	16.24	114.69	15.36	15.40	13.68	18.82	11.17	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.90	0.76	12.07	0.45	0.82	4.81	0.56	2.71	1.10
50th-Percentile Queue Length [ft/ln]	72.62	18.94	301.64	11.22	20.40	120.19	14.10	67.65	27.57
95th-Percentile Queue Length [veh/ln]	5.23	1.36	19.02	0.81	1.47	8.40	1.02	4.87	1.99
95th-Percentile Queue Length [ft/ln]	130.71	34.09	475.43	20.20	36.72	210.09	25.38	121.77	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.19	25.19	16.24	114.69	114.69	15.36	15.40	13.68	13.68	18.82	11.17	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	22.76			103.15			13.91			11.62		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	34.61											
Intersection LOS	C											
Intersection V/C	0.803											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	100	130	80	20	60	20	30	410	80	60	351	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	130	80	20	60	20	30	410	80	60	351	20
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	36	22	7	22	7	9	129	25	16	96	5
Total Analysis Volume [veh/h]	112	145	89	29	88	29	38	514	100	66	384	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 8: 8 Approval Plus Project - Alt Access Report File: \...\AP_Alt_MD_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	37	37	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	17	17	17	17
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.03	0.07	0.04	0.35	0.08	0.22
s, saturation flow rate [veh/h]	1245	1689	1121	1776	879	1779	789	1837
c, Capacity [veh/h]	421	484	321	508	440	829	311	856
d1, Uniform Delay [s]	13.64	10.97	14.96	10.12	10.06	8.08	14.67	6.80
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.28	0.04	0.08	0.03	0.50	0.12	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

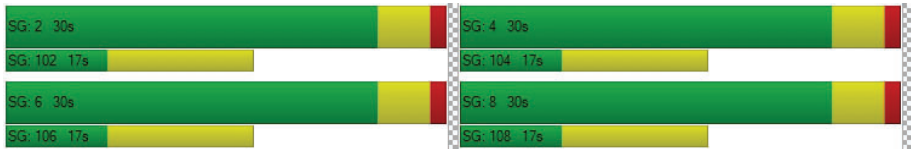
X, volume / capacity	0.27	0.48	0.09	0.23	0.09	0.74	0.21	0.47
d, Delay for Lane Group [s/veh]	13.76	11.25	15.00	10.20	10.09	8.58	14.79	6.95
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.67	1.19	0.18	0.54	0.18	2.57	0.43	1.40
50th-Percentile Queue Length [ft/ln]	16.68	29.65	4.57	13.54	4.60	64.28	10.87	35.04
95th-Percentile Queue Length [veh/ln]	1.20	2.13	0.33	0.97	0.33	4.63	0.78	2.52
95th-Percentile Queue Length [ft/ln]	30.02	53.37	8.23	24.37	8.28	115.70	19.56	63.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.76	11.25	11.25	15.00	10.20	10.20	10.09	8.58	8.58	14.79	6.95	6.95
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	12.06			11.16			8.67			8.04		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.44											
Intersection LOS	A											
Intersection V/C	0.484											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	253	351	170	64	294	30	20	713	209	150	960	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	351	170	64	294	30	20	713	209	150	960	78
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	93	45	20	91	9	5	187	55	40	256	21
Total Analysis Volume [veh/h]	268	371	180	80	366	37	21	747	219	160	1023	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.22	0.20	0.12	0.08	0.11	0.11	0.04	0.21	0.15	0.18	0.28	0.06
s, saturation flow rate [veh/h]	1228	1900	1525	1010	1900	1820	556	3618	1487	912	3618	1443
c, Capacity [veh/h]	445	670	538	126	442	424	209	1591	654	509	2008	801
d1, Uniform Delay [s]	26.20	26.02	23.74	48.21	32.98	33.05	29.52	19.78	18.40	12.20	13.80	10.50
k, delay calibration	0.50	0.05	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.91	0.35	0.13	1.97	0.28	0.30	0.96	1.00	1.38	1.60	0.93	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.55	0.33	0.64	0.46	0.47	0.10	0.47	0.33	0.31	0.51	0.10
d, Delay for Lane Group [s/veh]	32.11	26.37	23.88	50.18	33.26	33.36	30.48	20.77	19.78	13.80	14.73	10.76
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.47	7.02	3.10	2.04	4.19	4.10	0.45	6.19	3.51	1.85	6.86	0.87
50th-Percentile Queue Length [ft/ln]	136.87	175.43	77.44	51.06	104.74	102.52	11.25	154.83	87.73	46.31	171.59	21.83
95th-Percentile Queue Length [veh/ln]	9.31	11.36	5.58	3.68	7.54	7.38	0.81	10.27	6.32	3.33	11.16	1.57
95th-Percentile Queue Length [ft/ln]	232.81	284.04	139.39	91.92	188.53	184.53	20.25	256.86	157.92	83.35	279.00	39.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.11	26.37	23.88	50.18	33.30	33.36	30.48	20.77	19.78	13.80	14.73	10.76
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	27.70			36.10			20.76			14.35		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.16											
Intersection LOS	C											
Intersection V/C	0.503											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	180	725	70	20	531	30	20	190	220	40	150	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	725	70	20	531	30	20	190	220	40	150	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	191	18	6	157	9	5	50	58	11	41	11
Total Analysis Volume [veh/h]	190	764	74	24	629	36	21	202	234	44	164	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	55	55	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.20	0.22	0.23	0.03	0.18	0.18	0.25	0.16	0.41	0.03
s, saturation flow rate [veh/h]	938	1900	1817	775	1900	1851	892	1461	502	1508
c, Capacity [veh/h]	625	1054	1008	515	987	961	283	399	181	412
d1, Uniform Delay [s]	8.11	12.76	12.81	7.59	14.03	14.05	30.99	31.47	32.14	27.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.29	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.25	1.15	1.23	0.17	0.94	0.97	11.98	0.51	113.46	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

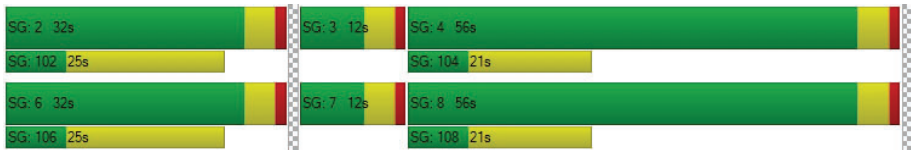
X, volume / capacity	0.30	0.40	0.41	0.05	0.34	0.34	0.79	0.59	1.15	0.11
d, Delay for Lane Group [s/veh]	9.36	13.91	14.04	7.76	14.96	15.03	42.98	31.98	145.60	27.26
Lane Group LOS	A	B	B	A	B	B	D	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.76	5.54	5.41	0.20	4.53	4.46	5.25	4.81	9.10	0.78
50th-Percentile Queue Length [ft/ln]	44.01	138.54	135.26	5.03	113.14	111.58	131.37	120.32	227.60	19.46
95th-Percentile Queue Length [veh/ln]	3.17	9.40	9.23	0.36	8.01	7.93	9.01	8.41	15.10	1.40
95th-Percentile Queue Length [ft/ln]	79.22	235.05	230.63	9.05	200.36	198.19	225.35	210.27	377.45	35.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.36	13.97	14.04	7.76	14.99	15.03	42.98	42.98	31.98	145.60	145.60	27.26
Movement LOS	A	B	B	A	B	B	D	D	C	F	F	C
d_A, Approach Delay [s/veh]	13.12			14.74			37.35			124.94		
Approach LOS	B			B			D			F		
d_I, Intersection Delay [s/veh]	29.76											
Intersection LOS	C											
Intersection V/C	0.647											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	140	805	100	160	601	40	40	506	220	120	347	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	805	100	160	601	40	40	506	220	120	347	150
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	207	26	42	159	11	11	141	61	33	96	41
Total Analysis Volume [veh/h]	144	828	103	169	636	42	44	563	245	132	382	165
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	55	43	43	55	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.55	0.43	0.43	0.55	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.15	0.25	0.25	0.21	0.18	0.18	0.04	0.22	0.24	0.13	0.20	0.11
s, saturation flow rate [veh/h]	953	1900	1801	820	1900	1841	988	1900	1581	980	1900	1452
c, Capacity [veh/h]	532	817	775	439	819	794	135	470	391	297	688	526
d1, Uniform Delay [s]	12.16	21.64	21.75	13.93	19.75	19.79	45.86	36.51	37.39	25.34	25.45	22.94
k, delay calibration	0.37	0.50	0.50	0.50	0.50	0.50	0.04	0.21	0.26	0.28	0.05	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.92	3.00	3.27	2.55	1.57	1.65	0.52	12.08	28.36	2.72	0.35	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

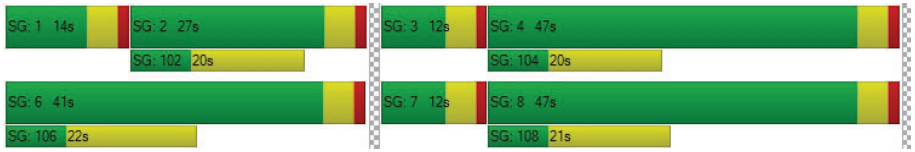
X, volume / capacity	0.27	0.58	0.59	0.39	0.42	0.42	0.33	0.91	0.98	0.44	0.55	0.31
d, Delay for Lane Group [s/veh]	13.09	24.64	25.02	16.47	21.32	21.44	46.38	48.59	65.75	28.06	25.81	23.07
Lane Group LOS	B	C	C	B	C	C	D	D	E	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.66	8.88	8.63	2.13	5.77	5.67	1.08	11.44	12.17	2.33	7.15	2.78
50th-Percentile Queue Length [ft/ln]	41.57	221.95	215.74	53.22	144.17	141.73	27.08	286.03	304.28	58.34	178.76	69.39
95th-Percentile Queue Length [veh/ln]	2.99	13.76	13.45	3.83	9.71	9.57	1.95	16.99	17.89	4.20	11.54	5.00
95th-Percentile Queue Length [ft/ln]	74.82	344.11	336.19	95.79	242.63	239.36	48.74	424.72	447.32	105.01	288.39	124.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.09	24.81	25.02	16.47	21.38	21.44	46.38	52.79	65.75	28.06	25.81	23.07
Movement LOS	B	C	C	B	C	C	D	D	E	C	C	C
d_A, Approach Delay [s/veh]	23.26			20.40			56.18			25.58		
Approach LOS	C			C			E			C		
d_I, Intersection Delay [s/veh]	31.14											
Intersection LOS	C											
Intersection V/C	0.600											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	200	975	100	60	871	60	60	241	240	130	242	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	975	100	60	871	60	60	241	240	130	242	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	264	27	16	237	16	16	62	62	35	65	22
Total Analysis Volume [veh/h]	217	1057	108	65	948	65	62	250	249	140	261	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.12	0.31	0.32	0.13	0.27	0.28	0.05	0.13	0.18	0.31	0.06
s, saturation flow rate [veh/h]	1810	1900	1779	490	1900	1812	1136	1900	1352	1312	1366
c, Capacity [veh/h]	194	978	916	126	688	656	72	488	347	459	482
d1, Uniform Delay [s]	44.65	17.06	17.37	45.35	27.86	28.12	50.00	31.80	33.85	29.67	22.33
k, delay calibration	0.21	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.18	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	78.97	2.76	3.24	14.15	7.18	8.22	10.18	0.31	4.51	20.07	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

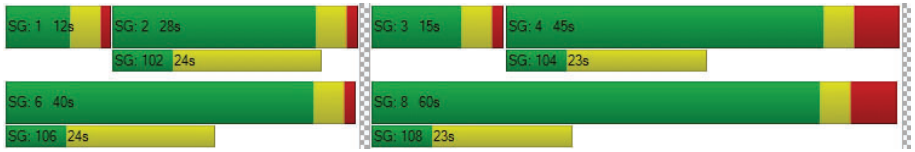
X, volume / capacity	1.12	0.60	0.63	0.51	0.74	0.76	0.86	0.51	0.72	0.87	0.18
d, Delay for Lane Group [s/veh]	123.61	19.82	20.61	59.50	35.05	36.35	60.18	32.11	38.35	49.73	22.40
Lane Group LOS	F	B	C	E	D	D	E	C	D	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.00	9.83	9.82	2.12	11.77	11.76	1.73	5.09	5.78	10.14	1.37
50th-Percentile Queue Length [ft/ln]	225.12	245.68	245.54	52.88	294.13	293.91	43.36	127.13	144.54	253.52	34.29
95th-Percentile Queue Length [veh/ln]	14.55	14.97	14.96	3.81	17.39	17.38	3.12	8.78	9.73	15.36	2.47
95th-Percentile Queue Length [ft/ln]	363.73	374.21	374.04	95.18	434.76	434.49	78.04	219.58	243.13	384.09	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.61	20.17	20.61	59.50	35.64	36.35	60.18	32.11	38.35	49.73	49.73	22.40
Movement LOS	F	C	C	E	D	D	E	C	D	D	D	C
d_A, Approach Delay [s/veh]	36.45			37.13			37.98			44.91		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	38.08											
Intersection LOS	D											
Intersection V/C	0.677											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	180	1125	60	20	1181	30	6	90	170	66	180	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	1125	60	20	1181	30	6	90	170	66	180	90
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	297	16	5	308	8	2	27	50	18	51	25
Total Analysis Volume [veh/h]	190	1187	63	21	1231	31	7	106	201	70	202	101
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	96	96	96	96	96	96	96	96
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	12	39	39	3	30	30	40	40
g / C, Green / Cycle	0.12	0.41	0.41	0.03	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.11	0.33	0.34	0.01	0.33	0.34	0.19	0.17
s, saturation flow rate [veh/h]	1810	1900	1850	1810	1900	1873	1654	1778
c, Capacity [veh/h]	225	768	748	60	596	587	692	743
d1, Uniform Delay [s]	41.00	25.38	25.54	45.23	32.84	32.84	19.89	19.53
k, delay calibration	0.11	0.47	0.49	0.04	0.48	0.49	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.26	9.05	10.06	1.27	54.14	56.96	2.06	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.82	0.83	0.35	1.06	1.07	0.44	0.41
d, Delay for Lane Group [s/veh]	49.26	34.43	35.60	46.50	86.99	89.80	21.95	21.19
Lane Group LOS	D	C	D	D	F	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.84	14.09	14.16	0.51	22.28	22.42	5.14	4.93
50th-Percentile Queue Length [ft/ln]	121.12	352.18	353.96	12.66	557.06	560.50	128.39	123.36
95th-Percentile Queue Length [veh/ln]	8.45	20.24	20.33	0.91	31.25	31.54	8.85	8.58
95th-Percentile Queue Length [ft/ln]	211.36	506.07	508.23	22.78	781.13	788.61	221.30	214.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.26	34.98	35.60	46.50	88.35	89.80	0.00	21.95	21.95	0.00	21.19	21.19
Movement LOS	D	C	D	D	F	F		C	C		C	C
d_A, Approach Delay [s/veh]	36.89			87.70			21.95			21.19		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	53.65											
Intersection LOS	D											
Intersection V/C	0.626											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	53.9
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.841

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	320	700	0	0	1381	50	0	0	0	700	560	715
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	700	0	0	1381	50	0	0	0	700	560	715
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	201	0	0	364	13	0	0	0	193	154	197
Total Analysis Volume [veh/h]	368	804	0	0	1455	53	0	0	0	770	616	787
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.20	0.22	0.28	0.27		0.31	0.30	0.32	0.36
s, saturation flow rate [veh/h]	1810	3618	3618	1861		1810	1864	1565	1545
c, Capacity [veh/h]	337	2123	1310	674		609	627	526	520
d1, Uniform Delay [s]	48.76	13.16	33.79	33.42		38.09	37.60	39.00	39.77
k, delay calibration	0.48	0.50	0.50	0.50		0.37	0.34	0.41	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	74.46	0.52	4.36	7.37		16.14	12.40	27.03	59.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.09	0.38	0.77	0.75		0.91	0.89	0.96	1.07
d, Delay for Lane Group [s/veh]	123.22	13.67	38.14	40.80		54.23	50.01	66.02	98.94
Lane Group LOS	F	B	D	D		D	D	E	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	17.02	5.78	13.59	14.04		17.60	16.84	17.81	23.07
50th-Percentile Queue Length [ft/ln]	425.47	144.44	339.63	350.89		440.0	421.0	445.1	576.7
95th-Percentile Queue Length [veh/ln]	24.88	9.72	19.63	20.18		24.48	23.57	24.73	32.35
95th-Percentile Queue Length [ft/ln]	622.06	243.00	490.75	504.50		612.0	589.2	618.1	808.7

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.22	13.67	0.00	0.00	38.96	40.80	0.00	0.00	0.00	52.99	57.14	89.40
Movement LOS	F	B			D	D				D	E	F
d_A, Approach Delay [s/veh]	48.07			39.03			0.00			67.33		
Approach LOS	D			D			A			E		
d_I, Intersection Delay [s/veh]	53.88											
Intersection LOS	D											
Intersection V/C	0.841											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	870	720	778	1283	0	120	110	320	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	870	720	778	1283	0	120	110	320	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	241	200	209	344	0	34	32	92	0	0	0
Total Analysis Volume [veh/h]	0	965	799	835	1378	0	138	126	367	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	38	38	38	43	85	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.35	0.71	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.29	0.29	0.24	0.38	0.08	0.07	0.23
s, saturation flow rate [veh/h]	3618	1503	1503	3514	3618	1810	1729	1579
c, Capacity [veh/h]	1152	479	479	1246	2574	383	366	334
d1, Uniform Delay [s]	36.84	39.43	39.43	32.76	8.06	40.34	40.20	47.28
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	3.23	3.23	2.88	0.80	0.21	0.21	71.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.92	0.92	0.67	0.54	0.36	0.34	1.10
d, Delay for Lane Group [s/veh]	37.25	42.65	42.65	35.64	8.87	40.55	40.40	118.59
Lane Group LOS	D	D	D	D	A	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.50	12.66	12.66	10.70	7.77	3.48	3.17	16.45
50th-Percentile Queue Length [ft/ln]	287.41	316.53	316.53	267.40	194.37	87.07	79.22	411.20
95th-Percentile Queue Length [veh/ln]	17.06	18.50	18.50	16.06	12.35	6.27	5.70	24.28
95th-Percentile Queue Length [ft/ln]	426.43	462.42	462.42	401.49	308.70	156.72	142.59	607.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.25	42.65	35.64	8.87	0.00	40.55	40.40	118.59	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	D	F			
d_A, Approach Delay [s/veh]	39.95			18.97			85.91			0.00		
Approach LOS	D			B			F			A		
d_I, Intersection Delay [s/veh]	36.17											
Intersection LOS	D											
Intersection V/C	0.763											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	43.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	596	270	100	824	140	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	596	270	100	824	140	185
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	75	31	258	40	53
Total Analysis Volume [veh/h]	665	301	125	1033	161	212
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.22	0.16	0.29	0.19	0.29
s, saturation flow rate [veh/h]	3618	1353	764	3618	832	734
c, Capacity [veh/h]	2509	938	532	2509	145	128
d1, Uniform Delay [s]	5.76	6.04	9.47	6.57	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.90	1.04	0.50	70.75	320.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.32	0.23	0.41	1.11	1.65
d, Delay for Lane Group [s/veh]	6.01	6.95	10.50	7.08	112.02	361.44
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.38	2.41	1.37	4.24	6.34	14.48
50th-Percentile Queue Length [ft/ln]	59.52	60.31	34.33	105.99	158.59	361.89
95th-Percentile Queue Length [veh/ln]	4.29	4.34	2.47	7.62	10.94	24.73
95th-Percentile Queue Length [ft/ln]	107.13	108.55	61.79	190.41	273.58	618.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.01	6.95	10.50	7.08	112.02	361.44
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.30		7.45		253.78	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	43.80					
Intersection LOS	D					
Intersection V/C	0.574					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	30	50	70	0	10	40	20	0	20	228	40	0	20	228	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	50	70	0	10	40	20	0	20	228	40	0	20	228	20
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	10	17	24	0	3	12	6	0	6	64	11	0	6	63	6
Total Analysis Volume [veh/h]	0	40	67	94	0	12	50	25	0	23	257	45	0	22	253	22
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	557	645	548	624	627	720	624	716
Degree of Utilization, x	0.19	0.15	0.11	0.04	0.45	0.06	0.44	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.71	0.51	0.38	0.12	2.30	0.20	2.25	0.10
95th-Percentile Queue Length [ft]	17.64	12.70	9.51	3.12	57.52	4.99	56.21	2.38
Approach Delay [s/veh]	10.02		9.70		12.31		12.56	
Approach LOS	B		A		B		B	
Intersection Delay [s/veh]	11.64							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	381	120	0	90	531	0	90	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	381	120	0	90	531	0	90	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	31	0	24	139	0	29	26
Total Analysis Volume [veh/h]	0	400	126	0	94	556	0	115	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.21	0.08	0.09	0.29	0.07	0.09
s, saturation flow rate [veh/h]	1900	1581	1000	1900	1538	1208
c, Capacity [veh/h]	1108	867	520	1042	436	342
d1, Uniform Delay [s]	7.06	6.06	11.31	7.88	15.18	15.36
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.91	0.35	0.76	1.96	0.12	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

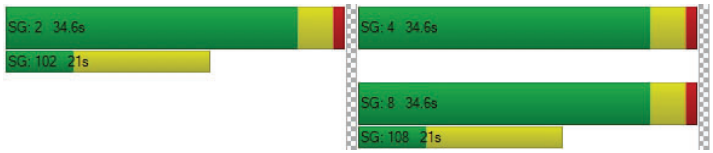
X, volume / capacity	0.36	0.15	0.18	0.53	0.26	0.30
d, Delay for Lane Group [s/veh]	7.98	6.41	12.08	9.84	15.30	15.54
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.29	0.63	0.77	3.68	1.04	0.94
50th-Percentile Queue Length [ft/ln]	57.18	15.67	19.36	91.95	25.94	23.60
95th-Percentile Queue Length [veh/ln]	4.12	1.13	1.39	6.62	1.87	1.70
95th-Percentile Queue Length [ft/ln]	102.92	28.21	34.85	165.50	46.68	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.98	7.98	6.41	12.08	12.08	9.84	15.30	15.30	15.54
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	7.60			10.16			15.41		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	10.02								
Intersection LOS	B								
Intersection V/C	0.378								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	100	40	20	70	10	20	198	40	20	149	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	100	40	20	70	10	20	198	40	20	149	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	30	12	5	19	3	6	60	12	6	45	6
Total Analysis Volume [veh/h]	36	119	47	21	75	11	24	242	49	24	180	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	666	636	712	691
Degree of Utilization, x	0.30	0.17	0.44	0.33

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.28	0.60	2.27	1.44
95th-Percentile Queue Length [ft]	31.95	15.04	56.81	36.03
Approach Delay [s/veh]	10.74	9.81	11.99	10.75
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.09			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	29	159	50	40	210	20	21	178	59	20	150	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	159	50	40	210	20	21	178	59	20	150	70
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	47	15	11	58	5	6	50	17	5	40	19
Total Analysis Volume [veh/h]	35	189	59	44	231	22	24	201	67	21	161	75
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	578	574	579	574
Degree of Utilization, x	0.49	0.52	0.50	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.69	2.97	2.83	2.30
95th-Percentile Queue Length [ft]	67.13	74.21	70.78	57.41
Approach Delay [s/veh]	15.07	15.83	15.38	14.24
Approach LOS	C	C	C	B
Intersection Delay [s/veh]	15.16			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	33.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.965

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	110	310	40	20	250	50	30	140	118	30	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	310	40	20	250	50	30	140	118	30	100	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	86	11	6	70	14	8	39	33	9	29	9
Total Analysis Volume [veh/h]	122	345	45	22	278	56	33	155	131	35	117	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	484	547	466	517	500	458
Degree of Utilization, x	0.97	0.08	0.64	0.11	0.64	0.41

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	12.23	0.27	4.47	0.36	4.42	1.95
95th-Percentile Queue Length [ft]	305.70	6.70	111.84	9.07	110.55	48.84
Approach Delay [s/veh]	55.36		21.38		22.03	16.15
Approach LOS	F		C		C	C
Intersection Delay [s/veh]	33.48					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	80.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	30	252	160	240	191	30	80	260	60	50	230	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	252	160	240	191	30	80	260	60	50	230	120
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	71	45	67	54	8	21	68	16	15	67	35
Total Analysis Volume [veh/h]	34	283	180	270	215	34	84	272	63	59	269	141
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	49	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.54	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.27	0.25	0.14	0.08	0.19	0.06	0.27
s, saturation flow rate [veh/h]	1213	1691	1064	1817	991	1780	1062	1504
c, Capacity [veh/h]	795	875	617	987	80	325	80	274
d1, Uniform Delay [s]	6.65	14.44	9.42	10.88	45.02	36.81	45.02	36.81
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	2.29	2.25	0.61	42.16	23.17	4.84	230.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

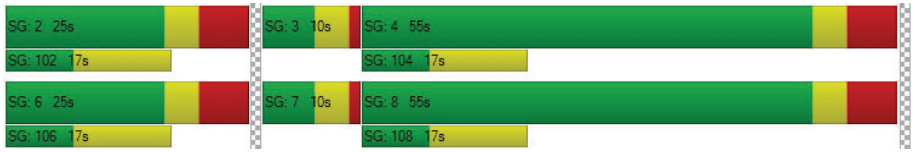
X, volume / capacity	0.04	0.53	0.44	0.25	1.05	1.03	0.74	1.49
d, Delay for Lane Group [s/veh]	6.66	16.73	11.66	11.50	87.18	59.98	49.87	267.01
Lane Group LOS	A	B	B	B	F	F	D	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.22	6.28	2.43	2.63	2.71	9.07	1.40	23.36
50th-Percentile Queue Length [ft/ln]	5.44	156.98	60.83	65.75	67.74	226.63	34.99	583.90
95th-Percentile Queue Length [veh/ln]	0.39	10.39	4.38	4.73	4.88	14.22	2.52	36.94
95th-Percentile Queue Length [ft/ln]	9.79	259.72	109.49	118.35	121.93	355.44	62.98	923.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.66	16.73	16.73	11.66	11.50	11.50	87.18	59.98	59.98	49.87	267.01	267.01
Movement LOS	A	B	B	B	B	B	F	E	E	D	F	F
d_A, Approach Delay [s/veh]	16.04			11.58			65.43			239.70		
Approach LOS	B			B			E			F		
d_I, Intersection Delay [s/veh]	80.79											
Intersection LOS	F											
Intersection V/C	0.615											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	85	110	40	20	60	20	20	188	40	20	179	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	110	40	20	60	20	20	188	40	20	179	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	31	11	6	18	6	6	57	12	5	48	5
Total Analysis Volume [veh/h]	96	124	45	24	72	24	24	228	49	21	192	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	647	621	675	656
Degree of Utilization, x	0.41	0.19	0.45	0.36

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.00	0.71	2.30	1.61
95th-Percentile Queue Length [ft]	49.95	17.77	57.60	40.35
Approach Delay [s/veh]	12.37	10.19	12.57	11.50
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.93			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.328

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	10	140	30	30	173	20	20	70	40	50	100	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	140	30	30	173	20	20	70	40	50	100	30
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	40	9	8	44	5	6	22	13	15	29	9
Total Analysis Volume [veh/h]	11	159	34	31	176	20	25	88	50	58	116	35
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	695	692	687	683
Degree of Utilization, x	0.29	0.33	0.24	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.22	1.43	0.92	1.29
95th-Percentile Queue Length [ft]	30.56	35.77	23.03	32.37
Approach Delay [s/veh]	10.32	10.73	9.87	10.58
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	10.41			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2140	140	0	2471	110	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2140	140	0	2471	110	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	582	38	0	632	30	8
Total Analysis Volume [veh/h]	2326	152	0	2529	121	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	39	39	39	39
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	24	24	24	5
g / C, Green / Cycle	0.61	0.61	0.61	0.13
(v / s)_i Volume / Saturation Flow Rate	0.52	0.51	0.42	0.10
s, saturation flow rate [veh/h]	3192	1624	6089	1556
c, Capacity [veh/h]	1937	986	3696	195
d1, Uniform Delay [s]	6.28	6.17	5.18	16.66
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.75	0.08	2.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.84	0.68	0.79
d, Delay for Lane Group [s/veh]	6.71	6.92	5.27	19.34
Lane Group LOS	A	A	A	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.50	2.55	1.53	1.28
50th-Percentile Queue Length [ft/ln]	62.56	63.74	38.24	31.95
95th-Percentile Queue Length [veh/ln]	4.50	4.59	2.75	2.30
95th-Percentile Queue Length [ft/ln]	112.61	114.74	68.83	57.51

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Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.77	6.92	0.00	5.27	19.34	19.34
Movement LOS	A	A		A	B	B
d_A, Approach Delay [s/veh]	6.78		5.27		19.34	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.41					
Intersection LOS	A					
Intersection V/C	0.616					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 8: 8 Approval Plus Project - Alt Access Report File: \...\AP_Alt_MD_LOS.pdf

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	79.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1900	200	60	210	460	90	568	340	0	0	470	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1900	200	60	210	460	90	568	340	0	0	470	170
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	521	55	16	62	135	26	142	89	0	0	137	50
Total Analysis Volume [veh/h]	2086	220	66	246	540	106	568	354	0	0	548	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	67	67	67	30	30	33	33
g / C, Green / Cycle	0.47	0.47	0.47	0.21	0.21	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.44	0.44	0.20	0.28	0.29	0.22	0.20
s, saturation flow rate [veh/h]	3192	1576	1425	1597	1552	1597	3783
c, Capacity [veh/h]	1515	748	676	341	331	380	901
d1, Uniform Delay [s]	34.40	34.74	24.29	55.31	55.31	52.43	50.83
k, delay calibration	0.04	0.13	0.04	0.50	0.50	0.32	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	6.96	0.16	161.23	172.40	23.50	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.93	0.42	1.32	1.34	0.93	0.83
d, Delay for Lane Group [s/veh]	35.44	41.70	24.44	216.53	227.70	75.94	51.59
Lane Group LOS	D	D	C	F	F	E	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	21.94	23.38	6.34	27.30	27.56	14.70	8.38
50th-Percentile Queue Length [ft/ln]	548.46	584.54	158.42	682.45	689.06	367.39	209.52
95th-Percentile Queue Length [veh/ln]	29.62	31.31	10.47	41.05	41.70	20.98	13.13
95th-Percentile Queue Length [ft/ln]	740.50	782.80	261.63	1026.20	1042.54	524.56	328.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.95	24.44	24.44	216.53	227.70	227.70	0.00	75.94	0.00	0.00	51.59	51.59
Movement LOS	D	C	C	F	F	F		E			D	D
d_A, Approach Delay [s/veh]	35.95			222.09			75.94			51.59		
Approach LOS	D			F			E			D		
d_I, Intersection Delay [s/veh]	79.91											
Intersection LOS	E											
Intersection V/C	0.949											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	67	100	68	0	20	89	30	0	30	199	10	0	70	179	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	67	100	68	0	20	89	30	0	30	199	10	0	70	179	30
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	20	29	20	0	6	26	9	0	9	58	3	0	20	52	9
Total Analysis Volume [veh/h]	0	78	117	79	0	24	105	35	0	35	230	12	0	82	209	35
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	607	581	610	622
Degree of Utilization, x	0.45	0.28	0.45	0.52

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.34	1.16	2.36	3.06
95th-Percentile Queue Length [ft]	58.44	28.88	58.96	76.43
Approach Delay [s/veh]	13.72	11.62	13.70	15.00
Approach LOS	B	B	B	C
Intersection Delay [s/veh]	13.79			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.236

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	90	30	20	69	20	10	80	40	30	70	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	90	30	20	69	20	10	80	40	30	70	30
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	28	9	5	19	5	4	28	14	9	21	9
Total Analysis Volume [veh/h]	38	113	38	22	75	22	14	113	56	36	84	36
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	749	632	737	649	751	636	747
Degree of Utilization, x	0.24	0.05	0.15	0.03	0.20	0.07	0.19	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.91	0.16	0.54	0.09	0.72	0.24	0.69	0.15
95th-Percentile Queue Length [ft]	22.85	4.00	13.49	2.30	18.05	6.02	17.28	3.79
Approach Delay [s/veh]	9.60		9.12		9.07		9.24	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.27							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	906	110	270	964	0	32	1085	209	80	0	200
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	906	110	270	964	0	32	1085	209	80	0	200
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	243	30	74	266	0	8	271	52	25	0	62
Total Analysis Volume [veh/h]	36	0	972	118	298	1063	0	32	1085	209	100	0	250
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.07	0.42	0.29		0.08	0.22
s, saturation flow rate [veh/h]	1810	3618	1584	705	3618		1231	1132
c, Capacity [veh/h]	47	2509	1099	555	2625		192	177
d1, Uniform Delay [s]	72.54	9.62	7.60	6.33	7.98		58.07	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.45	0.20	3.69	0.47		0.81	216.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.39	0.11	0.54	0.40		0.52	1.41
d, Delay for Lane Group [s/veh]	81.74	10.07	7.80	10.01	8.45		58.88	279.36
Lane Group LOS	F	B	A	B	A		E	F
Critical Lane Group	No	Yes	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	6.71	1.32	2.77	6.59		3.55	17.38
50th-Percentile Queue Length [ft/ln]	37.61	167.85	32.95	69.28	164.78		88.87	434.46
95th-Percentile Queue Length [veh/ln]	2.71	10.96	2.37	4.99	10.80		6.40	27.80
95th-Percentile Queue Length [ft/ln]	67.70	274.09	59.31	124.70	270.04		159.97	694.89

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.07	7.80	10.01	8.45	0.00	0.00	0.00	0.00	58.88	0.00	279.36
Movement LOS	F		B	A	B	A					E		F
d_A, Approach Delay [s/veh]	12.12				8.79			0.00			216.37		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	35.72												
Intersection LOS	D												
Intersection V/C	0.538												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FUTURE YEAR (2025) PLUS PROJECT ALTERNATIVE ACCESS CONDITIONS

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	67.9
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.125

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	20	2660	2	380	3570	30	10	10	10	176	20	273
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	2660	2	380	3570	30	10	10	10	176	20	273
Peak Hour Factor	0.8779	0.8779	1.0000	0.9383	0.9383	0.9383	0.8500	0.8500	0.8500	0.9161	0.9161	0.9161
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	757	1	101	951	8	3	3	3	48	5	75
Total Analysis Volume [veh/h]	23	3030	2	405	3805	32	12	12	12	192	22	298
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	71.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	25	0	6	25	0	6	6	0	0	6	6
Maximum Green [s]	15	142	0	60	187	0	38	38	0	0	38	38
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0
Split [s]	15	142	0	60	187	0	40	40	0	0	40	40
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	5	5	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	13	13	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	3.2	3.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	Yes			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	5.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	3.20	0.00
g_i, Effective Green Time [s]	5	134	55	185	185	36	35	95
g / C, Green / Cycle	0.02	0.56	0.23	0.77	0.77	0.15	0.15	0.40
(v / s)_i Volume / Saturation Flow Rate	0.01	0.59	0.22	0.70	0.70	0.18	0.32	0.19
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1892	200	678	1594
c, Capacity [veh/h]	36	2892	418	2783	1455	50	127	634
d1, Uniform Delay [s]	116.81	53.00	91.56	20.99	21.20	92.60	106.82	53.63
k, delay calibration	0.04	0.50	0.38	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.81	30.97	31.34	5.41	9.84	62.54	341.01	2.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	1.05	0.97	0.90	0.91	0.72	1.69	0.47
d, Delay for Lane Group [s/veh]	123.62	83.97	122.90	26.40	31.04	155.14	447.83	56.12
Lane Group LOS	F	F	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.51	64.79	28.55	50.82	55.67	3.16	20.13	14.20
50th-Percentile Queue Length [ft/ln]	37.71	1619.75	713.71	1270.61	1391.86	79.09	503.34	354.91
95th-Percentile Queue Length [veh/ln]	2.71	81.28	37.31	62.52	67.91	5.69	32.87	20.38
95th-Percentile Queue Length [ft/ln]	67.87	2032.05	932.78	1562.91	1697.79	142.36	821.67	509.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	123.62	83.97	0.00	122.90	27.97	31.04	155.14	155.14	155.14	447.83	447.83	56.12
Movement LOS	F	F		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	84.27			37.06			155.14			219.84		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	67.91											
Intersection LOS	E											
Intersection V/C	1.125											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	69.0
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

Intersection Setup

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00				25.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name	Ocean Ave			Ocean Ave				California Incline				California Ave			
Base Volume Input [veh/h]	207	347	26	0	22	377	119	0	40	110	390	0	41	112	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	207	347	26	0	22	377	119	0	40	110	390	0	41	112	50
Peak Hour Factor	0.8497	0.8497	0.8497	1.000	0.916	0.916	0.916	1.000	0.832	0.832	0.832	1.000	0.941	0.941	0.941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	61	102	8	0	6	103	32	0	12	33	117	0	11	30	13
Total Analysis Volume [veh/h]	244	408	31	0	24	411	130	0	48	132	468	0	44	119	53
Presence of On-Street Parking	No		No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	32			62				86				124			
Bicycle Volume [bicycles/h]	1			14				14				39			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	77.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permi	Prote	Permi	Permi	Permi	Permi	Permi	Overl	Permi	Permi	Permi	Permi
Signal Group	3	8	8	0	7	4	4	0	2	2	3	0	6	6	6
Auxiliary Signal Groups			8								2,3				
Lead / Lag	Lag	-	-	-	Lead	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	0	5	7	7	0	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	0	15	30	30	0	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	67	67	0	10	58	58	0	23	23	19	0	23	23	23
Vehicle Extension [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	0	7	7	0	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	0	16	16	0	16	16	0	0	16	16	16
Rest In Walk		No				No				No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			No	Yes				No	No			No	
Maximum Recall	No	No			No	No				No	No			No	
Pedestrian Recall	No	No			No	No				No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	61	61	2	53	53	18	37	18	18
g / C, Green / Cycle	0.10	0.61	0.61	0.02	0.53	0.53	0.18	0.37	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.13	0.21	0.02	0.01	0.22	0.09	0.37	0.30	0.31	0.04
s, saturation flow rate [veh/h]	1810	1900	1422	1810	1900	1440	486	1542	523	1213
c, Capacity [veh/h]	189	1163	870	45	1012	767	135	579	142	224
d1, Uniform Delay [s]	44.75	9.57	7.68	48.17	13.94	12.01	39.52	27.98	39.35	34.71
k, delay calibration	0.15	0.50	0.50	0.04	0.50	0.50	0.50	0.44	0.46	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	143.04	0.83	0.08	3.68	1.21	0.48	189.71	10.21	116.30	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

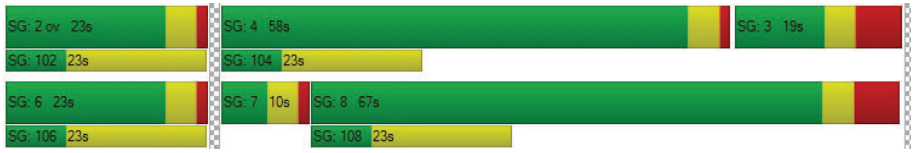
X, volume / capacity	1.29	0.35	0.04	0.54	0.41	0.17	1.33	0.81	1.14	0.24
d, Delay for Lane Group [s/veh]	187.80	10.40	7.76	51.85	15.15	12.48	229.24	38.19	155.65	34.91
Lane Group LOS	F	B	A	D	B	B	F	D	F	C
Critical Lane Group	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.15	4.36	0.27	0.63	5.63	1.54	10.54	11.52	8.11	1.10
50th-Percentile Queue Length [ft/ln]	303.69	108.89	6.69	15.86	140.65	38.55	263.56	288.04	202.87	27.38
95th-Percentile Queue Length [veh/ln]	19.58	7.78	0.48	1.14	9.52	2.78	17.83	17.09	13.57	1.97
95th-Percentile Queue Length [ft/ln]	489.55	194.46	12.05	28.55	237.89	69.39	445.78	427.21	339.33	49.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	187.80	10.40	7.76	51.85	51.85	15.15	12.48	229.2	229.2	229.2	38.19	155.6	155.6	155.6	34.91
Movement LOS	F	B	A	D	D	B	B	F	F	F	D	F	F	F	C
d_A, Approach Delay [s/veh]	73.66			16.10				91.26				126.02			
Approach LOS	E			B				F				F			
d_I, Intersection Delay [s/veh]	69.01														
Intersection LOS	E														
Intersection V/C	0.777														

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	440	291	0	288	532	0	185	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	440	291	0	288	532	0	185	128
Peak Hour Factor	1.0000	0.9089	0.9089	1.0000	0.8739	0.8739	1.0000	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	121	80	0	82	152	0	52	36
Total Analysis Volume [veh/h]	0	484	320	0	330	609	0	208	144
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			38			61		
Bicycle Volume [bicycles/h]	1			2			18		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	59	59	59	72	72	15	15	15
g / C, Green / Cycle	0.59	0.59	0.59	0.72	0.72	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.21	0.31	0.17	0.07	0.07	0.08
s, saturation flow rate [veh/h]	1900	1729	1546	1061	3618	1695	1750	1434
c, Capacity [veh/h]	1159	1022	914	812	2609	249	257	210
d1, Uniform Delay [s]	9.64	9.64	10.54	5.09	4.67	39.23	39.05	39.43
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.51	1.06	1.51	0.21	0.56	0.48	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

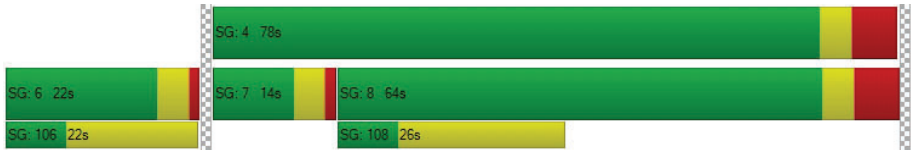
X, volume / capacity	0.22	0.23	0.35	0.41	0.23	0.49	0.46	0.52
d, Delay for Lane Group [s/veh]	10.07	10.15	11.59	6.59	4.88	39.80	39.53	40.18
Lane Group LOS	B	B	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.61	2.40	3.68	2.30	1.85	2.79	2.69	2.53
50th-Percentile Queue Length [ft/ln]	65.36	59.93	92.09	57.49	46.34	69.81	67.28	63.33
95th-Percentile Queue Length [veh/ln]	4.71	4.32	6.63	4.14	3.34	5.03	4.84	4.56
95th-Percentile Queue Length [ft/ln]	117.65	107.88	165.76	103.49	83.42	125.66	121.10	113.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.07	10.11	11.59	6.59	6.59	4.88	39.80	39.68	40.05
Movement LOS	B	B	B	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	10.70			5.48			39.83		
Approach LOS	B			A			D		
d_I, Intersection Delay [s/veh]	13.26								
Intersection LOS	B								
Intersection V/C	0.355								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	780	90	90	587	30	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	780	90	90	587	30	60
Peak Hour Factor	0.9190	0.9190	0.9144	0.9144	0.7609	0.7609
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	212	24	25	160	10	20
Total Analysis Volume [veh/h]	849	98	98	642	39	79
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34		38		77	
Bicycle Volume [bicycles/h]	3		4		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	72	72	72	72	15
g / C, Green / Cycle	0.72	0.72	0.72	0.72	0.15
(v / s)_i Volume / Saturation Flow Rate	0.23	0.07	0.15	0.18	0.07
s, saturation flow rate [veh/h]	3618	1495	657	3618	1674
c, Capacity [veh/h]	2590	1071	467	2590	254
d1, Uniform Delay [s]	5.26	4.30	9.36	4.89	38.62
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.17	1.02	0.23	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

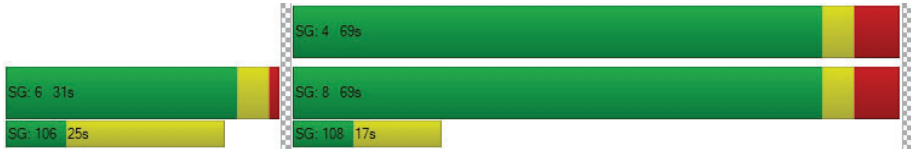
X, volume / capacity	0.33	0.09	0.21	0.25	0.46
d, Delay for Lane Group [s/veh]	5.59	4.47	10.38	5.12	39.11
Lane Group LOS	A	A	B	A	D
Critical Lane Group	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.89	0.57	1.08	2.03	2.63
50th-Percentile Queue Length [ft/ln]	72.28	14.35	26.91	50.77	65.68
95th-Percentile Queue Length [veh/ln]	5.20	1.03	1.94	3.66	4.73
95th-Percentile Queue Length [ft/ln]	130.11	25.83	48.44	91.39	118.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.59	4.47	10.38	5.12	39.11	39.11
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	5.48		5.82		39.11	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.82					
Intersection LOS	A					
Intersection V/C	0.305					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.330

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	790	190	100	487	80	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	790	190	100	487	80	70
Peak Hour Factor	0.9233	0.9233	0.9315	0.9315	0.7866	0.7866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	214	51	27	131	25	22
Total Analysis Volume [veh/h]	856	206	107	523	102	89
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	78		64		77	
Bicycle Volume [bicycles/h]	5		4		17	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	66	66	77	77	9	21
g / C, Green / Cycle	0.66	0.66	0.77	0.77	0.09	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.14	0.13	0.14	0.07	0.06
s, saturation flow rate [veh/h]	3618	1486	798	3618	1378	1425
c, Capacity [veh/h]	2384	979	655	2803	128	298
d1, Uniform Delay [s]	7.61	6.75	3.40	2.97	44.38	33.36
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.42	0.49	0.54	0.15	4.15	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.21	0.16	0.19	0.79	0.30
d, Delay for Lane Group [s/veh]	8.03	7.23	3.93	3.11	48.53	33.57
Lane Group LOS	A	A	A	A	D	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.83	1.71	0.48	1.09	2.60	1.83
50th-Percentile Queue Length [ft/ln]	95.81	42.70	12.02	27.18	65.11	45.72
95th-Percentile Queue Length [veh/ln]	6.90	3.07	0.87	1.96	4.69	3.29
95th-Percentile Queue Length [ft/ln]	172.46	76.86	21.63	48.93	117.21	82.29

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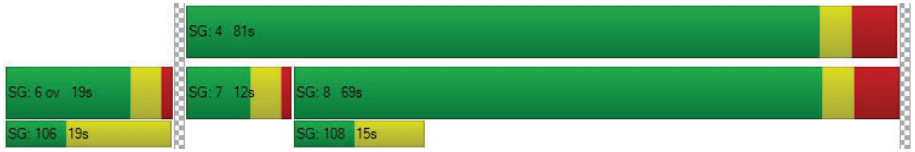
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.03	7.23	3.93	3.11	48.53	33.57
Movement LOS	A	A	A	A	D	C
d_A, Approach Delay [s/veh]	7.88		3.25		41.56	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.75					
Intersection LOS	A					
Intersection V/C	0.330					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	903	142	67	607	20	20	13	20	110	30	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	903	142	67	607	20	20	13	20	110	30	130
Peak Hour Factor	0.9547	0.9547	0.8613	0.9469	0.9024	0.9024	0.6667	0.5455	0.6667	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	236	41	18	168	6	7	6	7	32	9	38
Total Analysis Volume [veh/h]	21	946	165	71	673	22	30	24	30	129	35	153
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			17		
Bicycle Volume [bicycles/h]	20			23			24			47		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	41.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	51	0	0	39	27	17	0	39	12	25	17
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

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Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	64	64	57	57	6	15	15
g / C, Green / Cycle	0.54	0.54	0.48	0.48	0.05	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.18	0.19	0.04	0.09	0.10
s, saturation flow rate [veh/h]	845	3618	1900	1874	1707	1828	1458
c, Capacity [veh/h]	449	1941	906	893	87	224	179
d1, Uniform Delay [s]	14.00	17.46	20.11	20.17	56.06	50.76	51.62
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.88	1.23	1.28	3.66	1.73	4.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

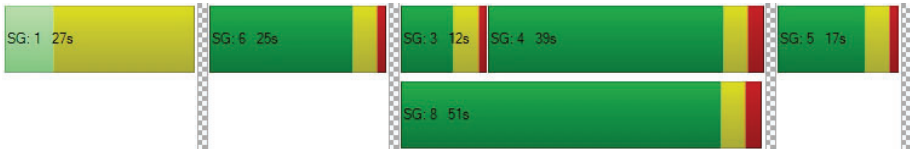
X, volume / capacity	0.05	0.49	0.38	0.39	0.69	0.73	0.86
d, Delay for Lane Group [s/veh]	14.02	18.34	21.34	21.45	59.72	52.49	56.09
Lane Group LOS	B	B	C	C	E	D	E
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	8.28	6.49	6.52	1.86	4.90	4.77
50th-Percentile Queue Length [ft/ln]	6.72	207.02	162.36	163.03	46.58	122.49	119.21
95th-Percentile Queue Length [veh/ln]	0.48	13.00	10.67	10.71	3.35	8.53	8.35
95th-Percentile Queue Length [ft/ln]	12.10	325.00	266.84	267.72	83.84	213.25	208.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.02	18.34	0.00	0.00	21.39	21.45	59.72	0.00	59.72	52.49	52.49	56.09
Movement LOS	B	B			C	C	E		E	D	D	E
d_A, Approach Delay [s/veh]	18.25			21.39			59.72			54.23		
Approach LOS	B			C			E			D		
d_I, Intersection Delay [s/veh]	26.13											
Intersection LOS	C											
Intersection V/C	0.402											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	470	793	707	50	70	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	793	707	50	70	470
Peak Hour Factor	0.9091	0.9091	0.9306	0.9306	0.8533	0.8533
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	218	190	13	21	138
Total Analysis Volume [veh/h]	517	872	760	54	82	551
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	71	71	71	25	24
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	80	80	80	7	31
g / C, Green / Cycle	0.16	0.66	0.66	0.66	0.06	0.26
(v / s)_i Volume / Saturation Flow Rate	0.15	0.24	0.21	0.03	0.05	0.21
s, saturation flow rate [veh/h]	3514	3618	3618	1615	1810	2670
c, Capacity [veh/h]	569	2405	2405	1074	105	690
d1, Uniform Delay [s]	49.37	8.88	8.53	6.97	55.72	41.54
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	0.43	0.35	0.09	4.65	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

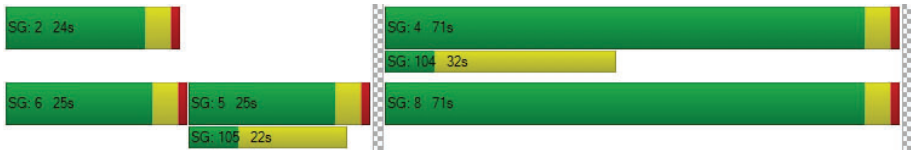
X, volume / capacity	0.91	0.36	0.32	0.05	0.78	0.80
d, Delay for Lane Group [s/veh]	51.74	9.30	8.87	7.06	60.37	42.36
Lane Group LOS	D	A	A	A	E	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.78	4.90	4.10	0.49	2.70	8.12
50th-Percentile Queue Length [ft/ln]	194.39	122.49	102.49	12.23	67.49	203.04
95th-Percentile Queue Length [veh/ln]	12.35	8.53	7.38	0.88	4.86	12.80
95th-Percentile Queue Length [ft/ln]	308.72	213.25	184.48	22.01	121.48	319.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.74	9.30	8.87	7.06	60.37	42.36
Movement LOS	D	A	A	A	E	D
d_A, Approach Delay [s/veh]	25.10		8.75		44.70	
Approach LOS	C		A		D	
d_I, Intersection Delay [s/veh]	24.78					
Intersection LOS	C					
Intersection V/C	0.447					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	30	80	10	0	200	0	90	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	30	80	10	0	200	0	90	260
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9268	0.9268	0.9268	1.0000	0.9489	0.9471	0.9471	0.9471
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	8	22	3	0	53	0	24	69
Total Analysis Volume [veh/h]	0	0	0	0	32	86	11	0	211	0	95	275
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	12				27				48			
Bicycle Volume [bicycles/h]	10				7				36			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	15	30	30	0	7	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	19	35	43	0	12	0	35	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	22	13	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						No			Yes		No	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		90	90	90	90	90	90
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		18	18	18	30	30	30
g / C, Green / Cycle		0.20	0.20	0.20	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate		0.02	0.03	0.03	0.14	0.05	0.18
s, saturation flow rate [veh/h]		1291	1900	1795	1481	1900	1515
c, Capacity [veh/h]		271	387	366	594	640	511
d1, Uniform Delay [s]		33.51	29.31	29.35	22.44	20.85	24.19
k, delay calibration		0.11	0.11	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.19	0.14	0.16	1.66	0.11	0.89
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.12	0.13	0.13	0.36	0.15	0.54
d, Delay for Lane Group [s/veh]		33.70	29.45	29.51	24.10	20.95	25.08
Lane Group LOS		C	C	C	C	C	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		0.61	0.86	0.85	3.50	1.37	4.66
50th-Percentile Queue Length [ft/ln]		15.30	21.42	21.26	87.38	34.19	116.41
95th-Percentile Queue Length [veh/ln]		1.10	1.54	1.53	6.29	2.46	8.20
95th-Percentile Queue Length [ft/ln]		27.54	38.56	38.27	157.29	61.53	204.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	33.70	29.48	29.51	0.00	24.10	0.00	20.95	25.08
Movement LOS					C	C	C		C		C	C
d_A, Approach Delay [s/veh]	0.00				30.53				24.05			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	20.63											
Intersection LOS	C											
Intersection V/C	0.564											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	30	1143	200	160	827	0	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	1143	200	160	827	0	10
Peak Hour Factor	1.0000	0.9525	0.9525	0.9525	0.9353	0.9353	0.9353	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	300	52	43	221	0	3
Total Analysis Volume [veh/h]	0	31	1200	210	171	884	0	10
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	46				31			
Bicycle Volume [bicycles/h]	10				12			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	58.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	30	30	15	30	0	30
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	24	35	19	43	0	35
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	22	0	13	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			Yes		No	Yes		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	51	51	51
g / C, Green / Cycle	0.44	0.44	0.44	0.56	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.05	0.33	0.14	0.24	0.24	0.24
s, saturation flow rate [veh/h]	631	3618	1536	709	1900	1890
c, Capacity [veh/h]	253	1591	676	382	1066	1060
d1, Uniform Delay [s]	24.90	21.15	16.37	15.40	11.36	11.36
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	3.37	1.20	3.76	1.22	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

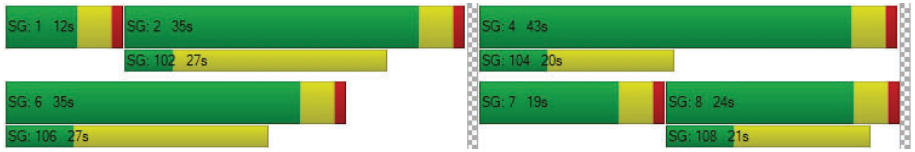
X, volume / capacity	0.12	0.75	0.31	0.45	0.42	0.42
d, Delay for Lane Group [s/veh]	25.89	24.52	17.57	19.16	12.58	12.59
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	10.71	2.92	1.93	5.10	5.08
50th-Percentile Queue Length [ft/ln]	14.15	267.77	73.12	48.16	127.48	127.09
95th-Percentile Queue Length [veh/ln]	1.02	16.08	5.26	3.47	8.80	8.78
95th-Percentile Queue Length [ft/ln]	25.46	401.95	131.62	86.68	220.06	219.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	25.89	24.52	17.57	19.16	12.59	0.00	12.59
Movement LOS		C	C	B	B	B		B
d_A, Approach Delay [s/veh]	23.54				13.64			
Approach LOS	C				B			
d_I, Intersection Delay [s/veh]	20.63							
Intersection LOS	C							
Intersection V/C	0.564							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	117.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.724

Intersection Setup

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	24	58	50	124	99	25	26	283	66	131	290	137
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	58	50	124	99	25	26	283	66	131	290	137
Peak Hour Factor	0.9248	0.9248	0.9248	0.8034	0.8034	0.8034	0.6628	0.6628	0.6628	0.9621	0.9621	0.9621
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	16	14	39	31	8	10	107	25	34	75	36
Total Analysis Volume [veh/h]	26	63	54	154	123	31	39	427	100	136	301	142
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	307			0			6			14		
Bicycle Volume [bicycles/h]	1			8			9			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	21	21	21	21	21	21	45	45	45	45	45	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	21	21	21	20	20	20	14	14	14	14	14	14
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	4.6	4.6	4.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.02	0.07	0.44	0.04	0.29	0.15	0.12	0.13
s, saturation flow rate [veh/h]	1252	1745	706	962	1832	890	1900	1644
c, Capacity [veh/h]	73	271	156	427	866	278	898	777
d1, Uniform Delay [s]	50.02	38.27	47.80	20.72	19.54	34.83	15.85	15.97
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.10	0.41	458.05	0.42	3.18	6.02	0.70	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.43	1.97	0.09	0.61	0.49	0.26	0.27
d, Delay for Lane Group [s/veh]	51.11	38.68	505.85	21.14	22.72	40.85	16.55	16.83
Lane Group LOS	D	D	F	C	C	D	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.66	2.59	23.77	0.64	9.46	3.42	3.28	3.03
50th-Percentile Queue Length [ft/ln]	16.59	64.65	594.22	16.10	236.45	85.62	81.97	75.77
95th-Percentile Queue Length [veh/ln]	1.19	4.65	39.02	1.16	14.50	6.16	5.90	5.46
95th-Percentile Queue Length [ft/ln]	29.86	116.37	975.60	28.98	362.54	154.12	147.54	136.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.11	38.68	38.68	505.85	505.85	505.85	21.14	22.72	22.72	40.85	16.61	16.83
Movement LOS	D	D	D	F	F	F	C	C	C	D	B	B
d_A, Approach Delay [s/veh]	40.94			505.85			22.61			22.36		
Approach LOS	D			F			C			C		
d_I, Intersection Delay [s/veh]	117.42											
Intersection LOS	F											
Intersection V/C	0.724											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.280

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	40	162	40	20	56	60	50	80	80	30	80	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	162	40	20	56	60	50	80	80	30	80	60
Peak Hour Factor	0.8289	0.8289	0.8289	0.8349	0.8349	0.8349	0.8850	0.8850	0.8850	0.8727	0.8727	0.8727
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	49	12	6	17	18	14	23	23	9	23	17
Total Analysis Volume [veh/h]	48	195	48	24	67	72	56	90	90	34	92	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	257			0			18			7		
Bicycle Volume [bicycles/h]	11			5			23			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	35	35	0	0	35	35	38	38	38	0	38	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	16	54	54
g / C, Green / Cycle	0.16	0.16	0.16	0.16	0.16	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.03	0.02	0.08	0.15	0.18
s, saturation flow rate [veh/h]	1270	1900	1542	1207	1710	1584	1100
c, Capacity [veh/h]	150	303	246	120	273	897	634
d1, Uniform Delay [s]	45.76	39.34	36.44	47.04	38.43	12.33	12.96
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	0.85	0.14	0.30	0.55	0.71	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.64	0.19	0.20	0.51	0.26	0.31
d, Delay for Lane Group [s/veh]	46.21	40.19	36.58	47.34	38.97	13.04	14.21
Lane Group LOS	D	D	D	D	D	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.16	4.47	1.01	0.59	3.10	2.83	2.58
50th-Percentile Queue Length [ft/ln]	29.11	111.74	25.31	14.68	77.59	70.64	64.39
95th-Percentile Queue Length [veh/ln]	2.10	7.94	1.82	1.06	5.59	5.09	4.64
95th-Percentile Queue Length [ft/ln]	52.40	198.42	45.56	26.43	139.66	127.15	115.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.21	40.19	36.58	47.34	38.97	38.97	13.04	13.04	13.04	14.21	14.21	14.21
Movement LOS	D	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	40.59			40.21			13.04			14.21		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.36											
Intersection LOS	C											
Intersection V/C	0.280											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	40	132	20	20	116	40	40	210	40	50	150	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	132	20	20	116	40	40	210	40	50	150	130
Peak Hour Factor	0.8868	0.8868	0.8868	0.7663	0.7663	0.7663	0.9649	0.9649	0.9649	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	37	6	7	38	13	10	54	10	14	41	36
Total Analysis Volume [veh/h]	45	149	23	26	151	52	41	218	41	55	165	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	425			0			24			8		
Bicycle Volume [bicycles/h]	3			6			42			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	83.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	52	52	52	52
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.52	0.52	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.03	0.02	0.11	0.26	0.03	0.27	0.09
s, saturation flow rate [veh/h]	1198	1900	900	1258	1801	1014	1566	821	1584
c, Capacity [veh/h]	138	345	163	185	327	565	809	469	818
d1, Uniform Delay [s]	46.38	36.34	34.37	42.31	37.75	16.55	12.01	18.18	12.86
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.32	0.14	0.13	0.72	2.66	0.12	3.34	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

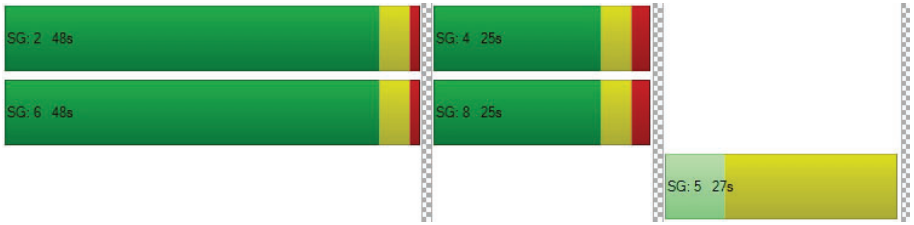
X, volume / capacity	0.33	0.43	0.14	0.14	0.62	0.46	0.05	0.47	0.17
d, Delay for Lane Group [s/veh]	46.88	36.66	34.51	42.44	38.47	19.21	12.13	21.53	13.32
Lane Group LOS	D	D	C	D	D	B	B	C	B
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.10	3.20	0.47	0.59	4.55	3.59	0.47	3.07	1.77
50th-Percentile Queue Length [ft/ln]	27.50	79.99	11.73	14.87	113.75	89.71	11.79	76.65	44.19
95th-Percentile Queue Length [veh/ln]	1.98	5.76	0.84	1.07	8.05	6.46	0.85	5.52	3.18
95th-Percentile Queue Length [ft/ln]	49.50	143.98	21.11	26.76	201.20	161.47	21.23	137.97	79.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.88	36.66	34.51	42.44	38.47	38.47	19.21	19.21	12.13	21.53	21.53	13.32
Movement LOS	D	D	C	D	D	D	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	38.55			38.92			18.24			18.29		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.50											
Intersection LOS	C											
Intersection V/C	0.381											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.295

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	10	161	170	64	192	20	20	140	80	130	238	71
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	161	170	64	192	20	20	140	80	130	238	71
Peak Hour Factor	0.8639	0.8639	0.8639	0.8563	0.8563	0.8563	0.8893	0.8893	0.8893	0.7763	0.7763	0.7763
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	47	49	19	56	6	6	39	22	42	77	23
Total Analysis Volume [veh/h]	12	186	197	75	224	23	22	157	90	167	307	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	466			0			17			14		
Bicycle Volume [bicycles/h]	14			37			53			22		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	80.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	49	49	49	49	49
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.49	0.49	0.49	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.13	0.06	0.13	0.02	0.14	0.15	0.16	0.06
s, saturation flow rate [veh/h]	1151	1900	1539	1217	1858	1089	1759	1151	1900	1556
c, Capacity [veh/h]	125	366	296	172	358	474	854	514	922	755
d1, Uniform Delay [s]	45.99	36.14	37.39	44.87	37.61	20.34	15.40	22.22	15.79	14.06
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.41	0.96	0.65	0.90	0.19	0.86	1.68	0.97	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

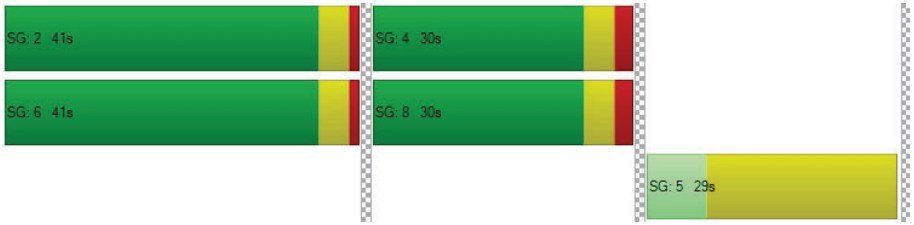
X, volume / capacity	0.10	0.51	0.67	0.44	0.69	0.05	0.29	0.33	0.33	0.12
d, Delay for Lane Group [s/veh]	46.12	36.55	38.35	45.52	38.50	20.52	16.26	23.90	16.76	14.39
Lane Group LOS	D	D	D	D	D	C	B	C	B	B
Critical Lane Group	No	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	4.03	4.44	1.82	5.59	0.35	3.42	2.98	4.34	1.15
50th-Percentile Queue Length [ft/ln]	7.20	100.64	111.11	45.50	139.85	8.70	85.38	74.39	108.54	28.72
95th-Percentile Queue Length [veh/ln]	0.52	7.25	7.90	3.28	9.47	0.63	6.15	5.36	7.76	2.07
95th-Percentile Queue Length [ft/ln]	12.96	181.15	197.55	81.90	236.82	15.67	153.69	133.90	193.98	51.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	36.55	38.35	45.52	38.50	38.50	20.52	16.26	16.26	23.90	16.76	14.39
Movement LOS	D	D	D	D	D	D	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	37.74			40.14			16.61			18.49		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.56											
Intersection LOS	C											
Intersection V/C	0.295											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	381	0	29	212	30	66	90	0	50	220	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	381	0	29	212	30	66	90	0	50	220	170
Peak Hour Factor	0.8824	0.8824	1.0000	0.9439	0.9737	0.9737	0.8321	0.8321	1.0000	0.9017	0.9017	0.9017
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	108	0	8	54	8	20	27	0	14	61	47
Total Analysis Volume [veh/h]	11	432	0	31	218	31	79	108	0	55	244	189
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	295			0			8			32		
Bicycle Volume [bicycles/h]	6			27			58			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	29	29	29	29		61	61
g / C, Green / Cycle	0.25	0.25	0.25	0.25		0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.12	0.02		0.14	0.15
s, saturation flow rate [veh/h]	1158	1863	1863	1556		1881	1477
c, Capacity [veh/h]	209	457	457	382		959	753
d1, Uniform Delay [s]	45.98	44.41	38.63	34.80		16.76	16.90
k, delay calibration	0.04	0.25	0.04	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.04	19.18	0.29	0.03		0.72	0.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.94	0.48	0.08		0.28	0.29
d, Delay for Lane Group [s/veh]	46.02	63.59	38.92	34.83		17.49	17.88
Lane Group LOS	D	E	D	C		B	B
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	14.94	5.47	0.70		4.45	3.74
50th-Percentile Queue Length [ft/ln]	7.31	373.56	136.75	17.49		111.36	93.58
95th-Percentile Queue Length [veh/ln]	0.53	21.28	9.31	1.26		7.92	6.74
95th-Percentile Queue Length [ft/ln]	13.16	532.04	232.65	31.48		197.89	168.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.02	63.59	0.00	0.00	38.92	34.83	0.00	0.00	0.00	17.49	17.54	17.88
Movement LOS	D	E			D	C				B	B	B
d_A, Approach Delay [s/veh]	63.15			38.41			0.00			17.67		
Approach LOS	E			D			A			B		
d_I, Intersection Delay [s/veh]	39.12											
Intersection LOS	D											
Intersection V/C	0.381											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	3rd St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	0	60	30	0	20	604	0	477	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	60	30	0	20	604	0	477	110
Peak Hour Factor	1.0000	0.8750	0.8750	1.0000	0.9349	0.9349	1.0000	0.9479	0.9479
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	9	0	5	162	0	126	29
Total Analysis Volume [veh/h]	0	69	34	0	21	646	0	503	116
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			3			8		
Bicycle Volume [bicycles/h]	9			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	4	0	2	2	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	20	20	0	30	30	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	0	28	28	0	42	42	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	7
Pedestrian Clearance [s]	0	10	10	0	0	0	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall		No				Yes		Yes	
Maximum Recall		No				No		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	57	57	57	57
g / C, Green / Cycle	0.07	0.07	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.04	0.02	0.03	0.34	0.18	0.18
s, saturation flow rate [veh/h]	1810	1547	817	1900	1900	1597
c, Capacity [veh/h]	120	103	442	1085	1121	912
d1, Uniform Delay [s]	45.28	44.54	15.38	13.93	11.15	11.20
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.60	0.69	0.20	2.41	0.68	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.33	0.05	0.60	0.30	0.31
d, Delay for Lane Group [s/veh]	46.88	45.23	15.59	16.34	11.83	12.09
Lane Group LOS	D	D	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.69	0.81	0.29	9.55	3.86	3.36
50th-Percentile Queue Length [ft/ln]	42.27	20.33	7.26	238.75	96.41	84.07
95th-Percentile Queue Length [veh/ln]	3.04	1.46	0.52	14.62	6.94	6.05
95th-Percentile Queue Length [ft/ln]	76.08	36.59	13.06	365.45	173.53	151.33

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.88	46.88	45.23	15.59	15.59	16.34	11.83	11.92	12.09
Movement LOS	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	46.34			16.32			11.95		
Approach LOS	D			B			B		
d_I, Intersection Delay [s/veh]	16.60								
Intersection LOS	B								
Intersection V/C	0.378								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	111	60	80	161	40	30	223	10	30	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	111	60	80	161	40	30	223	10	30	190	50
Peak Hour Factor	0.8953	0.8953	0.8953	0.9414	0.9414	0.9414	0.9179	0.9179	0.9179	0.8780	0.8780	0.8780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	31	17	21	43	11	8	61	3	9	54	14
Total Analysis Volume [veh/h]	11	124	67	85	171	42	33	243	11	34	216	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	35			77			14			22		
Bicycle Volume [bicycles/h]	17			11			4			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	27	27	27	27	27	27	27	27
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	7	7	7	7	7	7	10	10
g / C, Green / Cycle	0.27	0.27	0.27	0.27	0.27	0.27	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.05	0.07	0.09	0.03	0.16	0.18
s, saturation flow rate [veh/h]	1215	1900	1482	1253	1900	1518	1807	1726
c, Capacity [veh/h]	425	514	401	458	514	411	851	819
d1, Uniform Delay [s]	10.30	7.68	7.52	10.40	7.89	7.39	5.96	6.09
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.09	0.07	0.07	0.14	0.04	0.09	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

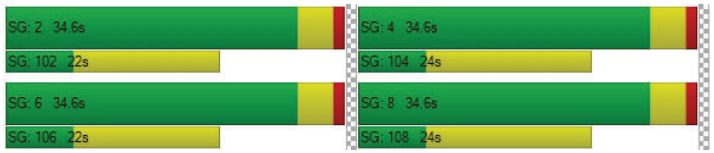
X, volume / capacity	0.03	0.24	0.17	0.19	0.33	0.10	0.34	0.37
d, Delay for Lane Group [s/veh]	10.31	7.77	7.60	10.47	8.03	7.43	6.04	6.20
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.04	0.32	0.17	0.32	0.50	0.12	0.67	0.65
50th-Percentile Queue Length [ft/ln]	0.97	8.06	4.30	8.09	12.53	2.88	16.83	16.37
95th-Percentile Queue Length [veh/ln]	0.07	0.58	0.31	0.58	0.90	0.21	1.21	1.18
95th-Percentile Queue Length [ft/ln]	1.74	14.51	7.73	14.56	22.56	5.18	30.30	29.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.31	7.77	7.60	10.47	8.03	7.43	6.04	6.04	6.04	6.20	6.20	6.20
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	7.85			8.64			6.04			6.20		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.13											
Intersection LOS	A											
Intersection V/C	0.268											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.356

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	30	209	30	10	320	21	12	88	70	40	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	209	30	10	320	21	12	88	70	40	130	30
Peak Hour Factor	0.9063	0.9063	0.9063	0.8267	0.8267	0.8267	0.8125	0.8125	0.8125	0.8578	0.8578	0.8578
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	58	8	3	97	6	4	27	22	12	38	9
Total Analysis Volume [veh/h]	33	231	33	12	387	25	15	108	86	47	152	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			63			53			32		
Bicycle Volume [bicycles/h]	13			11			3			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	28	28	28	28	28	28
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	8	8
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.01	0.22	0.12	0.14
s, saturation flow rate [veh/h]	963	1838	1107	1865	1710	1733
c, Capacity [veh/h]	384	696	486	706	642	665
d1, Uniform Delay [s]	10.95	6.36	8.94	6.99	7.97	8.05
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.13	0.01	0.28	0.11	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

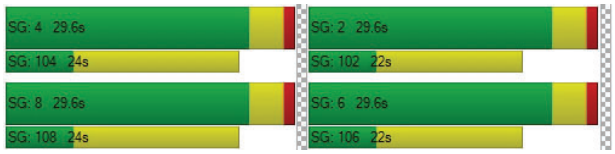
X, volume / capacity	0.09	0.38	0.02	0.58	0.33	0.35
d, Delay for Lane Group [s/veh]	10.99	6.49	8.95	7.27	8.07	8.17
Lane Group LOS	B	A	A	A	A	A
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.13	0.56	0.04	0.97	0.96	0.67
50th-Percentile Queue Length [ft/ln]	3.21	13.96	0.96	24.29	24.10	16.72
95th-Percentile Queue Length [veh/ln]	0.23	1.01	0.07	1.75	1.74	1.20
95th-Percentile Queue Length [ft/ln]	5.78	25.13	1.72	43.73	43.38	30.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.99	6.49	6.49	8.95	7.27	7.27	8.07	8.07	8.07	8.17	8.17	8.17
Movement LOS	B	A	A	A	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	6.99			7.32			8.07			8.17		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.54											
Intersection LOS	A											
Intersection V/C	0.356											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	48.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	54	220	100	70	290	10	39	517	87	90	553	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	220	100	70	290	10	39	517	87	90	553	100
Peak Hour Factor	0.7703	0.7703	0.7703	0.9300	0.9300	0.9300	0.9229	0.9229	0.9229	0.9545	0.9545	0.9545
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	71	32	19	78	3	11	140	24	24	145	26
Total Analysis Volume [veh/h]	70	286	130	75	312	11	42	560	94	94	579	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	363			0			4			8		
Bicycle Volume [bicycles/h]	9			5			7			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.15	0.08	0.07	0.16	0.01	0.05	0.35	0.09	0.18	0.19
s, saturation flow rate [veh/h]	1084	1900	1579	1110	1900	1586	769	1848	1003	1900	1782
c, Capacity [veh/h]	88	368	306	106	368	308	211	613	292	844	792
d1, Uniform Delay [s]	49.96	38.34	35.49	49.44	38.97	32.80	35.53	33.49	22.33	18.98	19.03
k, delay calibration	0.04	0.07	0.04	0.04	0.11	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.11	2.17	0.35	3.28	5.48	0.02	2.10	55.39	0.23	1.51	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

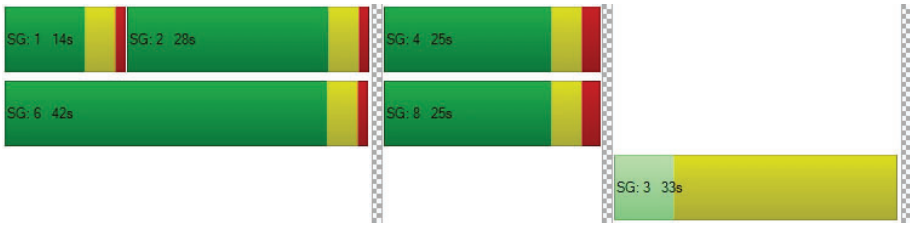
X, volume / capacity	0.80	0.78	0.42	0.71	0.85	0.04	0.20	1.07	0.32	0.42	0.42
d, Delay for Lane Group [s/veh]	56.07	40.52	35.84	52.72	44.45	32.81	37.63	88.88	22.56	20.48	20.67
Lane Group LOS	E	D	D	D	D	C	D	F	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.88	6.72	2.76	1.95	7.77	0.22	1.01	23.83	1.27	5.76	5.51
50th-Percentile Queue Length [ft/ln]	46.95	168.08	69.12	48.72	194.22	5.38	25.15	595.66	31.64	144.12	137.80
95th-Percentile Queue Length [veh/ln]	3.38	10.98	4.98	3.51	12.34	0.39	1.81	33.23	2.28	9.70	9.36
95th-Percentile Queue Length [ft/ln]	84.51	274.38	124.41	87.70	308.50	9.69	45.28	830.67	56.96	242.57	234.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.07	40.52	35.84	52.72	44.45	32.81	37.63	88.88	88.88	22.56	20.56	20.67
Movement LOS	E	D	D	D	D	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	41.51			45.69			85.79			20.81		
Approach LOS	D			D			F			C		
d_I, Intersection Delay [s/veh]	48.46											
Intersection LOS	D											
Intersection V/C	0.552											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	40	414	70	10	397	10	10	110	40	70	160	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	414	70	10	397	10	10	110	40	70	160	10
Peak Hour Factor	0.8912	0.8912	0.8912	0.9148	0.9148	0.9148	0.8274	0.8274	0.8274	0.8393	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	116	20	3	108	3	3	33	12	21	48	3
Total Analysis Volume [veh/h]	45	465	79	11	434	11	12	133	48	83	191	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	276			0			17			7		
Bicycle Volume [bicycles/h]	20			10			12			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	40	40	40	40	0	0	30	0	30	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	46	46	46	46	46	46	22	22
g / C, Green / Cycle	0.46	0.46	0.46	0.46	0.46	0.46	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.05	0.01	0.12	0.12	0.11	0.20
s, saturation flow rate [veh/h]	960	1900	1557	942	1900	1880	1765	1440
c, Capacity [veh/h]	425	873	715	321	873	864	423	361
d1, Uniform Delay [s]	21.00	19.34	15.39	27.37	16.55	16.56	34.21	38.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	2.32	0.31	0.20	0.71	0.72	0.29	8.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

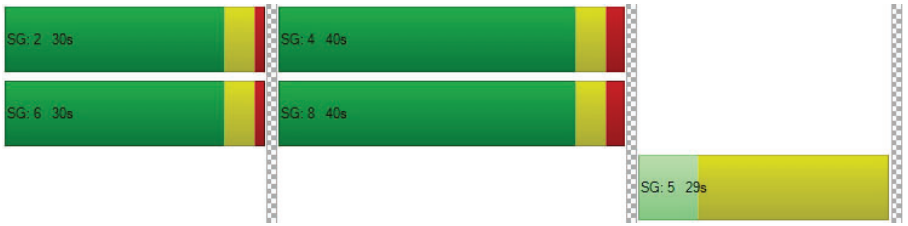
X, volume / capacity	0.11	0.53	0.11	0.03	0.26	0.26	0.46	0.79
d, Delay for Lane Group [s/veh]	21.50	21.66	15.70	27.57	17.25	17.28	34.50	46.66
Lane Group LOS	C	C	B	C	B	B	C	D
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.74	7.89	1.05	0.21	3.18	3.16	4.10	7.52
50th-Percentile Queue Length [ft/ln]	18.55	197.23	26.31	5.26	79.51	79.11	102.57	187.96
95th-Percentile Queue Length [veh/ln]	1.34	12.50	1.89	0.38	5.72	5.70	7.38	12.01
95th-Percentile Queue Length [ft/ln]	33.39	312.38	47.35	9.47	143.12	142.39	184.62	300.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.50	21.66	15.70	27.57	17.26	17.28	34.50	34.50	34.50	46.66	46.66	46.66
Movement LOS	C	C	B	C	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	20.85			17.51			34.50			46.66		
Approach LOS	C			B			C			D		
d_I, Intersection Delay [s/veh]	26.42											
Intersection LOS	C											
Intersection V/C	0.443											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	70	574	50	40	387	40	0	210	50	0	230	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	574	50	40	387	40	0	210	50	0	230	50
Peak Hour Factor	0.8402	0.8402	0.8402	0.9000	0.9000	0.9000	1.0000	0.8977	0.8977	1.0000	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	171	15	11	108	11	0	58	14	0	61	13
Total Analysis Volume [veh/h]	83	683	60	44	430	44	0	234	56	0	243	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	398			0			16			7		
Bicycle Volume [bicycles/h]	13			9			11			8		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	55	55	55	55	14	14	14	14
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.55	0.55	0.14	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.04	0.06	0.13	0.13	0.12	0.04	0.08	0.08
s, saturation flow rate [veh/h]	934	1900	1587	770	1900	1833	1900	1568	1900	1770
c, Capacity [veh/h]	504	1053	880	283	1053	1016	272	224	272	253
d1, Uniform Delay [s]	15.85	15.50	10.32	27.98	11.36	11.38	41.87	38.07	39.82	40.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.70	3.09	0.15	1.17	0.50	0.53	3.14	0.21	0.63	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.65	0.07	0.16	0.23	0.23	0.86	0.25	0.54	0.58
d, Delay for Lane Group [s/veh]	16.55	18.59	10.47	29.15	11.87	11.91	45.01	38.29	40.45	40.87
Lane Group LOS	B	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.17	10.77	0.61	0.89	2.69	2.63	5.82	1.23	3.41	3.44
50th-Percentile Queue Length [ft/ln]	29.34	269.24	15.34	22.19	67.23	65.77	145.53	30.71	85.16	85.89
95th-Percentile Queue Length [veh/ln]	2.11	16.15	1.10	1.60	4.84	4.74	9.78	2.21	6.13	6.18
95th-Percentile Queue Length [ft/ln]	52.81	403.79	27.61	39.94	121.01	118.38	244.45	55.28	153.28	154.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.55	18.59	10.47	29.15	11.88	11.91	0.00	45.01	38.29	0.00	40.61	40.87
Movement LOS	B	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	17.79			13.35			43.71			40.66		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.00											
Intersection LOS	C											
Intersection V/C	0.483											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	39.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	78	634	220	30	357	40	0	233	41	30	311	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	634	220	30	357	40	0	233	41	30	311	70
Peak Hour Factor	0.9144	0.9144	0.9144	0.9709	0.9709	0.9709	1.0000	0.9118	0.9118	0.8866	0.8866	0.8866
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	173	60	8	92	10	0	64	11	8	88	20
Total Analysis Volume [veh/h]	85	693	241	31	368	41	0	256	45	34	351	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	516			0			19			11		
Bicycle Volume [bicycles/h]	29			44			5			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	7	51	51	60	49	49	18	30	27	27	27
g / C, Green / Cycle	0.06	0.43	0.43	0.50	0.40	0.40	0.15	0.25	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.15	0.03	0.11	0.11	0.13	0.03	0.03	0.18	0.05
s, saturation flow rate [veh/h]	1810	1900	1571	887	1900	1819	1900	1588	1321	1900	1591
c, Capacity [veh/h]	109	809	669	279	767	734	287	397	244	436	365
d1, Uniform Delay [s]	55.64	31.15	23.38	22.21	23.96	24.02	49.99	34.78	37.39	43.72	37.51
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.09	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.50	11.30	1.51	0.80	0.87	0.93	3.82	0.05	0.10	2.98	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

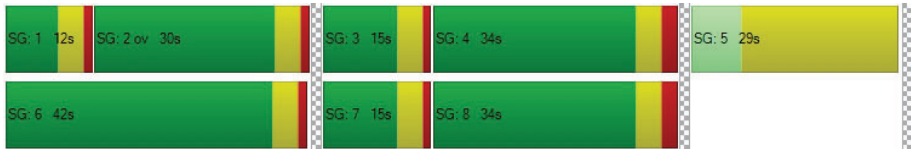
X, volume / capacity	0.78	0.86	0.36	0.11	0.27	0.28	0.89	0.11	0.14	0.81	0.22
d, Delay for Lane Group [s/veh]	60.14	42.45	24.88	23.02	24.83	24.95	53.81	34.83	37.48	46.70	37.62
Lane Group LOS	E	D	C	C	C	C	D	C	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.65	20.01	4.84	0.49	4.08	4.00	7.83	1.03	0.79	10.09	1.89
50th-Percentile Queue Length [ft/ln]	66.35	500.19	120.96	12.18	101.95	99.92	195.68	25.76	19.74	252.22	47.23
95th-Percentile Queue Length [veh/ln]	4.78	27.34	8.45	0.88	7.34	7.19	12.42	1.86	1.42	15.30	3.40
95th-Percentile Queue Length [ft/ln]	119.43	683.59	211.14	21.93	183.51	179.85	310.39	46.38	35.52	382.45	85.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.14	42.45	24.88	23.02	24.88	24.95	0.00	53.81	34.83	37.48	46.70	37.62
Movement LOS	E	D	C	C	C	C		D	C	D	D	D
d_A, Approach Delay [s/veh]	39.77			24.75			50.97			44.48		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	39.30											
Intersection LOS	D											
Intersection V/C	0.559											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	320	982	0	0	439	30	181	0	84	110	130	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	982	0	0	439	30	181	0	84	110	130	40
Peak Hour Factor	0.8612	0.8612	1.0000	1.0000	0.9000	0.9000	0.8717	1.0000	0.8717	0.9130	0.9130	0.9130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	285	0	0	122	8	52	0	24	30	36	11
Total Analysis Volume [veh/h]	372	1140	0	0	488	33	208	0	96	120	142	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	722			0			156			3		
Bicycle Volume [bicycles/h]	7			56			7			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	22	71	0	0	49	20	29	0	22	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	78	78	60	60		13	13
g / C, Green / Cycle	0.65	0.65	0.50	0.50		0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.34	0.32	0.14	0.14		0.09	0.09
s, saturation flow rate [veh/h]	1082	3618	1900	1848		1832	1630
c, Capacity [veh/h]	716	2351	950	924		196	174
d1, Uniform Delay [s]	10.04	10.75	17.39	17.47		52.49	52.56
k, delay calibration	0.34	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	1.83	0.72	0.71	0.76		3.29	3.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

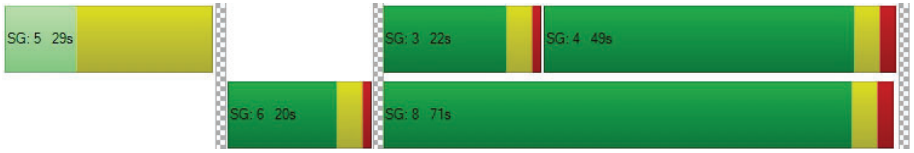
X, volume / capacity	0.52	0.48	0.27	0.28		0.82	0.83
d, Delay for Lane Group [s/veh]	11.87	11.47	18.11	18.23		55.78	56.53
Lane Group LOS	B	B	B	B		E	E
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	4.48	7.55	4.27	4.30		4.96	4.51
50th-Percentile Queue Length [ft/ln]	111.95	188.63	106.86	107.50		124.04	112.84
95th-Percentile Queue Length [veh/ln]	7.95	12.05	7.66	7.70		8.61	8.00
95th-Percentile Queue Length [ft/ln]	198.71	301.25	191.62	192.52		215.36	199.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.87	11.47	0.00	0.00	18.16	18.23	0.00	0.00	0.00	55.78	56.31	56.53
Movement LOS	B	B			B	B				E	E	E
d_A, Approach Delay [s/veh]	11.57			18.17			0.00			56.14		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	18.87											
Intersection LOS	B											
Intersection V/C	0.404											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.698

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	532	0	0	649	910	510
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	532	0	0	649	910	510
Peak Hour Factor	0.9052	1.0000	1.0000	0.8323	0.9608	0.9608
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	147	0	0	195	237	133
Total Analysis Volume [veh/h]	588	0	0	780	947	531
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	42.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	45	0	0	45	45	45
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	40	40	40	40
g / C, Green / Cycle	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.38	0.48
s, saturation flow rate [veh/h]	3618	3618	2500	1100
c, Capacity [veh/h]	1628	1628	1119	493
d1, Uniform Delay [s]	16.24	17.34	22.06	24.82
k, delay calibration	0.50	0.50	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.62	1.01	0.70	63.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.48	0.85	1.08
d, Delay for Lane Group [s/veh]	16.86	18.35	22.77	88.04
Lane Group LOS	B	B	C	F
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.96	5.63	7.55	17.35
50th-Percentile Queue Length [ft/ln]	98.94	140.86	188.75	433.86
95th-Percentile Queue Length [veh/ln]	7.12	9.53	12.06	25.49
95th-Percentile Queue Length [ft/ln]	178.09	238.18	301.41	637.21

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Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.86	0.00	0.00	18.35	22.77	88.04
Movement LOS	B			B	C	F
d_A, Approach Delay [s/veh]	16.86		18.35		46.22	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	32.51					
Intersection LOS	C					
Intersection V/C	0.698					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	60.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	492	500	395	784	150	40	450	30	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	492	500	395	784	150	40	450	30	0	0	0
Peak Hour Factor	0.8933	0.8933	0.8933	0.9143	0.9143	0.9143	0.7752	0.7752	0.7752	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	138	140	108	214	41	13	145	10	0	0	0
Total Analysis Volume [veh/h]	34	551	560	432	858	164	52	580	39	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			109			47		
Bicycle Volume [bicycles/h]	0			2			13			3		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	5.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	12	36	36	25	49	49	29	29	29	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	No		No	Yes			No				
Maximum Recall	No	Yes		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_AM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	25	25	37	59	59	14	14	14
g / C, Green / Cycle	0.03	0.28	0.28	0.42	0.66	0.66	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.02	0.29	0.37	0.12	0.27	0.29	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1810	1900	1533	3514	1900	1725	1880	1729	1664
c, Capacity [veh/h]	59	528	426	1459	1255	1139	289	266	256
d1, Uniform Delay [s]	42.90	32.50	32.50	17.54	7.16	7.31	36.92	36.90	36.99
k, delay calibration	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.22	51.10	157.58	0.04	1.02	1.23	2.31	2.46	2.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

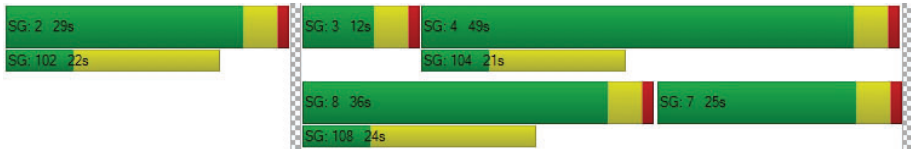
X, volume / capacity	0.57	1.04	1.31	0.30	0.42	0.44	0.83	0.82	0.84
d, Delay for Lane Group [s/veh]	46.12	83.60	190.07	17.58	8.18	8.55	39.23	39.36	39.77
Lane Group LOS	D	F	F	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.79	18.58	27.59	2.90	4.38	4.33	5.12	4.70	4.63
50th-Percentile Queue Length [ft/ln]	19.78	464.49	689.69	72.41	109.43	108.16	127.91	117.54	115.68
95th-Percentile Queue Length [veh/ln]	1.42	26.34	41.91	5.21	7.81	7.74	8.83	8.26	8.16
95th-Percentile Queue Length [ft/ln]	35.61	658.50	1047.73	130.35	195.22	193.44	220.65	206.44	203.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.12	83.60	190.07	17.58	8.32	8.55	39.23	39.44	39.77	0.00	0.00	0.00
Movement LOS	D	F	F	B	A	A	D	D	D			
d_A, Approach Delay [s/veh]	134.56			11.10			39.44			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	60.15											
Intersection LOS	E											
Intersection V/C	0.617											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	135	126	60	40	90	20	10	542	20	110	617	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	126	60	40	90	20	10	542	20	110	617	40
Peak Hour Factor	0.9659	0.9659	0.9659	0.8023	0.8023	0.8023	0.9311	0.9311	0.9311	0.9371	0.9371	0.9371
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	33	16	12	28	6	3	146	5	29	165	11
Total Analysis Volume [veh/h]	140	130	62	50	112	25	11	582	21	117	658	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			88			39			23		
Bicycle Volume [bicycles/h]	7			9			2			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	23	23	23	23	23	64	64	64	64	64	64
g / C, Green / Cycle	0.23	0.23	0.23	0.23	0.23	0.64	0.64	0.64	0.64	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.11	0.07	0.04	0.04	0.08	0.01	0.16	0.01	0.14	0.19	0.19
s, saturation flow rate [veh/h]	1229	1900	1538	1254	1813	750	3618	1537	838	1900	1833
c, Capacity [veh/h]	253	442	358	264	421	471	2299	977	531	1207	1165
d1, Uniform Delay [s]	41.03	31.60	30.67	37.30	31.84	11.11	7.92	6.73	11.92	8.16	8.19
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	0.14	0.08	0.13	0.16	0.09	0.27	0.04	0.96	0.62	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

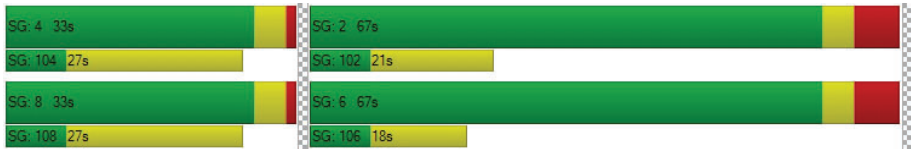
X, volume / capacity	0.55	0.29	0.17	0.19	0.33	0.02	0.25	0.02	0.22	0.29	0.30
d, Delay for Lane Group [s/veh]	41.73	31.73	30.76	37.43	32.01	11.20	8.18	6.77	12.88	8.78	8.85
Lane Group LOS	D	C	C	D	C	B	A	A	B	A	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.30	2.56	1.18	1.07	2.72	0.12	2.59	0.16	1.46	3.36	3.31
50th-Percentile Queue Length [ft/ln]	82.53	63.94	29.62	26.80	67.95	3.12	64.82	4.12	36.46	83.90	82.63
95th-Percentile Queue Length [veh/ln]	5.94	4.60	2.13	1.93	4.89	0.22	4.67	0.30	2.63	6.04	5.95
95th-Percentile Queue Length [ft/ln]	148.56	115.09	53.31	48.23	122.30	5.61	116.68	7.42	65.63	151.02	148.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.73	31.73	30.76	37.43	32.01	32.01	11.20	8.18	6.77	12.88	8.81	8.85
Movement LOS	D	C	C	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	35.77			33.46			8.19			9.39		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	15.81											
Intersection LOS	B											
Intersection V/C	0.303											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	262	50	30	120	30	20	130	40	20	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	262	50	30	120	30	20	130	40	20	130	30
Peak Hour Factor	0.8947	0.8947	0.8947	0.8571	0.8571	0.8571	0.8100	0.8100	0.8100	0.8464	0.8464	0.8464
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	73	14	9	35	9	6	40	12	6	38	9
Total Analysis Volume [veh/h]	89	293	56	35	140	35	25	160	49	24	154	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	30			86			30			19		
Bicycle Volume [bicycles/h]	27			10			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	71	71	71	71	71	20	20
g / C, Green / Cycle	0.71	0.71	0.71	0.71	0.71	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.07	0.09	0.10	0.03	0.10	0.13	0.12
s, saturation flow rate [veh/h]	1216	1900	1764	1043	1815	1737	1715
c, Capacity [veh/h]	857	1342	1246	745	1282	390	385
d1, Uniform Delay [s]	6.76	4.74	4.76	6.49	4.76	36.59	36.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.20	0.23	0.12	0.22	1.49	1.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.13	0.14	0.05	0.14	0.60	0.55
d, Delay for Lane Group [s/veh]	7.00	4.95	4.99	6.61	4.98	38.07	37.37
Lane Group LOS	A	A	A	A	A	D	D
Critical Lane Group	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.70	1.07	1.03	0.27	1.05	5.29	4.74
50th-Percentile Queue Length [ft/ln]	17.58	26.63	25.83	6.71	26.36	132.27	118.55
95th-Percentile Queue Length [veh/ln]	1.27	1.92	1.86	0.48	1.90	9.06	8.31
95th-Percentile Queue Length [ft/ln]	31.65	47.93	46.50	12.07	47.44	226.58	207.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.00	4.96	4.99	6.61	4.98	4.98	38.07	38.07	38.07	37.37	37.37	37.37
Movement LOS	A	A	A	A	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	5.38			5.25			38.07			37.37		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	18.57											
Intersection LOS	B											
Intersection V/C	0.232											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	60	402	70	20	90	20	40	240	10	10	230	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	402	70	20	90	20	40	240	10	10	230	110
Peak Hour Factor	0.9555	0.9555	0.9555	0.8468	0.8468	0.8468	0.9094	0.9094	0.9094	0.9331	0.9331	0.9331
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	105	18	6	27	6	11	66	3	3	62	29
Total Analysis Volume [veh/h]	63	421	73	24	106	24	44	264	11	11	246	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			133			81			50		
Bicycle Volume [bicycles/h]	10			10			4			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	20	20	20	20	20	67	67	67	67	67	67
g / C, Green / Cycle	0.20	0.20	0.20	0.20	0.20	0.67	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.05	0.13	0.14	0.03	0.07	0.04	0.07	0.07	0.01	0.13	0.08
s, saturation flow rate [veh/h]	1188	1900	1742	899	1779	1122	1900	1858	1084	1900	1498
c, Capacity [veh/h]	205	378	347	113	354	749	1271	1243	749	1271	1002
d1, Uniform Delay [s]	41.60	36.98	37.24	46.75	34.60	8.21	5.91	5.91	7.09	6.29	5.95
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.76	0.95	0.34	0.24	0.15	0.17	0.18	0.04	0.34	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

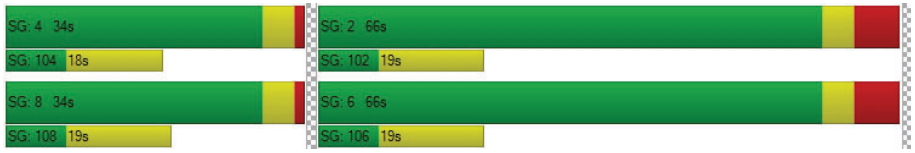
X, volume / capacity	0.31	0.67	0.70	0.21	0.37	0.06	0.11	0.11	0.01	0.19	0.12
d, Delay for Lane Group [s/veh]	41.91	37.74	38.19	47.09	34.83	8.36	6.08	6.09	7.13	6.63	6.19
Lane Group LOS	D	D	D	D	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.45	5.65	5.46	0.59	2.71	0.40	1.00	1.00	0.09	1.90	0.88
50th-Percentile Queue Length [ft/ln]	36.27	141.13	136.55	14.68	67.66	10.11	25.02	24.89	2.28	47.60	21.89
95th-Percentile Queue Length [veh/ln]	2.61	9.54	9.29	1.06	4.87	0.73	1.80	1.79	0.16	3.43	1.58
95th-Percentile Queue Length [ft/ln]	65.28	238.55	232.37	26.43	121.79	18.20	45.03	44.80	4.10	85.68	39.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.91	37.92	38.19	47.09	34.83	34.83	8.36	6.09	6.09	7.13	6.63	6.19
Movement LOS	D	D	D	D	C	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	38.41			36.74			6.40			6.51		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	22.44											
Intersection LOS	C											
Intersection V/C	0.268											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	90	522	70	30	50	20	60	243	10	20	301	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	522	70	30	50	20	60	243	10	20	301	50
Peak Hour Factor	0.8505	0.8505	0.8505	0.8750	0.8750	0.8750	0.9438	0.9438	0.9438	0.8844	0.8844	0.8844
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	153	21	9	14	6	16	64	3	6	85	14
Total Analysis Volume [veh/h]	106	614	82	34	57	23	64	257	11	23	340	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	89			102			37			54		
Bicycle Volume [bicycles/h]	34			64			3			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	26	26	26	26	26	65	65	65	65	65
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.65	0.65	0.65	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.08	0.19	0.19	0.04	0.05	0.06	0.14	0.02	0.18	0.04
s, saturation flow rate [veh/h]	1302	1900	1770	761	1743	1042	1881	1111	1900	1518
c, Capacity [veh/h]	331	494	460	115	453	654	1219	711	1232	984
d1, Uniform Delay [s]	34.93	33.69	33.93	46.64	28.71	10.40	7.22	9.19	7.54	6.43
k, delay calibration	0.04	0.09	0.10	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	1.58	2.24	0.53	0.07	0.30	0.42	0.08	0.56	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.72	0.74	0.30	0.18	0.10	0.22	0.03	0.28	0.06
d, Delay for Lane Group [s/veh]	35.14	35.27	36.17	47.17	28.78	10.70	7.63	9.27	8.09	6.54
Lane Group LOS	D	D	D	D	C	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.23	7.83	7.65	0.84	1.47	0.68	2.22	0.22	2.95	0.43
50th-Percentile Queue Length [ft/ln]	55.67	195.79	191.31	20.98	36.78	16.99	55.62	5.51	73.80	10.64
95th-Percentile Queue Length [veh/ln]	4.01	12.42	12.19	1.51	2.65	1.22	4.00	0.40	5.31	0.77
95th-Percentile Queue Length [ft/ln]	100.20	310.52	304.73	37.76	66.20	30.59	100.12	9.93	132.84	19.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.14	35.65	36.17	47.17	28.78	28.78	10.70	7.63	7.63	9.27	8.09	6.54
Movement LOS	D	D	D	D	C	C	B	A	A	A	A	A
d_A, Approach Delay [s/veh]	35.63			34.26			8.22			7.95		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	23.11											
Intersection LOS	C											
Intersection V/C	0.372											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	602	50	30	10	30	0	0	0	6	230	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	602	50	30	10	30	0	0	0	6	230	30
Peak Hour Factor	0.9399	0.8905	0.8905	0.7826	0.7826	0.7826	1.0000	1.0000	1.0000	0.9301	0.8393	0.8393
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	169	14	10	3	10	0	0	0	2	69	9
Total Analysis Volume [veh/h]	15	676	56	38	13	38	0	0	0	6	274	36
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	178			3			54			110		
Bicycle Volume [bicycles/h]	23			4			4			13		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	40	40	5	49		40
g / C, Green / Cycle	0.40	0.40	0.05	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.04	0.02	0.03		0.17
s, saturation flow rate [veh/h]	3618	1336	1810	1619		1856
c, Capacity [veh/h]	1451	536	83	798		752
d1, Uniform Delay [s]	22.05	18.71	46.48	13.27		21.23
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.08	0.39	1.47	0.15		1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

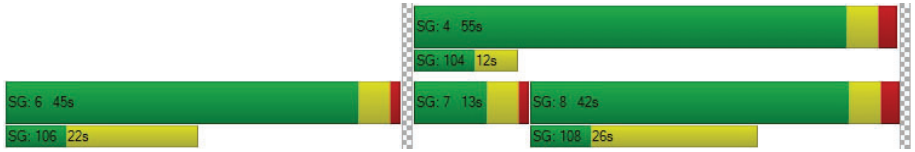
X, volume / capacity	0.47	0.10	0.46	0.06		0.41
d, Delay for Lane Group [s/veh]	23.13	19.11	47.95	13.43		22.89
Lane Group LOS	C	B	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.93	0.86	0.94	0.61		5.43
50th-Percentile Queue Length [ft/ln]	148.13	21.52	23.54	15.28		135.69
95th-Percentile Queue Length [veh/ln]	9.92	1.55	1.70	1.10		9.25
95th-Percentile Queue Length [ft/ln]	247.93	38.74	42.38	27.51		231.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.13	19.11	47.95	13.43	13.43	0.00	0.00	0.00	0.00	22.89	22.89
Movement LOS		C	B	D	B	B					C	C
d_A, Approach Delay [s/veh]	22.82			28.17			0.00			22.89		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	23.26											
Intersection LOS	C											
Intersection V/C	0.375											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	31.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	151	50	100	180	39	70	393	20	50	270	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	151	50	100	180	39	70	393	20	50	270	120
Peak Hour Factor	0.9359	0.9359	0.9359	0.8944	0.8944	0.8944	0.8689	0.8689	0.8689	0.8941	0.8941	0.8941
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	40	13	28	50	11	20	113	6	14	75	34
Total Analysis Volume [veh/h]	11	161	53	112	201	44	81	452	23	56	302	134
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	162			182			98			74		
Bicycle Volume [bicycles/h]	16			10			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.29	0.09	0.52	0.07	0.08	0.26	0.06	0.16	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1024	1861	914	1900	1296
c, Capacity [veh/h]	274	219	289	219	488	937	376	957	652
d1, Uniform Delay [s]	19.77	15.47	25.30	15.22	14.78	11.58	18.30	10.26	9.62
k, delay calibration	0.15	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.19	0.21	77.02	0.17	0.73	1.96	0.83	0.87	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

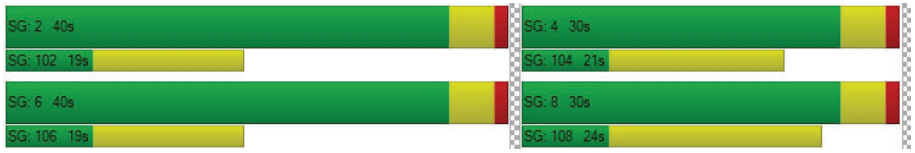
X, volume / capacity	0.63	0.24	1.08	0.20	0.17	0.51	0.15	0.32	0.21
d, Delay for Lane Group [s/veh]	22.96	15.68	102.32	15.39	15.51	13.54	19.14	11.12	10.33
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.53	0.56	10.96	0.46	0.91	4.81	0.73	2.65	1.14
50th-Percentile Queue Length [ft/ln]	63.22	14.10	274.08	11.51	22.75	120.32	18.16	66.32	28.43
95th-Percentile Queue Length [veh/ln]	4.55	1.02	17.21	0.83	1.64	8.41	1.31	4.77	2.05
95th-Percentile Queue Length [ft/ln]	113.79	25.38	430.23	20.71	40.96	210.27	32.69	119.37	51.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.96	22.96	15.68	102.32	102.32	15.39	15.51	13.54	13.54	19.14	11.12	10.33
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	21.25			91.61			13.83			11.82		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	31.28											
Intersection LOS	C											
Intersection V/C	0.777											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	140	60	30	70	30	60	423	50	70	340	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	140	60	30	70	30	60	423	50	70	340	40
Peak Hour Factor	0.7833	0.7833	0.7833	0.6716	0.6716	0.6716	0.9205	0.9205	0.9205	0.8630	0.8630	0.8630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	45	19	11	26	11	16	115	14	20	98	12
Total Analysis Volume [veh/h]	77	179	77	45	104	45	65	460	54	81	394	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	275			205			256			77		
Bicycle Volume [bicycles/h]	15			10			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	44	44	44	44	44	44	44	44
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	15	15	19	19	19	19
g / C, Green / Cycle	0.35	0.35	0.35	0.35	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.07	0.15	0.04	0.09	0.07	0.29	0.10	0.25
s, saturation flow rate [veh/h]	1070	1710	1074	1640	888	1760	829	1792
c, Capacity [veh/h]	429	607	377	582	343	763	290	777
d1, Uniform Delay [s]	13.33	10.65	14.64	9.96	15.03	9.86	17.42	9.25
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.17	0.05	0.09	0.10	0.39	0.19	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

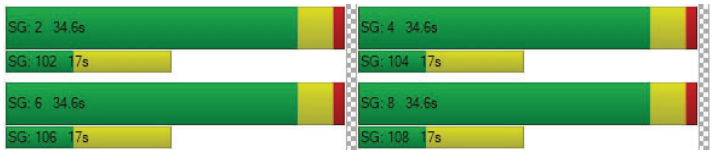
X, volume / capacity	0.18	0.42	0.12	0.26	0.19	0.67	0.28	0.57
d, Delay for Lane Group [s/veh]	13.41	10.82	14.69	10.04	15.13	10.25	17.61	9.49
Lane Group LOS	B	B	B	B	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.51	1.44	0.32	0.78	0.49	2.96	0.68	2.36
50th-Percentile Queue Length [ft/ln]	12.70	36.10	7.89	19.60	12.14	74.05	16.98	59.12
95th-Percentile Queue Length [veh/ln]	0.91	2.60	0.57	1.41	0.87	5.33	1.22	4.26
95th-Percentile Queue Length [ft/ln]	22.86	64.97	14.20	35.27	21.86	133.28	30.57	106.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.41	10.82	10.82	14.69	10.04	10.04	15.13	10.25	10.25	17.61	9.49	9.49
Movement LOS	B	B	B	B	B	B	B	B	B	B	A	A
d_A, Approach Delay [s/veh]	11.42			11.12			10.80			10.75		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	10.95											
Intersection LOS	B											
Intersection V/C	0.442											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	145	320	240	75	352	50	20	645	152	200	639	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	320	240	75	352	50	20	645	152	200	639	24
Peak Hour Factor	0.9050	0.9050	0.9050	0.9194	0.9194	0.9194	0.8737	0.8737	0.8737	0.9366	0.9366	0.9366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	88	66	20	96	14	6	185	43	53	171	6
Total Analysis Volume [veh/h]	160	354	265	82	383	54	23	738	174	214	682	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	39			27			19			22		
Bicycle Volume [bicycles/h]	6			9			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	43	43	43	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.43	0.43	0.43	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.13	0.19	0.17	0.08	0.12	0.12	0.03	0.20	0.11	0.23	0.19	0.02
s, saturation flow rate [veh/h]	1206	1900	1560	1034	1900	1796	766	3618	1551	926	3618	1542
c, Capacity [veh/h]	431	670	551	136	442	418	312	1574	675	517	2008	856
d1, Uniform Delay [s]	23.65	25.74	25.23	47.56	33.34	33.44	24.32	20.05	17.98	12.68	12.20	10.07
k, delay calibration	0.27	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.34	0.24	0.24	1.58	0.33	0.36	0.46	1.01	0.93	2.43	0.46	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.53	0.48	0.60	0.50	0.51	0.07	0.47	0.26	0.41	0.34	0.03
d, Delay for Lane Group [s/veh]	24.99	25.98	25.47	49.14	33.67	33.80	24.78	21.06	18.91	15.11	12.66	10.13
Lane Group LOS	C	C	C	D	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.81	6.61	4.85	2.08	4.62	4.48	0.42	6.16	2.69	2.60	4.02	0.26
50th-Percentile Queue Length [ft/ln]	70.19	165.13	121.27	52.07	115.44	111.98	10.60	154.11	67.16	64.93	100.50	6.51
95th-Percentile Queue Length [veh/ln]	5.05	10.82	8.46	3.75	8.14	7.95	0.76	10.24	4.84	4.68	7.24	0.47
95th-Percentile Queue Length [ft/ln]	126.34	270.50	211.57	93.73	203.55	198.76	19.08	255.90	120.90	116.88	180.91	11.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.99	25.98	25.47	49.14	33.72	33.80	24.78	21.06	18.91	15.11	12.66	10.13
Movement LOS	C	C	C	D	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	25.60			36.17			20.75			13.16		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.27											
Intersection LOS	C											
Intersection V/C	0.455											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.806

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	80	706	70	10	704	10	10	70	60	70	140	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	706	70	10	704	10	10	70	60	70	140	50
Peak Hour Factor	0.9138	0.9138	0.9138	0.9461	0.9461	0.9461	0.7357	0.7357	0.7357	0.9154	0.9154	0.9154
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	193	19	3	186	3	3	24	20	19	38	14
Total Analysis Volume [veh/h]	88	773	77	11	744	11	14	95	82	76	153	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			102			111			62		
Bicycle Volume [bicycles/h]	4			3			0			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	57	57	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.57	0.57	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.23	0.01	0.20	0.20	0.14	0.06	0.57	0.04
s, saturation flow rate [veh/h]	875	1900	1809	740	1900	1881	800	1325	400	1413
c, Capacity [veh/h]	575	1081	1029	489	995	985	260	363	158	387
d1, Uniform Delay [s]	7.90	12.02	12.09	7.66	14.17	14.18	29.19	28.06	40.44	27.39
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	1.10	1.19	0.08	1.11	1.13	0.40	0.12	235.34	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

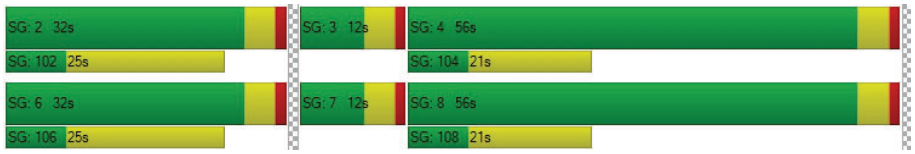
X, volume / capacity	0.15	0.40	0.41	0.02	0.38	0.38	0.42	0.23	1.45	0.14
d, Delay for Lane Group [s/veh]	8.02	13.13	13.28	7.75	15.27	15.31	29.59	28.18	275.79	27.45
Lane Group LOS	A	B	B	A	B	B	C	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	5.40	5.28	0.09	5.19	5.18	2.00	1.50	14.19	0.98
50th-Percentile Queue Length [ft/ln]	17.32	135.12	132.00	2.30	129.80	129.42	50.01	37.55	354.86	24.56
95th-Percentile Queue Length [veh/ln]	1.25	9.22	9.05	0.17	8.93	8.91	3.60	2.70	24.10	1.77
95th-Percentile Queue Length [ft/ln]	31.18	230.44	226.21	4.15	223.22	222.71	90.01	67.58	602.48	44.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.02	13.19	13.28	7.75	15.29	15.31	29.59	29.59	28.18	275.79	275.79	27.45
Movement LOS	A	B	B	A	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	12.72			15.18			28.99			227.69		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	43.03											
Intersection LOS	D											
Intersection V/C	0.806											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	726	200	60	664	10	30	300	60	100	342	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	726	200	60	664	10	30	300	60	100	342	100
Peak Hour Factor	0.9396	0.9396	0.9396	0.8850	0.8850	0.8850	0.9209	0.9209	0.9209	0.9532	0.9532	0.9532
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	193	53	17	188	3	8	81	16	26	90	26
Total Analysis Volume [veh/h]	117	773	213	68	750	11	33	326	65	105	359	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			54			48			29		
Bicycle Volume [bicycles/h]	10			3			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	57	46	46	57	45	45	23	23	23	34	34	34
g / C, Green / Cycle	0.57	0.46	0.46	0.57	0.45	0.45	0.23	0.23	0.23	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.27	0.09	0.20	0.20	0.03	0.10	0.11	0.09	0.19	0.07
s, saturation flow rate [veh/h]	896	1900	1730	767	1900	1887	1015	1900	1746	1227	1900	1516
c, Capacity [veh/h]	518	876	797	423	863	857	125	433	398	428	648	517
d1, Uniform Delay [s]	11.13	19.89	20.03	12.15	18.66	18.67	46.42	33.31	33.49	23.60	26.80	23.35
k, delay calibration	0.26	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	2.84	3.26	0.81	1.64	1.66	0.41	0.28	0.34	0.11	0.28	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

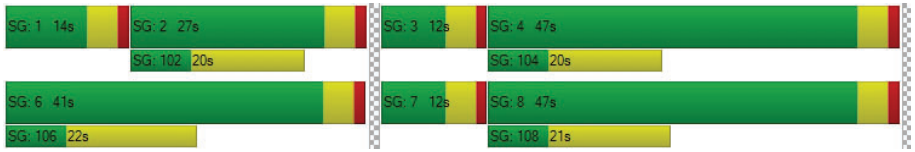
X, volume / capacity	0.23	0.58	0.60	0.16	0.44	0.44	0.26	0.46	0.48	0.25	0.55	0.20
d, Delay for Lane Group [s/veh]	11.66	22.73	23.29	12.96	20.30	20.32	46.83	33.59	33.82	23.71	27.07	23.42
Lane Group LOS	B	C	C	B	C	C	D	C	C	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.22	9.15	8.63	0.74	6.26	6.24	0.81	4.17	4.03	1.73	6.88	1.75
50th-Percentile Queue Length [ft/ln]	30.53	228.77	215.67	18.55	156.53	155.89	20.34	104.19	100.74	43.31	171.94	43.76
95th-Percentile Queue Length [veh/ln]	2.20	14.11	13.44	1.34	10.36	10.33	1.46	7.50	7.25	3.12	11.18	3.15
95th-Percentile Queue Length [ft/ln]	54.95	352.79	336.09	33.38	259.12	258.27	36.61	187.54	181.33	77.96	279.47	78.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.66	22.92	23.29	12.96	20.31	20.32	46.83	33.68	33.82	23.71	27.07	23.42
Movement LOS	B	C	C	B	C	C	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	21.80			19.71			34.73			25.78		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	23.85											
Intersection LOS	C											
Intersection V/C	0.483											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	43.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	110	936	150	30	854	50	80	283	100	100	281	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	936	150	30	854	50	80	283	100	100	281	50
Peak Hour Factor	0.9760	0.9760	0.9760	0.9479	0.9479	0.9479	0.8510	0.8510	0.8510	0.8772	0.8772	0.8772
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	240	38	8	225	13	24	83	29	28	80	14
Total Analysis Volume [veh/h]	113	959	154	32	901	53	94	333	118	114	320	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	58			79			72			42		
Bicycle Volume [bicycles/h]	48			57			6			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	8	51	51	39	39	39	26	26	26	35	35
g / C, Green / Cycle	0.08	0.51	0.51	0.39	0.39	0.39	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.31	0.06	0.25	0.26	0.09	0.18	0.08	0.37	0.04
s, saturation flow rate [veh/h]	1810	1900	1753	514	1900	1838	1076	1900	1481	1179	1486
c, Capacity [veh/h]	142	978	902	151	742	718	72	488	380	387	524
d1, Uniform Delay [s]	45.29	16.79	17.05	38.28	24.88	24.99	50.00	33.48	30.00	29.87	21.76
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.15	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	2.52	2.97	3.20	4.37	4.68	142.81	2.31	0.17	82.43	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

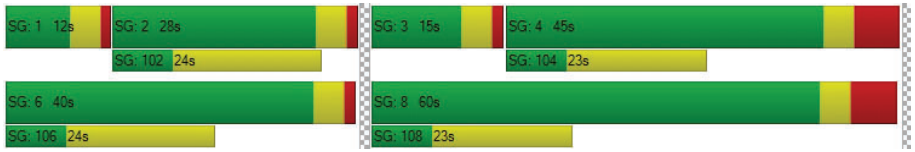
X, volume / capacity	0.80	0.58	0.60	0.21	0.65	0.66	1.30	0.68	0.31	1.12	0.11
d, Delay for Lane Group [s/veh]	49.10	19.32	20.03	41.48	29.25	29.68	192.80	35.79	30.17	112.30	21.80
Lane Group LOS	D	B	C	D	C	C	F	D	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.89	9.30	9.10	0.84	9.97	9.87	4.65	7.39	2.26	16.12	0.89
50th-Percentile Queue Length [ft/ln]	72.22	232.48	227.60	20.97	249.17	246.64	116.37	184.67	56.60	403.11	22.13
95th-Percentile Queue Length [veh/ln]	5.20	14.30	14.05	1.51	15.14	15.02	8.38	11.84	4.08	24.36	1.59
95th-Percentile Queue Length [ft/ln]	129.99	357.51	351.30	37.74	378.60	375.42	209.47	296.11	101.89	608.99	39.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.10	19.61	20.03	41.48	29.45	29.68	192.80	35.79	30.17	112.30	112.30	21.80
Movement LOS	D	B	C	D	C	C	F	D	C	F	F	C
d_A, Approach Delay [s/veh]	22.38			29.85			61.66			101.80		
Approach LOS	C			C			E			F		
d_I, Intersection Delay [s/veh]	43.24											
Intersection LOS	D											
Intersection V/C	0.591											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	83.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	1236	190	10	1114	10	6	90	100	66	90	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1236	190	10	1114	10	6	90	100	66	90	30
Peak Hour Factor	0.9193	0.9193	0.9193	0.9119	0.9119	0.9119	0.8750	0.7635	0.7635	0.9427	0.8293	0.8293
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	336	52	3	305	3	2	29	33	18	27	9
Total Analysis Volume [veh/h]	11	1345	207	11	1222	11	7	118	131	70	109	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			32			25			16		
Bicycle Volume [bicycles/h]	13			12			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	2	7	4	6	5	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	0	7	7
Maximum Green [s]	15	30	40	15	30	40	0	40	15	0	40	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	30	0	0	30	0	30	30	0	30	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	18	17	0	18	17	0	17	0	0	17	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	2.6	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	2	30	30	2	30	30	40	40
g / C, Green / Cycle	0.02	0.35	0.35	0.02	0.35	0.35	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.01	0.41	0.43	0.01	0.32	0.33	0.15	0.08
s, saturation flow rate [veh/h]	1810	1900	1781	1810	1900	1891	1709	1802
c, Capacity [veh/h]	36	666	625	36	666	663	799	843
d1, Uniform Delay [s]	41.31	27.76	27.76	41.31	26.70	26.72	14.18	13.18
k, delay calibration	0.04	0.50	0.50	0.04	0.36	0.37	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.70	96.62	114.40	1.70	16.52	16.83	1.02	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

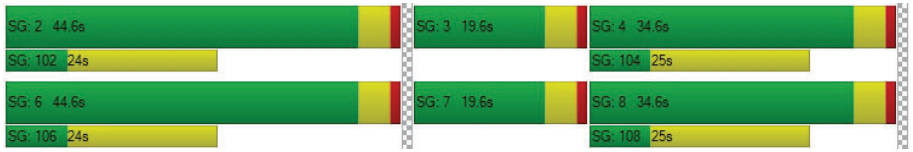
X, volume / capacity	0.30	1.18	1.22	0.30	0.93	0.93	0.31	0.17
d, Delay for Lane Group [s/veh]	43.00	124.38	142.16	43.00	43.22	43.55	15.20	13.62
Lane Group LOS	D	F	F	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.24	30.74	31.91	0.24	14.51	14.53	3.07	1.64
50th-Percentile Queue Length [ft/ln]	6.07	768.57	797.73	6.07	362.81	363.29	76.65	41.01
95th-Percentile Queue Length [veh/ln]	0.44	44.32	46.67	0.44	20.76	20.78	5.52	2.95
95th-Percentile Queue Length [ft/ln]	10.93	1107.88	1166.81	10.93	518.99	519.59	137.96	73.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.00	131.75	142.16	43.00	43.39	43.55	0.00	15.20	15.20	0.00	13.62	13.62
Movement LOS	D	F	F	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	132.50			43.38			15.20			13.62		
Approach LOS	F			D			B			B		
d_I, Intersection Delay [s/veh]	83.36											
Intersection LOS	F											
Intersection V/C	0.581											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	99.4
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.977

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	280	649	0	0	1164	40	0	0	0	760	280	790
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	649	0	0	1164	40	0	0	0	760	280	790
Peak Hour Factor	0.8698	0.8698	1.0000	1.0000	0.8931	0.8931	1.0000	1.0000	1.0000	0.9451	0.9451	0.9451
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	187	0	0	326	11	0	0	0	201	74	209
Total Analysis Volume [veh/h]	322	746	0	0	1303	45	0	0	0	804	296	836
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1			10			43		
Bicycle Volume [bicycles/h]	3			0			5			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	23	55	0	0	32	32	0	0	0	35	35	35
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	90	90	90	90		90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	18	50	28	28		30	30	30	30
g / C, Green / Cycle	0.20	0.56	0.31	0.31		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.18	0.21	0.25	0.24		0.55	0.27	0.30	0.55
s, saturation flow rate [veh/h]	1810	3618	3618	1865		900	1843	1501	900
c, Capacity [veh/h]	355	2026	1130	583		304	622	507	304
d1, Uniform Delay [s]	35.35	10.97	28.30	28.02		29.80	27.00	28.19	29.80
k, delay calibration	0.28	0.50	0.50	0.50		0.50	0.26	0.33	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.99	0.52	5.81	9.52		298.2	5.45	14.57	296.3
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.37	0.79	0.77		1.63	0.80	0.89	1.63
d, Delay for Lane Group [s/veh]	54.34	11.49	34.11	37.54		328.0	32.45	42.76	326.1
Lane Group LOS	D	B	C	D		F	C	D	F
Critical Lane Group	Yes	No	Yes	No		Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	8.61	3.96	9.46	10.01		31.14	9.75	10.41	30.99
50th-Percentile Queue Length [ft/ln]	215.33	98.97	236.59	250.22		778.6	243.8	260.1	774.7
95th-Percentile Queue Length [veh/ln]	13.43	7.13	14.51	15.20		50.84	14.88	15.70	50.57
95th-Percentile Queue Length [ft/ln]	335.66	178.15	362.72	379.93		1270.	371.8	392.4	1264.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.34	11.49	0.00	0.00	35.17	37.54	0.00	0.00	0.00	210.34	36.23	213.25
Movement LOS	D	B			D	D				F	D	F
d_A, Approach Delay [s/veh]	24.41			35.25			0.00			185.51		
Approach LOS	C			D			A			F		
d_I, Intersection Delay [s/veh]	99.43											
Intersection LOS	F											
Intersection V/C	0.977											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	719	690	818	1036	0	140	380	260	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	719	690	818	1036	0	140	380	260	0	0	0
Peak Hour Factor	1.0000	0.8776	0.8776	0.8633	0.8633	1.0000	0.7468	0.7468	0.7468	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	205	197	237	300	0	47	127	87	0	0	0
Total Analysis Volume [veh/h]	0	819	786	948	1200	0	187	509	348	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			15			37		
Bicycle Volume [bicycles/h]	0			5			8			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	20	30	0	37	37	37	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	30	30	23	53	0	37	37	37	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	27	27	27	27	59	22	22	22
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.65	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.22	0.26	0.26	0.27	0.33	0.19	0.19	0.22
s, saturation flow rate [veh/h]	3618	1515	1515	3514	3618	1852	1729	1584
c, Capacity [veh/h]	1078	451	451	1062	2356	457	426	391
d1, Uniform Delay [s]	28.52	30.20	30.20	30.04	8.20	31.73	31.73	32.76
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.39	2.44	2.44	11.42	0.79	1.16	1.24	2.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

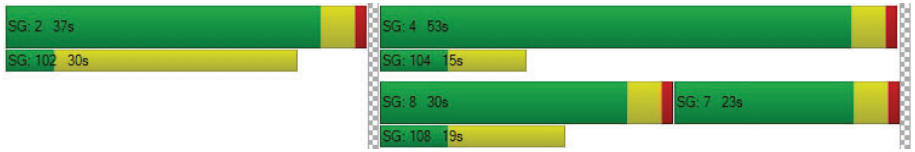
X, volume / capacity	0.74	0.89	0.89	0.89	0.51	0.79	0.79	0.89
d, Delay for Lane Group [s/veh]	28.91	32.64	32.64	41.46	8.99	32.89	32.97	35.61
Lane Group LOS	C	C	C	D	A	C	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.51	8.20	8.20	11.13	5.49	7.18	6.71	7.33
50th-Percentile Queue Length [ft/ln]	187.78	204.89	204.89	278.34	137.37	179.51	167.81	183.22
95th-Percentile Queue Length [veh/ln]	12.01	12.89	12.89	16.61	9.34	11.57	10.96	11.77
95th-Percentile Queue Length [ft/ln]	300.14	322.26	322.26	415.15	233.48	289.37	274.03	294.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	28.91	32.64	41.46	8.99	0.00	32.89	32.94	35.61	0.00	0.00	0.00
Movement LOS		C	C	D	A		C	C	D			
d_A, Approach Delay [s/veh]	30.77			23.32			33.82			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	28.10											
Intersection LOS	C											
Intersection V/C	0.754											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	783	160	90	477	100	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	783	160	90	477	100	178
Peak Hour Factor	0.8732	0.8732	0.9247	0.9247	0.8357	0.8357
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	224	46	24	129	30	53
Total Analysis Volume [veh/h]	897	183	97	516	120	213
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79		91		60	
Bicycle Volume [bicycles/h]	2		28		7	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.25	0.12	0.15	0.14	0.08	0.16
s, saturation flow rate [veh/h]	3618	1554	629	3618	1563	1337
c, Capacity [veh/h]	2510	1078	431	2510	272	233
d1, Uniform Delay [s]	6.23	5.31	10.87	5.47	36.93	40.55
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.34	1.21	0.19	0.42	5.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.17	0.22	0.21	0.44	0.91
d, Delay for Lane Group [s/veh]	6.63	5.65	12.07	5.65	37.35	46.33
Lane Group LOS	A	A	B	A	D	D
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.49	1.27	1.18	1.76	2.61	5.40
50th-Percentile Queue Length [ft/ln]	87.24	31.69	29.48	43.88	65.22	134.94
95th-Percentile Queue Length [veh/ln]	6.28	2.28	2.12	3.16	4.70	9.21
95th-Percentile Queue Length [ft/ln]	157.03	57.04	53.06	78.99	117.40	230.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.63	5.65	12.07	5.65	37.35	46.33
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	6.47		6.67		43.09	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.55					
Intersection LOS	B					
Intersection V/C	0.407					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	30	20	0	20	50	30	0	20	120	30	0	20	121	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	30	20	0	20	50	30	0	20	120	30	0	20	121	30
Peak Hour Factor	1.000	0.850	0.850	0.850	1.000	0.692	0.692	0.692	1.000	0.743	0.743	0.743	1.000	0.925	0.925	0.925
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	6	9	6	0	7	18	11	0	7	40	10	0	5	33	8
Total Analysis Volume [veh/h]	0	24	35	24	0	29	72	43	0	27	162	40	0	22	131	32
Pedestrian Volume [ped/h]	32				50				56				41			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	609	719	623	730	670	783	664	775
Degree of Utilization, x	0.10	0.03	0.16	0.06	0.28	0.05	0.23	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	0.10	0.58	0.19	1.16	0.16	0.89	0.13
95th-Percentile Queue Length [ft]	8.01	2.59	14.38	4.69	28.92	4.03	22.13	3.23
Approach Delay [s/veh]	8.85		9.10		9.71		9.35	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.36							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	422	101	0	50	530	0	140	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	422	101	0	50	530	0	140	80
Peak Hour Factor	1.0000	0.8516	0.8516	1.0000	0.8926	0.8926	1.0000	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	124	30	0	14	148	0	37	21
Total Analysis Volume [veh/h]	0	496	119	0	56	594	0	149	85
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25			57			0		
Bicycle Volume [bicycles/h]	0			1			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	12	12
g / C, Green / Cycle	0.59	0.59	0.59	0.59	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.26	0.07	0.06	0.31	0.09	0.06
s, saturation flow rate [veh/h]	1899	1615	916	1900	1711	1352
c, Capacity [veh/h]	1191	952	142	1120	393	310
d1, Uniform Delay [s]	5.80	4.63	25.44	6.23	16.54	16.11
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	0.27	8.02	1.80	0.22	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

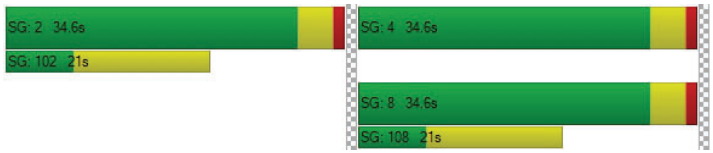
X, volume / capacity	0.42	0.12	0.39	0.53	0.38	0.27
d, Delay for Lane Group [s/veh]	6.87	4.90	33.46	8.03	16.76	16.29
Lane Group LOS	A	A	C	A	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.30	0.44	0.95	3.06	1.37	0.76
50th-Percentile Queue Length [ft/ln]	57.52	11.09	23.63	76.60	34.20	19.04
95th-Percentile Queue Length [veh/ln]	4.14	0.80	1.70	5.52	2.46	1.37
95th-Percentile Queue Length [ft/ln]	103.53	19.96	42.54	137.88	61.55	34.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.87	6.87	4.90	33.46	33.46	8.03	16.76	16.76	16.29
Movement LOS	A	A	A	C	C	A	B	B	B
d_A, Approach Delay [s/veh]	6.49			10.22			16.59		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	9.69								
Intersection LOS	A								
Intersection V/C	0.400								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.258

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	50	10	20	110	10	10	118	20	10	84	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	10	20	110	10	10	118	20	10	84	30
Peak Hour Factor	0.8750	0.8750	0.8750	0.9024	0.9024	0.9024	0.7333	0.7333	0.7333	0.8563	0.8563	0.8563
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	3	6	30	3	3	40	7	3	25	9
Total Analysis Volume [veh/h]	11	57	11	22	122	11	14	161	27	12	98	35
Pedestrian Volume [ped/h]	58			13			23			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	737	747	782	781
Degree of Utilization, x	0.11	0.21	0.26	0.19

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.36	0.78	1.03	0.68
95th-Percentile Queue Length [ft]	8.97	19.44	25.76	16.97
Approach Delay [s/veh]	8.47	9.08	9.20	8.66
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.93			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	20	170	40	20	230	20	31	107	30	40	93	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	170	40	20	230	20	31	107	30	40	93	40
Peak Hour Factor	0.6538	0.6538	0.6538	0.8586	0.8586	0.8586	0.7385	0.7385	0.7385	0.9012	0.9012	0.9012
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	65	15	6	67	6	10	36	10	11	26	11
Total Analysis Volume [veh/h]	31	260	61	23	268	23	42	145	41	44	103	44
Pedestrian Volume [ped/h]	86			42			78			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	622	609	576	570
Degree of Utilization, x	0.57	0.52	0.40	0.34

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.54	2.96	1.88	1.47
95th-Percentile Queue Length [ft]	88.54	73.91	47.10	36.73
Approach Delay [s/veh]	16.07	15.03	13.28	12.48
Approach LOS	C	C	B	B
Intersection Delay [s/veh]	14.55			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	83.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.144

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	123	270	40	40	370	40	20	90	107	70	160	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	270	40	40	370	40	20	90	107	70	160	40
Peak Hour Factor	0.8686	0.8686	0.8686	0.8852	0.8852	0.8852	0.8259	0.8259	0.8259	0.6905	0.6905	0.6905
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	78	12	11	104	11	6	27	32	25	58	14
Total Analysis Volume [veh/h]	142	311	46	45	418	45	24	109	130	101	232	58
Pedestrian Volume [ped/h]	118			30			24			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	453	443	463	442	400	421
Degree of Utilization, x	1.13	0.10	1.14	0.10	0.66	0.93

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	16.77	0.35	17.31	0.34	4.55	10.39
95th-Percentile Queue Length [ft]	419.17	8.64	432.63	8.43	113.79	259.72
Approach Delay [s/veh]	106.02		109.42		27.69	57.52
Approach LOS	F		F		D	F
Intersection Delay [s/veh]	83.24					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	108.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	10	301	430	120	182	20	40	410	10	150	30	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	301	430	120	182	20	40	410	10	150	30	40
Peak Hour Factor	0.9761	0.9761	0.9761	0.8833	0.8833	0.8833	0.7985	0.7985	0.7985	0.9583	0.9583	0.9583
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	77	110	34	52	6	13	128	3	39	8	10
Total Analysis Volume [veh/h]	10	308	441	136	206	23	50	513	13	157	31	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	38			99			69			77		
Bicycle Volume [bicycles/h]	1			1			56			15		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	45	0	10	45	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	46	37	46	41	16	16	16	16
g / C, Green / Cycle	0.58	0.46	0.58	0.51	0.21	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.45	0.15	0.12	0.04	0.28	0.18	0.05
s, saturation flow rate [veh/h]	1221	1653	895	1846	1199	1884	891	1537
c, Capacity [veh/h]	758	767	334	939	261	387	90	316
d1, Uniform Delay [s]	7.32	21.06	16.75	11.04	30.73	31.84	40.06	26.56
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.14	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	27.32	3.66	0.62	0.13	166.63	338.12	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

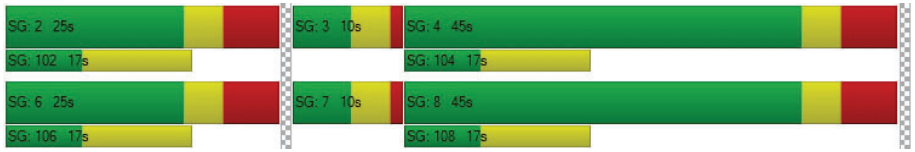
X, volume / capacity	0.01	0.98	0.41	0.24	0.19	1.36	1.74	0.23
d, Delay for Lane Group [s/veh]	7.32	48.39	20.40	11.65	30.87	198.46	378.18	26.70
Lane Group LOS	A	D	C	B	C	F	F	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	17.90	1.29	2.26	0.85	25.11	10.18	1.13
50th-Percentile Queue Length [ft/ln]	1.58	447.53	32.21	56.48	21.36	627.77	254.56	28.21
95th-Percentile Queue Length [veh/ln]	0.11	24.84	2.32	4.07	1.54	38.49	18.33	2.03
95th-Percentile Queue Length [ft/ln]	2.84	621.00	57.98	101.66	38.44	962.17	458.21	50.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.32	48.39	48.39	20.40	11.65	11.65	30.87	198.46	198.46	378.18	26.70	26.70
Movement LOS	A	D	D	C	B	B	C	F	F	F	C	C
d_A, Approach Delay [s/veh]	47.84			14.91			183.91			266.62		
Approach LOS	D			B			F			F		
d_I, Intersection Delay [s/veh]	108.30											
Intersection LOS	F											
Intersection V/C	0.771											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.269

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	56	100	20	10	100	10	10	108	20	10	104	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	100	20	10	100	10	10	108	20	10	104	10
Peak Hour Factor	0.8950	0.8950	0.8950	0.9130	0.9130	0.9130	0.7254	0.7254	0.7254	0.8813	0.8813	0.8813
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	28	6	3	27	3	3	37	7	3	30	3
Total Analysis Volume [veh/h]	63	112	22	11	110	11	14	149	28	11	118	11
Pedestrian Volume [ped/h]	45			57			20			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	732	723	740	724
Degree of Utilization, x	0.27	0.18	0.26	0.19

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09	0.66	1.03	0.71
95th-Percentile Queue Length [ft]	27.19	16.61	25.69	17.81
Approach Delay [s/veh]	9.72	9.09	9.54	9.16
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.43			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	181	40	10	251	10	10	90	60	40	60	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	181	40	10	251	10	10	90	60	40	60	20
Peak Hour Factor	0.9024	0.9024	0.9024	0.8838	0.8838	0.8838	0.8663	0.8663	0.8663	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	50	11	3	71	3	3	26	17	13	19	6
Total Analysis Volume [veh/h]	22	201	44	11	284	11	12	104	69	50	75	25
Pedestrian Volume [ped/h]	25			45			28			24		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	682	681	653	626
Degree of Utilization, x	0.39	0.45	0.28	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.86	2.33	1.16	0.93
95th-Percentile Queue Length [ft]	46.57	58.22	29.07	23.28
Approach Delay [s/veh]	11.63	12.51	10.68	10.56
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.56			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2693	90	0	3910	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2693	90	0	3910	140	30
Peak Hour Factor	0.8690	0.8690	1.0000	0.9750	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	775	26	0	1003	46	10
Total Analysis Volume [veh/h]	3099	104	0	4010	184	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	86	0	0	88	10	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	95	0	0	125	30	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	7	0
Pedestrian Clearance [s]	20	0	0	10	10	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	93	93	93	93
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	73	73	73	10
g / C, Green / Cycle	0.78	0.78	0.78	0.11
(v / s)_i Volume / Saturation Flow Rate	0.67	0.65	0.66	0.14
s, saturation flow rate [veh/h]	3192	1648	6089	1564
c, Capacity [veh/h]	2489	1285	4748	168
d1, Uniform Delay [s]	6.82	6.41	6.61	41.55
k, delay calibration	0.04	0.20	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	2.63	0.16	182.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

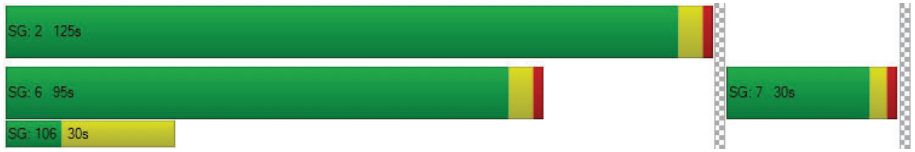
X, volume / capacity	0.86	0.83	0.84	1.33
d, Delay for Lane Group [s/veh]	7.17	9.04	6.77	224.13
Lane Group LOS	A	A	A	F
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	9.18	9.46	8.31	12.32
50th-Percentile Queue Length [ft/ln]	229.60	236.45	207.64	307.89
95th-Percentile Queue Length [veh/ln]	14.15	14.50	13.03	19.99
95th-Percentile Queue Length [ft/ln]	353.85	362.55	325.81	499.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.75	9.04	0.00	6.77	224.13	224.13
Movement LOS	A	A		A	F	F
d_A, Approach Delay [s/veh]	7.79		6.77		224.13	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	13.73					
Intersection LOS	B					
Intersection V/C	0.812					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	155.3
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.173

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2063	630	30	240	520	10	568	540	0	0	420	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2063	630	30	240	520	10	568	540	0	0	420	240
Peak Hour Factor	0.8500	0.8500	0.8500	0.8600	0.8600	0.8600	1.0000	0.9750	1.0000	1.0000	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	607	185	9	70	151	3	142	138	0	0	130	74
Total Analysis Volume [veh/h]	2427	741	35	279	605	12	568	554	0	0	520	297
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	155
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	31.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	5	5	0	4	4	0	0	4	4
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	Lead	-	Lead	Lead	-	-	-	-
Minimum Green [s]	20	0	0	10	10	0	10	10	0	0	10	10
Maximum Green [s]	86	0	0	25	25	0	25	25	0	0	25	25
Amber [s]	4.3	0.0	0.0	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	3.6
All red [s]	1.5	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	95	0	0	30	30	0	30	30	0	0	30	30
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	0	0	5	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	0	0	0	10	10	0	0	10	10
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	2.6	2.6	0.0	2.6	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	143	143	143	143	143	143	143
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	83	83	83	25	25	25	25
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.51	0.54	0.54	0.28	0.28	0.35	0.22
s, saturation flow rate [veh/h]	3192	1486	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1846	859	824	279	278	279	660
d1, Uniform Delay [s]	25.82	27.95	27.95	59.14	59.14	59.14	59.14
k, delay calibration	0.04	0.38	0.38	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	16.06	16.58	290.11	291.74	457.48	108.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.94	0.94	1.61	1.61	1.99	1.24
d, Delay for Lane Group [s/veh]	26.37	44.00	44.53	349.24	350.87	516.62	167.18
Lane Group LOS	C	D	D	F	F	F	F
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	22.93	28.51	27.47	32.56	32.58	45.51	14.59
50th-Percentile Queue Length [ft/ln]	573.37	712.68	686.73	813.97	814.49	1137.79	364.70
95th-Percentile Queue Length [veh/ln]	30.79	37.26	36.06	50.62	50.68	71.47	22.95
95th-Percentile Queue Length [ft/ln]	769.72	931.59	901.61	1265.59	1266.98	1786.69	573.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.49	44.53	44.53	349.24	350.87	350.87	0.00	516.62	0.00	0.00	167.18	167.18
Movement LOS	C	D	D	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	35.22			350.06			516.62			167.18		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	155.26											
Intersection LOS	F											
Intersection V/C	1.173											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	41	42	37	0	20	69	30	0	20	111	40	0	33	99	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	41	42	37	0	20	69	30	0	20	111	40	0	33	99	20
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	12	12	11	0	6	20	9	0	6	32	12	0	10	29	6
Total Analysis Volume [veh/h]	0	48	49	43	0	24	82	35	0	23	128	46	0	39	116	23
Pedestrian Volume [ped/h]	22				60				47				46			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	734	734	761	744
Degree of Utilization, x	0.19	0.19	0.26	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.70	0.71	1.03	0.93
95th-Percentile Queue Length [ft]	17.52	17.67	25.84	23.27
Approach Delay [s/veh]	9.06	9.07	9.38	9.35
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.24			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	42	20	10	59	10	10	60	20	30	50	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	42	20	10	59	10	10	60	20	30	50	10
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	6	3	16	3	4	21	7	9	15	3
Total Analysis Volume [veh/h]	25	53	25	11	64	11	14	85	28	36	60	12
Pedestrian Volume [ped/h]	38			37			38			22		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	675	805	684	802	698	821	681	818
Degree of Utilization, x	0.12	0.03	0.11	0.01	0.14	0.03	0.14	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.39	0.10	0.37	0.04	0.49	0.11	0.49	0.04
95th-Percentile Queue Length [ft]	9.75	2.40	9.19	1.04	12.31	2.65	12.23	1.12
Approach Delay [s/veh]	8.39		8.44		8.38		8.66	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.47							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	32	0	1183	260	310	907	0	32	1085	209	60	0	50
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	1183	260	310	907	0	32	1085	209	60	0	50
Peak Hour Factor	1.000	1.000	0.913	0.913	0.9733	0.9733	1.0000	1.0000	1.0000	1.0000	0.8241	1.0000	0.8241
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	324	71	80	233	0	8	271	52	18	0	15
Total Analysis Volume [veh/h]	32	0	1295	285	318	932	0	32	1085	209	73	0	61
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	25				40			0			0		
Bicycle Volume [bicycles/h]	0				3			13			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	60.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	10	0	53	0	10	53	0	0	0	0	27	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	90	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	3	53	53	66	58		15	15
g / C, Green / Cycle	0.03	0.59	0.59	0.73	0.65		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.36	0.18	0.49	0.26		0.04	0.04
s, saturation flow rate [veh/h]	1810	3618	1615	644	3618		1730	1501
c, Capacity [veh/h]	56	2148	959	489	2335		294	255
d1, Uniform Delay [s]	43.00	11.57	9.02	12.08	7.61		32.37	32.31
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	3.32	1.26	0.79	6.58	0.51		0.16	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.60	0.30	0.65	0.40		0.25	0.24
d, Delay for Lane Group [s/veh]	46.32	12.83	9.81	18.66	8.13		32.53	32.49
Lane Group LOS	D	B	A	B	A		C	C
Critical Lane Group	No	Yes	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	0.75	7.70	2.72	2.40	3.91		1.38	1.15
50th-Percentile Queue Length [ft/ln]	18.68	192.44	68.07	60.08	97.71		34.39	28.73
95th-Percentile Queue Length [veh/ln]	1.34	12.25	4.90	4.33	7.03		2.48	2.07
95th-Percentile Queue Length [ft/ln]	33.62	306.19	122.53	108.14	175.87		61.90	51.71

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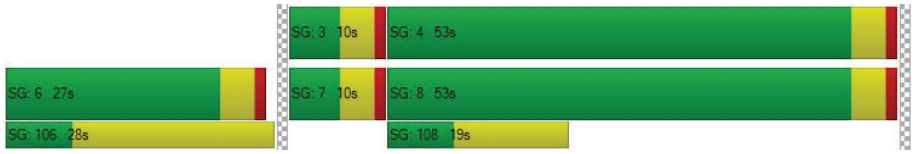
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.32	0.00	12.83	9.81	18.66	8.13	0.00	0.00	0.00	0.00	32.53	0.00	32.49
Movement LOS	D		B	A	B	A					C		C
d_A, Approach Delay [s/veh]	12.96				10.81			0.00			32.51		
Approach LOS	B				B			A			C		
d_I, Intersection Delay [s/veh]	12.94												
Intersection LOS	B												
Intersection V/C	0.468												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_AM_LOS.pdf

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	49.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2560	2	341	2310	10	20	10	20	14	10	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2560	2	341	2310	10	20	10	20	14	10	390
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	743	1	87	591	3	8	4	8	4	3	117
Total Analysis Volume [veh/h]	35	2971	2	349	2363	10	32	16	32	17	12	470
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	270	270	270	270	270	270	270	270
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	7	156	55	204	204	45	45	104
g / C, Green / Cycle	0.03	0.58	0.20	0.75	0.75	0.17	0.17	0.38
(v / s)_i Volume / Saturation Flow Rate	0.02	0.57	0.19	0.43	0.43	0.06	0.02	0.29
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1896	1406	1334	1615
c, Capacity [veh/h]	45	2988	365	2728	1430	252	243	620
d1, Uniform Delay [s]	131.10	56.69	106.73	14.35	14.36	101.71	95.94	72.43
k, delay calibration	0.04	0.04	0.24	0.04	0.10	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.64	3.52	23.72	0.07	0.35	0.27	0.08	8.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

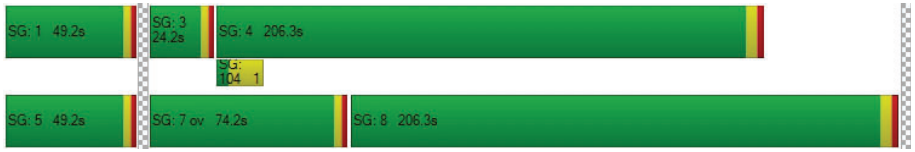
X, volume / capacity	0.78	0.99	0.96	0.57	0.57	0.32	0.12	0.76
d, Delay for Lane Group [s/veh]	141.74	60.21	130.45	14.42	14.72	101.98	96.02	80.89
Lane Group LOS	F	E	F	B	B	F	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.62	66.48	26.78	20.38	21.53	5.15	1.79	30.37
50th-Percentile Queue Length [ft/ln]	65.46	1661.92	669.60	509.48	538.32	128.82	44.64	759.29
95th-Percentile Queue Length [veh/ln]	4.71	79.85	35.27	27.78	29.14	8.88	3.21	39.41
95th-Percentile Queue Length [ft/ln]	117.83	1996.20	881.79	694.57	728.57	221.89	80.35	985.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	141.74	60.21	0.00	130.45	14.52	14.72	101.98	101.98	101.98	96.02	96.02	80.89
Movement LOS	F	E		F	B	B	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	61.16			29.38			101.98			81.77		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	49.59											
Intersection LOS	D											
Intersection V/C	0.949											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	129.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.080

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	316	555	52	22	389	38	40	80	251	0	52	171	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	316	555	52	22	389	38	40	80	251	0	52	171	69
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	84	148	14	6	111	11	11	22	69	0	16	54	22
Total Analysis Volume [veh/h]	337	591	55	25	445	43	44	88	275	0	65	215	87
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	57	57	10	48	48	33	33	19	0	33	33	33
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	51	51	3	43	43	28	47	28	28
g / C, Green / Cycle	0.10	0.51	0.51	0.03	0.43	0.43	0.28	0.47	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.19	0.31	0.05	0.01	0.23	0.03	0.48	0.18	0.66	0.08
s, saturation flow rate [veh/h]	1810	1900	1210	1810	1900	1302	274	1534	425	1091
c, Capacity [veh/h]	189	976	621	46	826	566	126	726	165	309
d1, Uniform Delay [s]	44.78	17.17	12.39	48.13	20.85	16.51	34.13	16.91	32.13	27.93
k, delay calibration	0.37	0.50	0.50	0.04	0.50	0.50	0.50	0.09	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	369.71	2.79	0.28	3.64	2.51	0.26	94.47	0.26	340.36	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

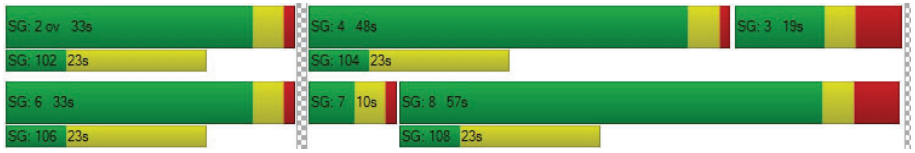
X, volume / capacity	1.79	0.61	0.09	0.54	0.54	0.08	1.05	0.38	1.70	0.28
d, Delay for Lane Group [s/veh]	414.49	19.96	12.67	51.77	23.36	16.77	128.60	17.17	372.49	28.11
Lane Group LOS	F	B	B	D	C	B	F	B	F	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	24.00	9.88	0.66	0.66	8.03	0.61	6.45	4.06	18.58	1.60
50th-Percentile Queue Length [ft/ln]	599.90	246.97	16.53	16.50	200.72	15.28	161.32	101.51	464.54	40.08
95th-Percentile Queue Length [veh/ln]	38.12	15.03	1.19	1.19	12.68	1.10	10.90	7.31	31.90	2.89
95th-Percentile Queue Length [ft/ln]	953.06	375.83	29.76	29.69	316.90	27.51	272.39	182.73	797.42	72.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	414.49	19.96	12.67	51.77	23.36	16.77	128.60	128.60	17.17	372.4	372.4	372.4	28.11
Movement LOS	F	B	B	D	C	B	F	F	B	F	F	F	C
d_A, Approach Delay [s/veh]	154.81			24.19			53.31			290.85			
Approach LOS	F			C			D			F			
d_I, Intersection Delay [s/veh]	129.09												
Intersection LOS	F												
Intersection V/C	1.080												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	44.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	541	283	0	183	480	0	323	322
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	541	283	0	183	480	0	323	322
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	146	77	0	48	127	0	93	93
Total Analysis Volume [veh/h]	0	585	306	0	193	506	0	372	371
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.22	0.20	0.14	0.20	0.15	0.22
s, saturation flow rate [veh/h]	1900	1729	1370	977	3618	1299	1699	1064
c, Capacity [veh/h]	1134	999	791	715	2509	226	296	186
d1, Uniform Delay [s]	10.63	10.63	11.48	5.71	5.46	41.27	39.87	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.24	0.06	0.32
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.59	0.70	1.43	0.93	0.18	86.73	3.72	150.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

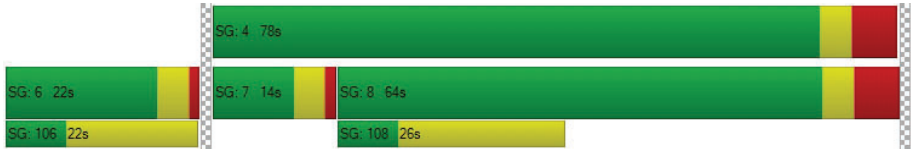
X, volume / capacity	0.27	0.28	0.39	0.27	0.20	1.14	0.83	1.28
d, Delay for Lane Group [s/veh]	11.21	11.32	12.90	6.64	5.64	128.01	43.58	191.62
Lane Group LOS	B	B	B	A	A	F	D	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.41	3.13	3.79	1.40	1.72	10.96	6.10	12.26
50th-Percentile Queue Length [ft/ln]	85.28	78.23	94.87	34.96	42.90	273.89	152.40	306.41
95th-Percentile Queue Length [veh/ln]	6.14	5.63	6.83	2.52	3.09	17.41	10.15	20.00
95th-Percentile Queue Length [ft/ln]	153.50	140.81	170.77	62.94	77.23	435.27	253.63	499.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.21	11.27	12.90	6.64	6.64	5.64	128.01	100.66	141.15
Movement LOS	B	B	B	A	A	A	F	F	F
d_A, Approach Delay [s/veh]	11.83			5.91			120.31		
Approach LOS	B			A			F		
d_I, Intersection Delay [s/veh]	44.60								
Intersection LOS	D								
Intersection V/C	0.489								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	753	100	60	813	50	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	753	100	60	813	50	120
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	207	27	16	216	15	35
Total Analysis Volume [veh/h]	828	110	64	864	59	142
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.23	0.08	0.10	0.24	0.12
s, saturation flow rate [veh/h]	3618	1339	668	3618	1668
c, Capacity [veh/h]	2236	827	393	2236	417
d1, Uniform Delay [s]	9.45	7.94	14.88	9.57	31.96
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.33	0.89	0.51	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

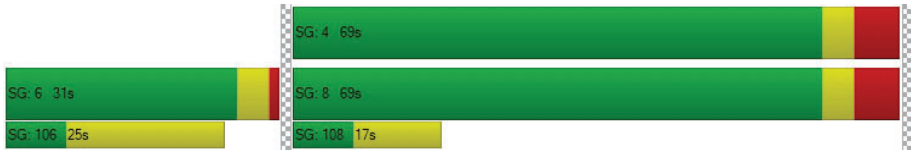
X, volume / capacity	0.37	0.13	0.16	0.39	0.48
d, Delay for Lane Group [s/veh]	9.92	8.27	15.77	10.08	32.28
Lane Group LOS	A	A	B	B	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	4.29	1.00	0.91	4.53	4.09
50th-Percentile Queue Length [ft/ln]	107.19	25.02	22.80	113.36	102.18
95th-Percentile Queue Length [veh/ln]	7.68	1.80	1.64	8.03	7.36
95th-Percentile Queue Length [ft/ln]	192.08	45.04	41.04	200.67	183.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.92	8.27	15.77	10.08	32.28	32.28
Movement LOS	A	A	B	B	C	C
d_A, Approach Delay [s/veh]	9.73		10.47		32.28	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.25					
Intersection LOS	B					
Intersection V/C	0.359					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	33.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	773	200	100	773	170	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	773	200	100	773	170	100
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	218	56	29	221	47	28
Total Analysis Volume [veh/h]	871	225	114	883	187	110
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.24	0.17	0.14	0.24	0.22	0.09
s, saturation flow rate [veh/h]	3618	1296	804	3618	832	1238
c, Capacity [veh/h]	2190	785	610	2618	120	325
d1, Uniform Delay [s]	10.25	9.42	5.00	5.05	42.78	29.83
k, delay calibration	0.50	0.50	0.50	0.50	0.33	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.92	0.68	0.35	275.91	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

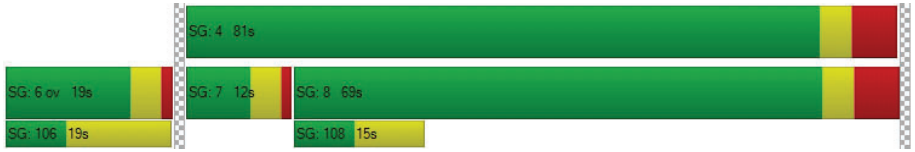
X, volume / capacity	0.40	0.29	0.19	0.34	1.56	0.34
d, Delay for Lane Group [s/veh]	10.80	10.34	5.68	5.40	318.69	30.06
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.81	2.40	0.70	2.92	12.13	2.14
50th-Percentile Queue Length [ft/ln]	120.17	60.10	17.42	73.05	303.31	53.57
95th-Percentile Queue Length [veh/ln]	8.40	4.33	1.25	5.26	20.75	3.86
95th-Percentile Queue Length [ft/ln]	210.06	108.18	31.36	131.49	518.80	96.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.80	10.34	5.68	5.40	318.69	30.06
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.70		5.43		211.79	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	33.49					
Intersection LOS	C					
Intersection V/C	0.489					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	53.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	40	835	142	67	843	90	50	13	120	160	50	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	835	142	67	843	90	50	13	120	160	50	170
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	234	41	18	221	24	15	6	35	45	14	48
Total Analysis Volume [veh/h]	45	937	165	71	885	95	59	24	141	180	56	191
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	78	78	69	69	13	24	24
g / C, Green / Cycle	0.52	0.52	0.46	0.46	0.09	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.27	0.12	0.13	0.14
s, saturation flow rate [veh/h]	691	3618	1900	1825	1668	1830	1325
c, Capacity [veh/h]	314	1882	876	841	149	289	209
d1, Uniform Delay [s]	20.99	23.28	29.33	29.76	68.27	61.02	62.10
k, delay calibration	0.06	0.50	0.50	0.50	0.50	0.09	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.94	2.57	2.94	191.57	4.66	18.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

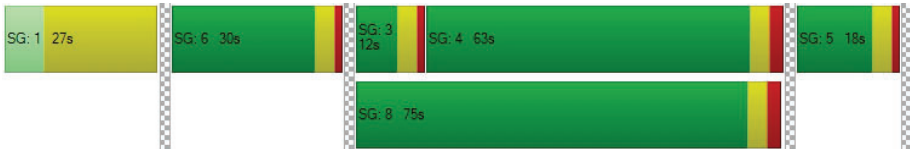
X, volume / capacity	0.14	0.50	0.56	0.58	1.34	0.82	0.91
d, Delay for Lane Group [s/veh]	21.11	24.23	31.90	32.69	259.84	65.68	80.30
Lane Group LOS	C	C	C	C	F	E	F
Critical Lane Group	Yes	No	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	11.06	13.54	13.79	13.64	9.16	8.29
50th-Percentile Queue Length [ft/ln]	19.98	276.38	338.41	344.63	340.96	228.93	207.31
95th-Percentile Queue Length [veh/ln]	1.44	16.51	19.57	19.87	21.75	14.12	13.02
95th-Percentile Queue Length [ft/ln]	35.96	412.70	489.26	496.85	543.72	353.00	325.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.11	24.23	0.00	0.00	32.26	32.69	259.84	0.00	259.84	65.68	65.68	80.30
Movement LOS	C	C			C	C	F		F	E	E	F
d_A, Approach Delay [s/veh]	24.08			32.30			259.84			72.22		
Approach LOS	C			C			F			E		
d_I, Intersection Delay [s/veh]	53.34											
Intersection LOS	D											
Intersection V/C	0.546											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	320	725	1023	80	120	670
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	725	1023	80	120	670
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	190	262	21	31	175
Total Analysis Volume [veh/h]	336	761	1050	82	125	698
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	79	79	79	14	32
g / C, Green / Cycle	0.11	0.66	0.66	0.66	0.12	0.27
(v / s)_i Volume / Saturation Flow Rate	0.10	0.21	0.29	0.06	0.10	0.24
s, saturation flow rate [veh/h]	3514	3618	3618	1344	1231	2859
c, Capacity [veh/h]	401	2372	2372	881	142	765
d1, Uniform Delay [s]	52.04	9.00	10.01	7.57	52.25	42.56
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.82	0.36	0.60	0.21	6.75	1.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

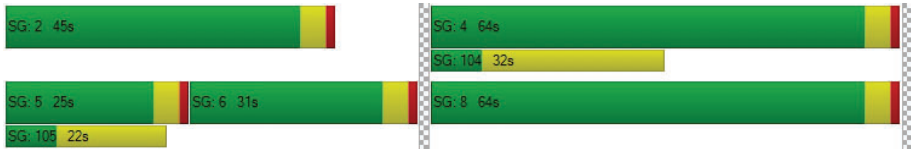
X, volume / capacity	0.84	0.32	0.44	0.09	0.88	0.91
d, Delay for Lane Group [s/veh]	53.86	9.36	10.61	7.78	59.01	44.44
Lane Group LOS	D	A	B	A	E	D
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.05	4.26	6.55	0.80	4.15	10.76
50th-Percentile Queue Length [ft/ln]	126.25	106.40	163.75	20.03	103.83	268.94
95th-Percentile Queue Length [veh/ln]	8.74	7.64	10.75	1.44	7.48	16.14
95th-Percentile Queue Length [ft/ln]	218.38	190.98	268.68	36.05	186.89	403.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.86	9.36	10.61	7.78	59.01	44.44
Movement LOS	D	A	B	A	E	D
d_A, Approach Delay [s/veh]	22.99		10.41		46.65	
Approach LOS	C		B		D	
d_I, Intersection Delay [s/veh]	24.70					
Intersection LOS	C					
Intersection V/C	0.534					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	38.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	40	110	40	0	270	0	140	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	40	110	40	0	270	0	140	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	13	36	13	0	71	0	38	59
Total Analysis Volume [veh/h]	0	0	0	0	53	146	53	0	285	0	150	236
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		50	50	50	62	62	62
g / C, Green / Cycle		0.41	0.41	0.41	0.51	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate		0.04	0.05	0.06	0.22	0.08	0.16
s, saturation flow rate [veh/h]		1197	1900	1535	1301	1900	1458
c, Capacity [veh/h]		482	785	634	708	975	748
d1, Uniform Delay [s]		26.30	21.82	22.05	17.29	15.43	16.96
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.46	0.34	0.51	1.70	0.34	1.10
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.11	0.13	0.15	0.40	0.15	0.32
d, Delay for Lane Group [s/veh]		26.76	22.16	22.56	18.99	15.77	18.06
Lane Group LOS		C	C	C	B	B	B
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		1.09	1.84	1.80	4.77	2.23	3.92
50th-Percentile Queue Length [ft/ln]		27.14	45.99	45.01	119.25	55.65	98.03
95th-Percentile Queue Length [veh/ln]		1.95	3.31	3.24	8.35	4.01	7.06
95th-Percentile Queue Length [ft/ln]		48.84	82.78	81.02	208.80	100.17	176.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	26.76	22.28	22.56	0.00	18.99	0.00	15.77	18.06
Movement LOS					C	C	C		B		B	B
d_A, Approach Delay [s/veh]	0.00				23.28				17.94			
Approach LOS	A				C				B			
d_I, Intersection Delay [s/veh]	38.71											
Intersection LOS	D											
Intersection V/C	0.553											

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	20	675	140	220	1263	0	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	675	140	220	1263	0	50
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	179	37	61	350	0	13
Total Analysis Volume [veh/h]	0	21	716	149	244	1401	0	52
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	49	49	49
g / C, Green / Cycle	0.26	0.26	0.26	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.20	0.12	0.22	0.38	0.39
s, saturation flow rate [veh/h]	372	3618	1244	1086	1900	1854
c, Capacity [veh/h]	60	949	327	400	779	760
d1, Uniform Delay [s]	59.98	40.69	37.07	27.09	33.86	34.26
k, delay calibration	0.04	0.04	0.04	0.05	0.35	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.29	0.47	0.37	0.67	15.16	19.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

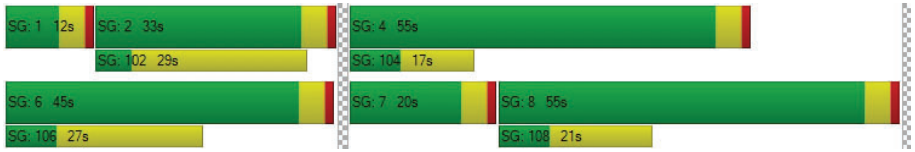
X, volume / capacity	0.35	0.75	0.46	0.61	0.94	0.95
d, Delay for Lane Group [s/veh]	61.27	41.15	37.44	27.76	49.02	53.81
Lane Group LOS	E	D	D	C	D	D
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.66	9.75	3.71	4.81	23.11	24.08
50th-Percentile Queue Length [ft/ln]	16.52	243.64	92.66	120.18	577.68	601.97
95th-Percentile Queue Length [veh/ln]	1.19	14.87	6.67	8.40	30.99	32.13
95th-Percentile Queue Length [ft/ln]	29.74	371.63	166.78	210.07	774.76	803.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	61.27	41.15	37.44	27.76	51.32	0.00	53.81
Movement LOS		E	D	D	C	D		D
d_A, Approach Delay [s/veh]	41.01				48.01			
Approach LOS	D				D			
d_I, Intersection Delay [s/veh]	38.71							
Intersection LOS	D							
Intersection V/C	0.553							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	140.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.154

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	46	97	111	0	72	97	39	0	56	271	46	0	120	353	197
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	97	111	0	72	97	39	0	56	271	46	0	120	353	197
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	12	26	30	0	19	26	11	0	16	78	13	0	31	91	51
Total Analysis Volume [veh/h]	0	49	103	118	0	78	105	42	0	64	312	53	0	124	365	204
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.04	0.13	0.96	0.07	0.20	0.12	0.16	0.16
s, saturation flow rate [veh/h]	1260	1707	235	856	1845	1033	1900	1633
c, Capacity [veh/h]	73	265	83	366	872	399	898	771
d1, Uniform Delay [s]	50.02	41.02	45.20	23.32	17.35	26.57	16.54	16.65
k, delay calibration	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.93	2.66	808.98	1.04	1.48	2.03	1.01	1.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.83	2.72	0.17	0.42	0.31	0.34	0.35
d, Delay for Lane Group [s/veh]	53.95	43.68	854.18	24.36	18.83	28.60	17.55	17.89
Lane Group LOS	D	D	F	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.29	5.37	20.60	1.17	5.70	2.49	4.45	4.03
50th-Percentile Queue Length [ft/ln]	32.22	134.23	514.92	29.17	142.61	62.30	111.35	100.81
95th-Percentile Queue Length [veh/ln]	2.32	9.17	35.16	2.10	9.62	4.49	7.92	7.26
95th-Percentile Queue Length [ft/ln]	57.99	229.23	878.91	52.51	240.54	112.14	197.88	181.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.95	53.95	43.68	43.68	854.1	854.1	854.1	854.1	24.36	24.36	18.83	18.83	28.60	28.60	17.61	17.89
Movement LOS	D	D	D	D	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	45.54				854.18				19.65				19.66			
Approach LOS	D				F				B				B			
d_I, Intersection Delay [s/veh]	140.10															
Intersection LOS	F															
Intersection V/C	1.154															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	50	263	100	80	163	30	30	140	60	50	120	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	263	100	80	163	30	30	140	60	50	120	110
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	69	26	24	48	9	9	43	18	14	34	31
Total Analysis Volume [veh/h]	53	278	106	95	193	35	37	173	74	57	136	125
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	25	45	45
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.05	0.15	0.07	0.08	0.12	0.17	0.29
s, saturation flow rate [veh/h]	1171	1900	1547	1119	1834	1626	1100
c, Capacity [veh/h]	223	480	391	191	464	765	532
d1, Uniform Delay [s]	39.77	32.71	29.98	43.61	31.89	18.27	21.64
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	0.41	0.14	0.74	0.30	1.38	4.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

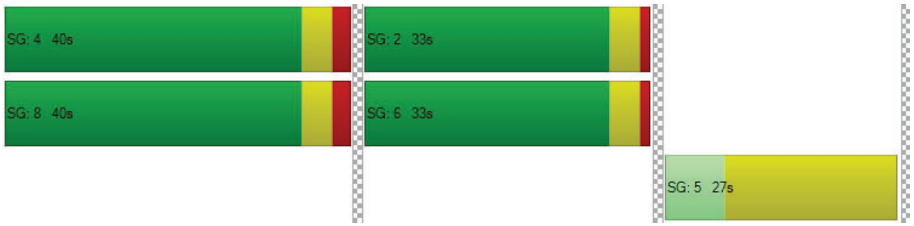
X, volume / capacity	0.24	0.58	0.27	0.50	0.49	0.37	0.60
d, Delay for Lane Group [s/veh]	39.98	33.12	30.11	44.35	32.19	19.65	26.53
Lane Group LOS	D	C	C	D	C	B	C
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	5.81	2.02	2.29	4.64	4.44	6.32
50th-Percentile Queue Length [ft/ln]	29.61	145.15	50.61	57.35	115.92	110.90	157.98
95th-Percentile Queue Length [veh/ln]	2.13	9.76	3.64	4.13	8.17	7.89	10.44
95th-Percentile Queue Length [ft/ln]	53.30	243.94	91.10	103.24	204.21	197.26	261.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.98	33.12	30.11	44.35	32.19	32.19	19.65	19.65	19.65	26.53	26.53	26.53
Movement LOS	D	C	C	D	C	C	B	B	B	C	C	C
d_A, Approach Delay [s/veh]	33.22			35.76			19.65			26.53		
Approach LOS	C			D			B			C		
d_I, Intersection Delay [s/veh]	29.43											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	155.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.331

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	143	90	50	143	10	10	210	30	170	250	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	143	90	50	143	10	10	210	30	170	250	170
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	40	25	14	40	3	3	57	8	49	72	49
Total Analysis Volume [veh/h]	34	161	101	56	159	11	11	227	32	195	287	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	16	16	16	16	16	53	53	53	53
g / C, Green / Cycle	0.16	0.16	0.16	0.16	0.16	0.53	0.53	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.03	0.08	0.13	0.04	0.09	0.23	0.02	1.21	0.12
s, saturation flow rate [veh/h]	1234	1900	800	1245	1870	1054	1571	400	1582
c, Capacity [veh/h]	143	311	131	151	306	601	840	264	846
d1, Uniform Delay [s]	45.66	38.23	40.04	45.88	38.49	19.41	11.06	28.39	12.36
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.50	3.62	0.56	0.59	1.95	0.08	385.00	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

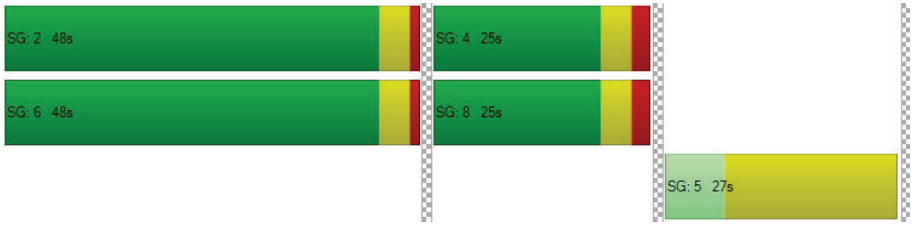
X, volume / capacity	0.24	0.52	0.77	0.37	0.56	0.40	0.04	1.82	0.23
d, Delay for Lane Group [s/veh]	45.97	38.73	43.67	46.44	39.08	21.36	11.15	413.39	13.00
Lane Group LOS	D	D	D	D	D	C	B	F	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.82	3.58	2.46	1.37	3.81	3.66	0.35	34.85	2.39
50th-Percentile Queue Length [ft/ln]	20.46	89.54	61.42	34.13	95.30	91.59	8.71	871.29	59.65
95th-Percentile Queue Length [veh/ln]	1.47	6.45	4.42	2.46	6.86	6.59	0.63	59.99	4.29
95th-Percentile Queue Length [ft/ln]	36.84	161.18	110.56	61.44	171.53	164.87	15.67	1499.75	107.37

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.97	38.73	43.67	46.44	39.08	39.08	21.36	21.36	11.15	413.39	413.39	13.00
Movement LOS	D	D	D	D	D	D	C	C	B	F	F	B
d_A, Approach Delay [s/veh]	41.24			40.90			20.15			298.06		
Approach LOS	D			D			C			F		
d_I, Intersection Delay [s/veh]	155.67											
Intersection LOS	F											
Intersection V/C	1.331											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	50	181	180	81	311	20	20	100	170	150	268	292
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	181	180	81	311	20	20	100	170	150	268	292
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	54	53	22	83	5	5	26	44	43	77	84
Total Analysis Volume [veh/h]	59	215	213	87	333	21	21	105	178	173	309	337
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.06	0.11	0.14	0.07	0.19	0.02	0.17	0.16	0.16	0.22
s, saturation flow rate [veh/h]	1043	1900	1473	1185	1876	1087	1673	1114	1900	1559
c, Capacity [veh/h]	125	464	360	225	459	397	724	399	823	675
d1, Uniform Delay [s]	47.75	32.18	33.37	40.89	35.18	25.09	19.35	29.56	19.20	20.51
k, delay calibration	0.04	0.04	0.04	0.04	0.10	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	0.27	0.58	0.40	2.51	0.25	1.58	3.42	1.31	2.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

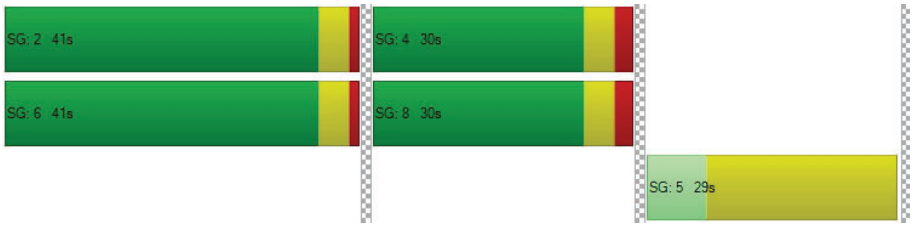
X, volume / capacity	0.47	0.46	0.59	0.39	0.77	0.05	0.39	0.43	0.38	0.50
d, Delay for Lane Group [s/veh]	48.78	32.45	33.95	41.29	37.69	25.34	20.93	32.97	20.51	23.13
Lane Group LOS	D	C	C	D	D	C	C	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.49	4.37	4.51	2.00	8.12	0.38	4.62	3.76	4.96	5.92
50th-Percentile Queue Length [ft/ln]	37.28	109.25	112.77	50.10	203.07	9.46	115.48	93.96	123.96	148.01
95th-Percentile Queue Length [veh/ln]	2.68	7.80	7.99	3.61	12.80	0.68	8.14	6.77	8.61	9.91
95th-Percentile Queue Length [ft/ln]	67.10	194.95	199.86	90.19	319.93	17.02	203.60	169.13	215.25	247.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.78	32.45	33.95	41.29	37.69	37.69	25.34	20.93	20.93	32.97	20.51	23.13
Movement LOS	D	C	C	D	D	D	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	35.08			38.40			21.24			24.22		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	29.41											
Intersection LOS	C											
Intersection V/C	0.405											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	37.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	341	0	29	411	50	66	90	0	150	310	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	341	0	29	411	50	66	90	0	150	310	180
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	92	0	8	110	13	20	27	0	40	82	48
Total Analysis Volume [veh/h]	11	366	0	31	442	54	79	108	0	159	329	191
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	33	33	33	33		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.20	0.24	0.04		0.20	0.20
s, saturation flow rate [veh/h]	944	1863	1863	1401		1860	1524
c, Capacity [veh/h]	88	512	512	385		895	734
d1, Uniform Delay [s]	57.15	39.23	41.33	32.78		20.12	20.27
k, delay calibration	0.04	0.15	0.50	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.23	2.60	17.12	0.06		1.40	1.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.71	0.86	0.14		0.41	0.42
d, Delay for Lane Group [s/veh]	57.38	41.82	58.45	32.85		21.51	22.06
Lane Group LOS	E	D	E	C		C	C
Critical Lane Group	No	No	Yes	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	10.07	14.64	1.19		7.05	6.07
50th-Percentile Queue Length [ft/ln]	8.34	251.68	366.10	29.74		176.29	151.78
95th-Percentile Queue Length [veh/ln]	0.60	15.27	20.92	2.14		11.41	10.11
95th-Percentile Queue Length [ft/ln]	15.02	381.77	522.99	53.53		285.16	252.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.38	41.82	0.00	0.00	58.45	32.85	0.00	0.00	0.00	21.51	21.71	22.06
Movement LOS	E	D			E	C				C	C	C
d_A, Approach Delay [s/veh]	42.28			55.66			0.00			21.76		
Approach LOS	D			E			A			C		
d_I, Intersection Delay [s/veh]	37.58											
Intersection LOS	D											
Intersection V/C	0.441											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	90	60	0	606	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	60	0	606	80
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	30	20	0	168	22
Total Analysis Volume [veh/h]	0	0	0	0	120	80	0	671	89
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	9	9	55	55
g / C, Green / Cycle	0.55	0.55	0.09	0.09	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.07	0.05	0.21	0.22
s, saturation flow rate [veh/h]	717	1900	1810	1583	1900	1645
c, Capacity [veh/h]	358	1046	157	137	1082	906
d1, Uniform Delay [s]	0.00	0.00	44.65	43.90	12.83	12.86
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	2.92	1.46	0.99	1.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.77	0.58	0.37	0.39
d, Delay for Lane Group [s/veh]	0.00	0.00	47.57	45.36	13.83	14.14
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.99	1.93	5.24	4.65
50th-Percentile Queue Length [ft/ln]	0.00	0.00	74.70	48.28	131.03	116.13
95th-Percentile Queue Length [veh/ln]	0.00	0.00	5.38	3.48	9.00	8.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	134.46	86.90	224.89	204.50

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Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.57	47.57	45.36	13.83	13.95	14.14
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.69			13.97		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	20.79								
Intersection LOS	C								
Intersection V/C	0.282								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	20	160	60	60	181	40	20	220	20	60	231	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	160	60	60	181	40	20	220	20	60	231	80
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	42	16	17	51	11	6	68	6	16	63	22
Total Analysis Volume [veh/h]	21	168	63	68	205	45	25	272	25	65	250	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	34	34	34	34	34	34	34	34
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	11	11	15	15
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.31	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.04	0.06	0.11	0.03	0.18	0.25
s, saturation flow rate [veh/h]	1169	1900	1415	1171	1900	1486	1802	1637
c, Capacity [veh/h]	408	591	440	428	591	462	874	813
d1, Uniform Delay [s]	12.09	8.99	8.58	12.09	9.19	8.45	6.96	7.48
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.10	0.05	0.06	0.13	0.03	0.10	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

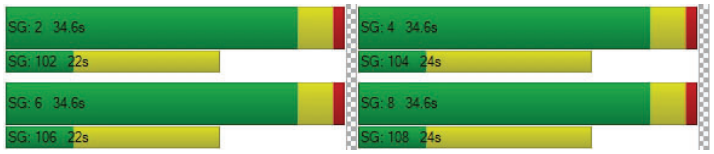
X, volume / capacity	0.05	0.28	0.14	0.16	0.35	0.10	0.37	0.49
d, Delay for Lane Group [s/veh]	12.10	9.09	8.63	12.16	9.32	8.48	7.06	7.65
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.11	0.66	0.24	0.36	0.87	0.18	1.15	1.43
50th-Percentile Queue Length [ft/ln]	2.63	16.42	5.90	9.01	21.82	4.41	28.66	35.67
95th-Percentile Queue Length [veh/ln]	0.19	1.18	0.42	0.65	1.57	0.32	2.06	2.57
95th-Percentile Queue Length [ft/ln]	4.74	29.56	10.62	16.22	39.27	7.93	51.59	64.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.10	9.09	8.63	12.16	9.32	8.48	7.06	7.06	7.06	7.65	7.65	7.65
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.22			9.81			7.06			7.65		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.34											
Intersection LOS	A											
Intersection V/C	0.353											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.331

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	80	219	40	20	250	11	11	125	69	40	172	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	219	40	20	250	11	11	125	69	40	172	40
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	65	12	5	67	3	3	37	20	11	48	11
Total Analysis Volume [veh/h]	95	260	47	22	269	12	13	147	81	44	190	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	33	33	33	33	33	33
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	13	13	13	13	11	11
g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.02	0.15	0.14	0.16
s, saturation flow rate [veh/h]	1087	1809	1047	1877	1723	1719
c, Capacity [veh/h]	470	713	442	740	682	693
d1, Uniform Delay [s]	10.74	7.37	10.48	7.20	8.69	8.86
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.08	0.15	0.02	0.12	0.12	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

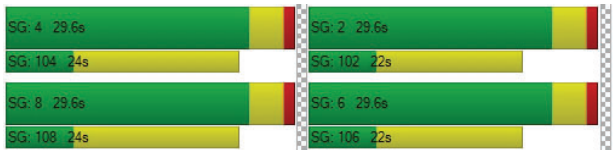
X, volume / capacity	0.20	0.43	0.05	0.38	0.35	0.40
d, Delay for Lane Group [s/veh]	10.82	7.53	10.50	7.32	8.80	9.00
Lane Group LOS	B	A	B	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.42	0.95	0.09	0.84	1.33	1.05
50th-Percentile Queue Length [ft/ln]	10.59	23.69	2.37	21.11	33.22	26.19
95th-Percentile Queue Length [veh/ln]	0.76	1.71	0.17	1.52	2.39	1.89
95th-Percentile Queue Length [ft/ln]	19.05	42.64	4.27	37.99	59.79	47.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.82	7.53	7.53	10.50	7.32	7.32	8.80	8.80	8.80	9.00	9.00	9.00
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.30			7.55			8.80			9.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.37											
Intersection LOS	A											
Intersection V/C	0.331											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	39.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	68	170	170	90	269	10	29	451	104	90	628	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	170	170	90	269	10	29	451	104	90	628	140
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	55	55	24	72	3	8	120	28	25	173	39
Total Analysis Volume [veh/h]	88	220	220	97	290	11	31	480	111	99	693	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	25	25	25	25	25	25	0	28	28	14	42	42
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	19	33	33	44	44	44
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.19	0.33	0.33	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.14	0.08	0.15	0.01	0.05	0.32	0.09	0.23	0.23
s, saturation flow rate [veh/h]	1106	1900	1577	1179	1900	1581	661	1830	1042	1900	1762
c, Capacity [veh/h]	103	368	306	152	368	307	164	606	301	844	783
d1, Uniform Delay [s]	49.63	36.83	37.85	47.30	38.44	32.80	38.93	33.12	22.21	20.09	20.16
k, delay calibration	0.04	0.04	0.04	0.04	0.07	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.50	0.58	1.20	1.65	2.54	0.02	2.54	30.90	0.24	2.26	2.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

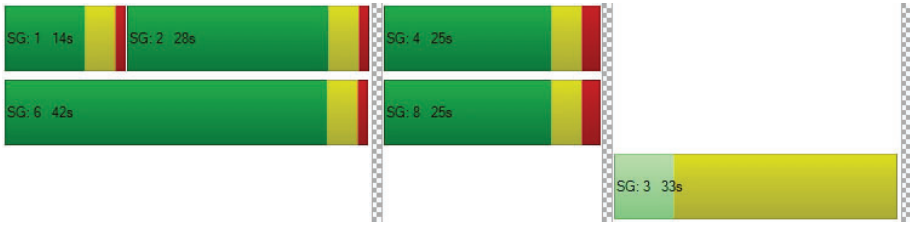
X, volume / capacity	0.86	0.60	0.72	0.64	0.79	0.04	0.19	0.97	0.33	0.52	0.52
d, Delay for Lane Group [s/veh]	57.13	37.41	39.05	48.95	40.98	32.82	41.46	64.02	22.44	22.36	22.65
Lane Group LOS	E	D	D	D	D	C	D	E	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.39	4.86	5.04	2.47	6.87	0.22	0.80	18.91	1.34	7.67	7.26
50th-Percentile Queue Length [ft/ln]	59.70	121.58	125.95	61.65	171.71	5.38	19.99	472.69	33.41	191.72	181.48
95th-Percentile Queue Length [veh/ln]	4.30	8.48	8.72	4.44	11.17	0.39	1.44	26.04	2.41	12.21	11.68
95th-Percentile Queue Length [ft/ln]	107.46	212.00	217.98	110.97	279.15	9.69	35.99	650.97	60.15	305.26	291.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.13	37.41	39.05	48.95	40.98	32.82	41.46	64.02	64.02	22.44	22.47	22.65
Movement LOS	E	D	D	D	D	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	41.38			42.70			62.90			22.50		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	39.79											
Intersection LOS	D											
Intersection V/C	0.511											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	70.7
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	30	328	60	40	474	40	20	150	210	80	250	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	328	60	40	474	40	20	150	210	80	250	60
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	93	17	13	152	13	6	43	60	22	69	17
Total Analysis Volume [veh/h]	34	370	68	51	608	51	23	170	239	89	277	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	39	39	39	39	39	39	28	28
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.04	0.19	0.04	0.05	0.18	0.18	0.26	0.45
s, saturation flow rate [veh/h]	787	1900	1554	1028	1900	1838	1670	956
c, Capacity [veh/h]	258	746	610	298	746	721	513	315
d1, Uniform Delay [s]	30.49	22.91	19.29	32.04	22.38	22.41	34.38	36.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.31	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.06	2.35	0.37	1.24	1.94	2.03	10.20	185.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

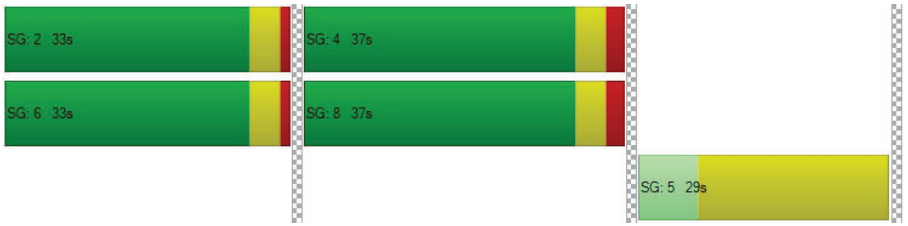
X, volume / capacity	0.13	0.50	0.11	0.17	0.45	0.45	0.84	1.37
d, Delay for Lane Group [s/veh]	31.54	25.26	19.66	33.28	24.31	24.45	44.57	222.17
Lane Group LOS	C	C	B	C	C	C	D	F
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.72	6.80	1.04	1.10	5.96	5.84	11.33	24.03
50th-Percentile Queue Length [ft/ln]	17.96	170.02	26.00	27.45	149.08	145.99	283.37	600.73
95th-Percentile Queue Length [veh/ln]	1.29	11.08	1.87	1.98	9.97	9.80	16.86	37.68
95th-Percentile Queue Length [ft/ln]	32.33	276.94	46.79	49.42	249.21	245.07	421.40	941.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.54	25.26	19.66	33.28	24.37	24.45	44.57	44.57	44.57	222.17	222.17	222.17
Movement LOS	C	C	B	C	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.90			25.02			44.57			222.17		
Approach LOS	C			C			D			F		
d_I, Intersection Delay [s/veh]	70.75											
Intersection LOS	E											
Intersection V/C	0.647											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	120	308	70	170	554	80	0	220	120	0	400	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	308	70	170	554	80	0	220	120	0	400	100
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	93	21	46	149	22	0	59	32	0	114	28
Total Analysis Volume [veh/h]	145	373	85	183	598	86	0	238	130	0	456	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	51	51	51	51	51	51	18	18	18	18
g / C, Green / Cycle	0.51	0.51	0.51	0.51	0.51	0.51	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.19	0.20	0.05	0.18	0.18	0.19	0.13	0.08	0.15	0.16
s, saturation flow rate [veh/h]	769	1900	1583	1025	1900	1806	1900	1560	1900	1756
c, Capacity [veh/h]	359	976	813	445	976	928	348	286	348	322
d1, Uniform Delay [s]	24.24	14.71	12.49	24.61	14.49	14.51	38.12	36.38	39.23	39.81
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.36	1.14	0.26	2.79	1.03	1.09	0.89	0.42	1.84	3.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.38	0.10	0.41	0.36	0.36	0.68	0.45	0.82	0.89
d, Delay for Lane Group [s/veh]	27.60	15.85	12.75	27.40	15.51	15.60	39.02	36.80	41.07	43.11
Lane Group LOS	C	B	B	C	B	B	D	D	D	D
Critical Lane Group	No	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.89	5.12	0.99	3.58	4.72	4.54	5.48	2.84	6.82	7.03
50th-Percentile Queue Length [ft/ln]	72.20	128.05	24.75	89.53	118.01	113.49	136.89	71.06	170.48	175.84
95th-Percentile Queue Length [veh/ln]	5.20	8.83	1.78	6.45	8.28	8.03	9.31	5.12	11.10	11.38
95th-Percentile Queue Length [ft/ln]	129.95	220.85	44.55	161.15	207.09	200.84	232.84	127.91	277.55	284.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.60	15.85	12.75	27.40	15.55	15.60	0.00	39.02	36.80	0.00	41.83	43.11
Movement LOS	C	B	B	C	B	B		D	D		D	D
d_A, Approach Delay [s/veh]	18.24			18.05			38.23			42.09		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	26.87											
Intersection LOS	C											
Intersection V/C	0.359											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	45.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	118	518	190	70	584	70	0	271	120	150	402	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	518	190	70	584	70	0	271	120	150	402	110
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	150	55	22	188	22	0	75	33	43	115	31
Total Analysis Volume [veh/h]	136	599	220	90	751	90	0	302	134	172	460	126
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	11	43	43	55	39	39	21	36	33	33	33
g / C, Green / Cycle	0.09	0.36	0.36	0.46	0.33	0.33	0.18	0.30	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.08	0.32	0.14	0.09	0.23	0.23	0.16	0.09	0.13	0.24	0.08
s, saturation flow rate [veh/h]	1810	1900	1565	999	1900	1817	1900	1560	1311	1900	1568
c, Capacity [veh/h]	163	687	566	295	622	595	333	474	283	524	433
d1, Uniform Delay [s]	53.78	35.77	28.50	24.82	35.09	35.16	48.56	31.85	36.52	41.57	34.26
k, delay calibration	0.05	0.50	0.50	0.50	0.50	0.50	0.12	0.04	0.40	0.25	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.40	14.32	2.01	2.66	6.14	6.54	10.02	0.12	7.67	10.34	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

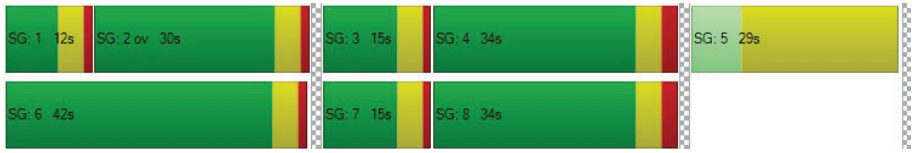
X, volume / capacity	0.83	0.87	0.39	0.31	0.69	0.69	0.91	0.28	0.61	0.88	0.29
d, Delay for Lane Group [s/veh]	59.18	50.09	30.51	27.48	41.23	41.70	58.58	31.97	44.19	51.91	34.39
Lane Group LOS	E	D	C	C	D	D	E	C	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.25	18.62	4.96	1.64	11.75	11.39	9.77	3.00	4.60	14.29	2.90
50th-Percentile Queue Length [ft/ln]	106.21	465.44	124.12	41.02	293.66	284.77	244.27	74.91	115.12	357.20	72.55
95th-Percentile Queue Length [veh/ln]	7.63	25.69	8.62	2.95	17.37	16.93	14.90	5.39	8.12	20.49	5.22
95th-Percentile Queue Length [ft/ln]	190.71	642.35	215.47	73.83	434.18	423.15	372.43	134.84	203.10	512.17	130.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.18	50.09	30.51	27.48	41.43	41.70	0.00	58.58	31.97	44.19	51.91	34.39
Movement LOS	E	D	C	C	D	D		E	C	D	D	C
d_A, Approach Delay [s/veh]	46.87			40.11			50.40			47.25		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.42											
Intersection LOS	D											
Intersection V/C	0.588											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	200	696	0	0	684	130	181	0	84	220	110	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	696	0	0	684	130	181	0	84	220	110	50
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	208	0	0	189	36	52	0	24	60	30	14
Total Analysis Volume [veh/h]	239	832	0	0	755	143	208	0	96	242	121	55
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	73	73	59	59		18	18
g / C, Green / Cycle	0.61	0.61	0.49	0.49		0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.29	0.23	0.24	0.25		0.13	0.11
s, saturation flow rate [veh/h]	828	3618	1900	1770		1810	1627
c, Capacity [veh/h]	476	2188	925	861		274	247
d1, Uniform Delay [s]	14.00	12.17	20.72	21.20		49.87	48.45
k, delay calibration	0.32	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	2.43	0.50	1.82	2.25		3.68	1.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.38	0.49	0.52		0.88	0.71
d, Delay for Lane Group [s/veh]	16.44	12.68	22.54	23.45		53.56	49.89
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	3.15	5.71	8.68	8.95		7.44	5.16
50th-Percentile Queue Length [ft/ln]	78.81	142.67	217.12	223.66		186.05	128.95
95th-Percentile Queue Length [veh/ln]	5.67	9.62	13.52	13.85		11.92	8.88
95th-Percentile Queue Length [ft/ln]	141.86	240.61	337.94	346.29		297.90	222.07

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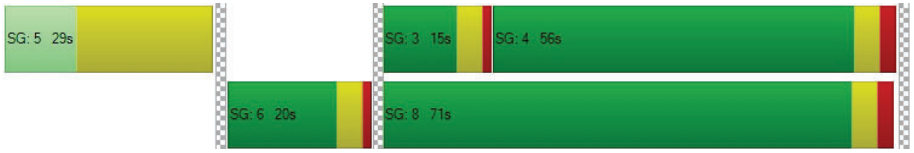
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.44	12.68	0.00	0.00	22.91	23.45	0.00	0.00	0.00	53.56	49.89	49.89
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	13.52			23.00			0.00			52.01		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	23.82											
Intersection LOS	C											
Intersection V/C	0.453											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	363	0	0	954	910	373
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	363	0	0	954	910	373
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	0	0	270	250	102
Total Analysis Volume [veh/h]	415	0	0	1079	1000	410
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	74	74	37	37
g / C, Green / Cycle	0.62	0.62	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.30	0.28	0.26
s, saturation flow rate [veh/h]	3618	3618	3514	1586
c, Capacity [veh/h]	2232	2232	1077	486
d1, Uniform Delay [s]	9.93	12.53	40.29	38.87
k, delay calibration	0.50	0.50	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.75	1.67	6.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.48	0.93	0.84
d, Delay for Lane Group [s/veh]	10.12	13.28	41.96	45.24
Lane Group LOS	B	B	D	D
Critical Lane Group	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.38	7.84	13.58	11.40
50th-Percentile Queue Length [ft/ln]	59.39	195.95	339.38	285.06
95th-Percentile Queue Length [veh/ln]	4.28	12.43	19.62	16.94
95th-Percentile Queue Length [ft/ln]	106.90	310.73	490.44	423.51

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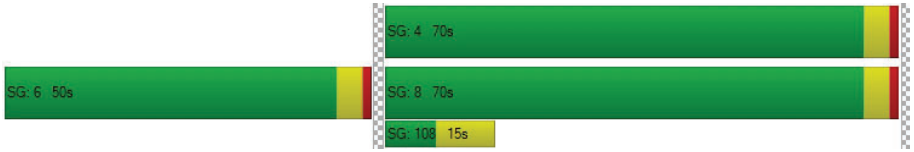
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.12	0.00	0.00	13.28	41.96	45.24
Movement LOS	B			B	D	D
d_A, Approach Delay [s/veh]	10.12		13.28		42.91	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	27.22					
Intersection LOS	C					
Intersection V/C	0.583					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	30	333	230	332	1292	110	30	380	40	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	333	230	332	1292	110	30	380	40	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	85	59	93	361	31	9	114	12	0	0	0
Total Analysis Volume [veh/h]	31	341	235	371	1444	123	36	454	48	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	3	24	24	68	88	88	15	15	15
g / C, Green / Cycle	0.03	0.20	0.20	0.56	0.74	0.74	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.02	0.18	0.13	0.11	0.41	0.43	0.10	0.10	0.10
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1816	1882	1729	1631
c, Capacity [veh/h]	49	378	359	1979	1397	1335	230	212	200
d1, Uniform Delay [s]	57.73	46.85	44.21	12.78	7.14	7.38	51.40	51.38	51.55
k, delay calibration	0.04	0.30	0.10	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.94	18.26	1.92	0.02	1.63	1.89	3.00	3.19	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

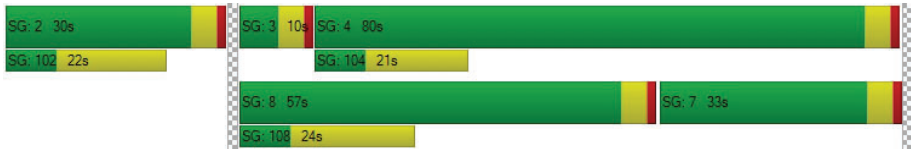
X, volume / capacity	0.63	0.90	0.66	0.19	0.56	0.59	0.83	0.83	0.85
d, Delay for Lane Group [s/veh]	62.67	65.11	46.13	12.80	8.77	9.27	54.40	54.57	55.54
Lane Group LOS	E	E	D	B	A	A	D	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.00	11.81	6.62	2.42	8.54	8.87	5.77	5.29	5.20
50th-Percentile Queue Length [ft/ln]	24.97	295.24	165.58	60.60	213.52	221.76	144.35	132.34	129.89
95th-Percentile Queue Length [veh/ln]	1.80	17.45	10.84	4.36	13.33	13.75	9.71	9.07	8.93
95th-Percentile Queue Length [ft/ln]	44.94	436.13	271.10	109.09	333.34	343.87	242.87	226.68	223.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.67	65.11	46.13	12.80	9.00	9.27	54.40	54.78	55.54	0.00	0.00	0.00
Movement LOS	E	E	D	B	A	A	D	D	E			
d_A, Approach Delay [s/veh]	57.64			9.75			54.82			0.00		
Approach LOS	E			A			D			A		
d_I, Intersection Delay [s/veh]	27.04											
Intersection LOS	C											
Intersection V/C	0.553											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	147	197	140	30	70	20	30	611	60	140	781	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	197	140	30	70	20	30	611	60	140	781	80
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	55	39	8	18	5	8	159	16	37	209	21
Total Analysis Volume [veh/h]	163	218	155	32	74	21	31	638	63	150	836	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	62	62	62	62	62	62
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.14	0.11	0.11	0.03	0.05	0.05	0.18	0.04	0.19	0.25	0.26
s, saturation flow rate [veh/h]	1163	1900	1451	1126	1737	614	3618	1424	788	1900	1752
c, Capacity [veh/h]	291	478	365	224	437	353	2229	877	473	1170	1080
d1, Uniform Delay [s]	38.23	31.55	31.28	38.40	29.55	15.48	8.93	7.69	14.86	9.76	9.92
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.25	0.29	0.11	0.09	0.49	0.32	0.16	1.76	1.02	1.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

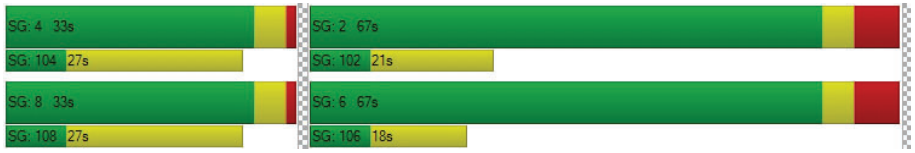
X, volume / capacity	0.56	0.46	0.42	0.14	0.22	0.09	0.29	0.07	0.32	0.40	0.42
d, Delay for Lane Group [s/veh]	38.86	31.81	31.57	38.50	29.64	15.97	9.25	7.85	16.62	10.78	11.12
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.73	4.38	3.09	0.69	1.78	0.45	3.11	0.55	2.22	5.17	5.12
50th-Percentile Queue Length [ft/ln]	93.22	109.45	77.28	17.35	44.60	11.14	77.77	13.78	55.54	129.16	127.91
95th-Percentile Queue Length [veh/ln]	6.71	7.81	5.56	1.25	3.21	0.80	5.60	0.99	4.00	8.89	8.83
95th-Percentile Queue Length [ft/ln]	167.79	195.23	139.10	31.23	80.28	20.05	139.99	24.80	99.97	222.35	220.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.86	31.81	31.57	38.50	29.64	29.64	15.97	9.25	7.85	16.62	10.93	11.12
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	33.88			31.87			9.41			11.74		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	16.90											
Intersection LOS	B											
Intersection V/C	0.399											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	120	414	80	60	140	40	30	190	20	40	280	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	414	80	60	140	40	30	190	20	40	280	70
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	113	22	18	41	12	9	55	6	12	84	21
Total Analysis Volume [veh/h]	131	451	87	71	166	47	35	220	23	48	337	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	60	60	60	60	60	30	30
g / C, Green / Cycle	0.60	0.60	0.60	0.60	0.60	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.12	0.15	0.15	0.08	0.12	0.20	0.28
s, saturation flow rate [veh/h]	1138	1900	1725	869	1764	1414	1666
c, Capacity [veh/h]	674	1150	1044	517	1068	468	544
d1, Uniform Delay [s]	12.51	9.10	9.17	12.90	8.85	28.67	33.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	0.49	0.58	0.55	0.42	1.20	5.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.24	0.25	0.14	0.20	0.59	0.86
d, Delay for Lane Group [s/veh]	13.15	9.59	9.75	13.45	9.27	29.87	38.61
Lane Group LOS	B	A	A	B	A	C	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.60	2.69	2.60	0.89	2.03	5.48	11.34
50th-Percentile Queue Length [ft/ln]	39.91	67.36	64.90	22.13	50.71	136.91	283.61
95th-Percentile Queue Length [veh/ln]	2.87	4.85	4.67	1.59	3.65	9.31	16.87
95th-Percentile Queue Length [ft/ln]	71.83	121.26	116.81	39.83	91.27	232.86	421.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.15	9.65	9.75	13.45	9.27	9.27	29.87	29.87	29.87	38.61	38.61	38.61
Movement LOS	B	A	A	B	A	A	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	10.35			10.31			29.87			38.61		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	21.33											
Intersection LOS	C											
Intersection V/C	0.434											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	100	434	60	80	130	60	20	410	30	30	380	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	434	60	80	130	60	20	410	30	30	380	70
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	124	17	23	37	17	6	120	9	9	119	22
Total Analysis Volume [veh/h]	114	495	68	90	147	68	23	479	35	37	475	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	28	28	28	28	28	59	59	59	59	59	59
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.28	0.59	0.59	0.59	0.59	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.10	0.15	0.16	0.11	0.13	0.02	0.14	0.14	0.04	0.25	0.06
s, saturation flow rate [veh/h]	1138	1900	1737	849	1679	926	1900	1808	873	1900	1405
c, Capacity [veh/h]	250	534	488	179	471	468	1116	1062	507	1116	825
d1, Uniform Delay [s]	39.54	30.46	30.75	42.70	29.66	16.78	9.87	9.92	13.15	11.36	9.08
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.31	0.39	0.81	0.26	0.20	0.49	0.53	0.28	1.19	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

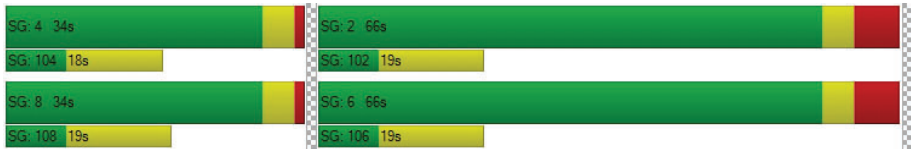
X, volume / capacity	0.46	0.54	0.57	0.50	0.46	0.05	0.23	0.24	0.07	0.43	0.11
d, Delay for Lane Group [s/veh]	40.03	30.77	31.13	43.51	29.92	16.98	10.36	10.45	13.43	12.55	9.34
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.61	5.75	5.60	2.17	4.20	0.33	2.72	2.69	0.47	5.79	0.85
50th-Percentile Queue Length [ft/ln]	65.28	143.87	139.88	54.32	104.95	8.30	68.09	67.33	11.64	144.76	21.32
95th-Percentile Queue Length [veh/ln]	4.70	9.69	9.47	3.91	7.56	0.60	4.90	4.85	0.84	9.74	1.54
95th-Percentile Queue Length [ft/ln]	117.50	242.22	236.86	97.78	188.91	14.94	122.56	121.20	20.96	243.42	38.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.03	30.92	31.13	43.51	29.92	29.92	16.98	10.40	10.45	13.43	12.55	9.34
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.48			33.93			10.68			12.14		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.41											
Intersection LOS	C											
Intersection V/C	0.409											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.412

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	80	554	60	20	90	90	30	381	20	30	402	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	554	60	20	90	90	30	381	20	30	402	70
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	145	16	6	25	25	8	101	5	8	111	19
Total Analysis Volume [veh/h]	84	581	63	22	100	100	32	406	21	33	444	77
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	67	67	67	67	67
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.67	0.67	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.18	0.03	0.12	0.03	0.23	0.03	0.23	0.05
s, saturation flow rate [veh/h]	1176	1900	1774	798	1629	943	1870	956	1900	1444
c, Capacity [veh/h]	197	458	428	109	393	595	1247	605	1267	963
d1, Uniform Delay [s]	43.00	34.78	35.05	46.70	32.82	10.27	7.18	10.15	7.23	5.85
k, delay calibration	0.04	0.05	0.06	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.90	1.50	0.33	0.38	0.17	0.75	0.17	0.76	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.71	0.74	0.20	0.51	0.05	0.34	0.05	0.35	0.08
d, Delay for Lane Group [s/veh]	43.54	35.67	36.54	47.03	33.20	10.45	7.93	10.32	8.00	6.02
Lane Group LOS	D	D	D	D	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.99	7.21	7.10	0.54	4.13	0.34	3.67	0.34	3.84	0.54
50th-Percentile Queue Length [ft/ln]	49.79	180.15	177.44	13.45	103.31	8.40	91.72	8.59	95.97	13.61
95th-Percentile Queue Length [veh/ln]	3.58	11.61	11.47	0.97	7.44	0.60	6.60	0.62	6.91	0.98
95th-Percentile Queue Length [ft/ln]	89.62	290.21	286.66	24.21	185.95	15.12	165.10	15.46	172.75	24.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.54	36.05	36.54	47.03	33.20	33.20	10.45	7.93	7.93	10.32	8.00	6.02
Movement LOS	D	D	D	D	C	C	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	36.96			34.57			8.11			7.86		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	21.73											
Intersection LOS	C											
Intersection V/C	0.412											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	614	80	40	10	80	0	0	0	6	260	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	614	80	40	10	80	0	0	0	6	260	50
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	169	22	12	3	24	0	0	0	2	86	17
Total Analysis Volume [veh/h]	15	675	88	47	12	94	0	0	0	6	344	66
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	40	40	5	49		40
g / C, Green / Cycle	0.40	0.40	0.05	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.07	0.03	0.07		0.22
s, saturation flow rate [veh/h]	3618	1344	1810	1578		1840
c, Capacity [veh/h]	1431	532	93	778		745
d1, Uniform Delay [s]	22.43	19.53	46.19	13.78		22.76
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.12	0.67	1.60	0.36		2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

X, volume / capacity	0.47	0.17	0.51	0.14		0.55
d, Delay for Lane Group [s/veh]	23.55	20.20	47.79	14.14		25.67
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	5.98	1.41	1.16	1.32		7.80
50th-Percentile Queue Length [ft/ln]	149.53	35.15	29.06	33.10		195.09
95th-Percentile Queue Length [veh/ln]	9.99	2.53	2.09	2.38		12.39
95th-Percentile Queue Length [ft/ln]	249.80	63.27	52.32	59.58		309.63

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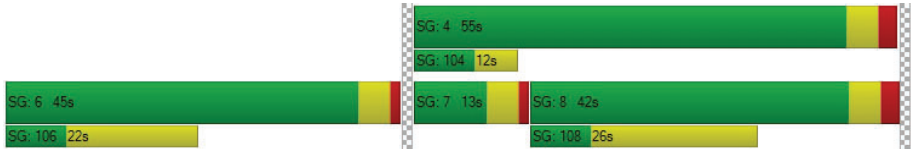
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	23.55	20.20	47.79	14.14	14.14	0.00	0.00	0.00	0.00	25.67	25.67
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	23.16			24.48			0.00			25.67		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	24.09											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_PM_LOS.pdf

Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	200	70	80	150	29	60	370	20	40	351	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	200	70	80	150	29	60	370	20	40	351	160
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	58	20	23	42	8	18	112	6	11	96	44
Total Analysis Volume [veh/h]	12	231	81	90	169	33	73	447	24	44	384	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.41	0.14	0.43	0.06	0.08	0.25	0.05	0.20	0.13
s, saturation flow rate [veh/h]	600	600	600	600	970	1860	918	1900	1325
c, Capacity [veh/h]	273	219	288	219	437	937	379	957	667
d1, Uniform Delay [s]	23.48	16.31	24.19	14.93	16.28	11.55	17.95	10.81	9.94
k, delay calibration	0.38	0.04	0.43	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.43	0.39	29.13	0.12	0.83	1.93	0.62	1.26	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

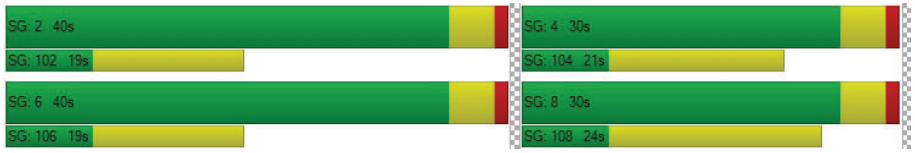
X, volume / capacity	0.89	0.37	0.90	0.15	0.17	0.50	0.12	0.40	0.26
d, Delay for Lane Group [s/veh]	49.91	16.69	53.31	15.04	17.11	13.48	18.57	12.07	10.90
Lane Group LOS	D	B	D	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.88	0.91	6.62	0.34	0.88	4.76	0.56	3.58	1.54
50th-Percentile Queue Length [ft/ln]	146.91	22.78	165.53	8.46	21.94	118.91	13.98	89.52	38.44
95th-Percentile Queue Length [veh/ln]	9.85	1.64	10.84	0.61	1.58	8.33	1.01	6.45	2.77
95th-Percentile Queue Length [ft/ln]	246.30	41.01	271.03	15.22	39.49	208.33	25.16	161.14	69.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.91	49.91	16.69	53.31	53.31	15.04	17.11	13.48	13.48	18.57	12.07	10.90
Movement LOS	D	D	B	D	D	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	41.60			48.99			13.96			12.20		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	24.24											
Intersection LOS	C											
Intersection V/C	0.685											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	90	110	80	30	40	10	30	480	40	40	431	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	110	80	30	40	10	30	480	40	40	431	30
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	31	22	11	15	4	9	151	13	11	118	8
Total Analysis Volume [veh/h]	100	123	89	44	59	15	38	602	50	44	471	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_PM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	35	35	35	35	35	35	35	35
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	17	17	17	17
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.04	0.04	0.05	0.35	0.06	0.28
s, saturation flow rate [veh/h]	1285	1662	1138	1794	823	1842	762	1826
c, Capacity [veh/h]	430	436	315	470	395	879	313	872
d1, Uniform Delay [s]	13.00	11.02	14.96	10.03	10.93	7.46	13.75	6.66
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.31	0.07	0.06	0.04	0.47	0.08	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

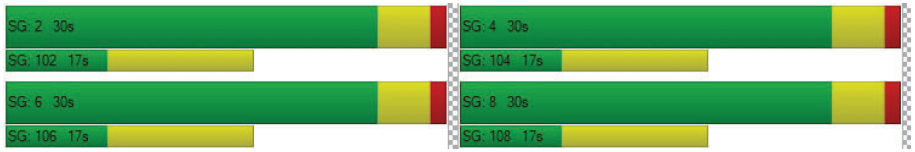
X, volume / capacity	0.23	0.49	0.14	0.16	0.10	0.74	0.14	0.58
d, Delay for Lane Group [s/veh]	13.10	11.33	15.04	10.09	10.97	7.93	13.83	6.89
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.55	1.04	0.27	0.33	0.19	2.39	0.26	1.62
50th-Percentile Queue Length [ft/ln]	13.75	25.94	6.72	8.13	4.75	59.64	6.62	40.54
95th-Percentile Queue Length [veh/ln]	0.99	1.87	0.48	0.59	0.34	4.29	0.48	2.92
95th-Percentile Queue Length [ft/ln]	24.74	46.70	12.10	14.63	8.55	107.36	11.91	72.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.10	11.33	11.33	15.04	10.09	10.09	10.97	7.93	7.93	13.83	6.89	6.89
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.90			11.93			8.10			7.44		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.87											
Intersection LOS	A											
Intersection V/C	0.482											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	210	371	270	42	193	40	20	613	125	160	774	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	371	270	42	193	40	20	613	125	160	774	44
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	98	71	13	60	12	5	161	33	43	206	12
Total Analysis Volume [veh/h]	222	393	286	52	240	50	21	643	131	170	825	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.19	0.05	0.08	0.08	0.03	0.18	0.09	0.17	0.23	0.03
s, saturation flow rate [veh/h]	1306	1900	1525	991	1900	1754	665	3618	1487	973	3618	1443
c, Capacity [veh/h]	492	670	538	113	442	408	265	1590	654	553	2008	801
d1, Uniform Delay [s]	24.17	26.40	25.77	48.36	31.92	32.04	26.04	19.10	17.22	11.84	12.82	10.23
k, delay calibration	0.47	0.08	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.49	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.79	0.61	0.30	1.08	0.16	0.19	0.59	0.77	0.69	1.42	0.62	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.59	0.53	0.46	0.33	0.35	0.08	0.40	0.20	0.31	0.41	0.06
d, Delay for Lane Group [s/veh]	26.96	27.02	26.08	49.44	32.08	32.23	26.63	19.87	17.91	13.26	13.44	10.37
Lane Group LOS	C	C	C	D	C	C	C	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.20	7.59	5.35	1.32	2.93	2.84	0.41	5.13	1.95	1.96	5.12	0.48
50th-Percentile Queue Length [ft/ln]	104.93	189.65	133.83	32.92	73.25	71.03	10.21	128.32	48.72	48.90	128.07	12.03
95th-Percentile Queue Length [veh/ln]	7.55	12.10	9.15	2.37	5.27	5.11	0.74	8.85	3.51	3.52	8.83	0.87
95th-Percentile Queue Length [ft/ln]	188.87	302.57	228.70	59.25	131.84	127.86	18.39	221.21	87.69	88.02	220.87	21.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.96	27.02	26.08	49.44	32.14	32.23	26.63	19.87	17.91	13.26	13.44	10.37
Movement LOS	C	C	C	D	C	C	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	26.71			34.78			19.72			13.28		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	21.26											
Intersection LOS	C											
Intersection V/C	0.435											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	63.3
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	150	811	70	20	478	40	10	150	130	70	190	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	811	70	20	478	40	10	150	130	70	190	50
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	214	18	6	142	12	3	40	35	19	52	14
Total Analysis Volume [veh/h]	158	855	74	24	566	47	11	159	138	76	208	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	55	55	63	52	52	27	27	27	27
g / C, Green / Cycle	0.63	0.55	0.55	0.63	0.52	0.52	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.16	0.25	0.25	0.03	0.16	0.17	0.15	0.09	0.67	0.04
s, saturation flow rate [veh/h]	971	1900	1825	728	1900	1830	1155	1461	422	1508
c, Capacity [veh/h]	645	1052	1010	476	986	950	353	398	161	411
d1, Uniform Delay [s]	7.86	13.23	13.29	7.98	13.80	13.83	29.62	29.17	35.49	27.41
k, delay calibration	0.43	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.77	1.38	1.47	0.20	0.83	0.88	0.38	0.19	369.92	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

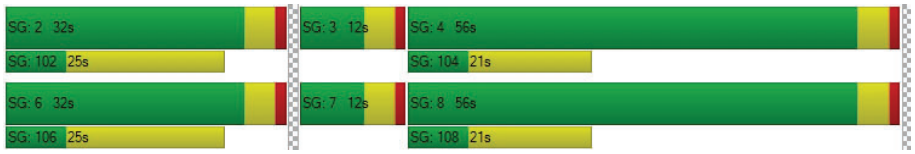
X, volume / capacity	0.24	0.45	0.45	0.05	0.31	0.32	0.48	0.35	1.77	0.13
d, Delay for Lane Group [s/veh]	8.63	14.61	14.76	8.18	14.63	14.72	30.00	29.36	405.41	27.47
Lane Group LOS	A	B	B	A	B	B	C	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	6.35	6.22	0.20	4.11	4.03	3.22	2.62	20.46	0.98
50th-Percentile Queue Length [ft/ln]	34.87	158.80	155.59	5.07	102.70	100.78	80.55	65.52	511.48	24.50
95th-Percentile Queue Length [veh/ln]	2.51	10.49	10.31	0.37	7.39	7.26	5.80	4.72	34.95	1.76
95th-Percentile Queue Length [ft/ln]	62.76	262.14	257.87	9.13	184.86	181.40	145.00	117.94	873.72	44.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.63	14.68	14.76	8.18	14.67	14.72	30.00	30.00	29.36	405.41	405.41	27.47
Movement LOS	A	B	B	A	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	13.80			14.43			29.71			344.09		
Approach LOS	B			B			C			F		
d_I, Intersection Delay [s/veh]	63.26											
Intersection LOS	E											
Intersection V/C	0.930											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	851	160	70	568	70	20	544	230	80	407	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	851	160	70	568	70	20	544	230	80	407	180
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	219	41	19	150	19	6	151	64	22	112	50
Total Analysis Volume [veh/h]	113	875	165	74	601	74	22	605	256	88	448	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	54	44	44	54	43	43	25	25	25	36	36	36
g / C, Green / Cycle	0.54	0.44	0.44	0.54	0.43	0.43	0.25	0.25	0.25	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.29	0.10	0.18	0.18	0.02	0.24	0.26	0.09	0.24	0.14
s, saturation flow rate [veh/h]	952	1900	1761	752	1900	1798	957	1900	1588	940	1900	1453
c, Capacity [veh/h]	530	833	772	395	822	778	103	480	401	286	689	527
d1, Uniform Delay [s]	11.95	21.96	22.15	13.69	19.67	19.75	47.90	36.68	37.38	24.89	26.58	23.52
k, delay calibration	0.20	0.50	0.50	0.50	0.50	0.50	0.04	0.25	0.31	0.07	0.14	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	3.78	4.32	1.05	1.57	1.71	0.38	18.44	39.56	0.39	1.31	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

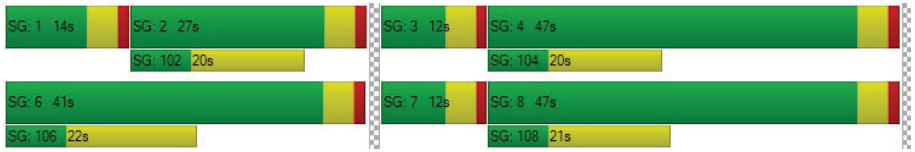
X, volume / capacity	0.21	0.64	0.66	0.19	0.42	0.43	0.21	0.94	1.02	0.31	0.65	0.38
d, Delay for Lane Group [s/veh]	12.32	25.74	26.47	14.74	21.23	21.45	48.28	55.12	76.94	25.28	27.90	23.69
Lane Group LOS	B	C	C	B	C	C	D	E	F	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.23	10.34	9.97	0.87	5.77	5.61	0.55	13.08	13.99	1.40	8.93	3.42
50th-Percentile Queue Length [ft/ln]	30.77	258.42	249.21	21.70	144.24	140.20	13.77	326.97	349.81	35.01	223.27	85.46
95th-Percentile Queue Length [veh/ln]	2.22	15.61	15.15	1.56	9.71	9.49	0.99	19.01	20.33	2.52	13.83	6.15
95th-Percentile Queue Length [ft/ln]	55.39	390.24	378.66	39.07	242.73	237.29	24.78	475.24	508.33	63.02	345.80	153.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.32	26.02	26.47	14.74	21.33	21.45	48.28	60.61	76.94	25.28	27.90	23.69
Movement LOS	B	C	C	B	C	C	D	E	E	C	C	C
d_A, Approach Delay [s/veh]	24.74			20.69			65.03			26.45		
Approach LOS	C			C			E			C		
d_I, Intersection Delay [s/veh]	34.35											
Intersection LOS	C											
Intersection V/C	0.602											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	33.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	140	1001	160	50	818	30	60	261	120	110	292	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1001	160	50	818	30	60	261	120	110	292	80
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	271	43	14	222	8	16	68	31	30	79	22
Total Analysis Volume [veh/h]	152	1085	174	54	890	33	62	270	124	119	315	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	10	51	51	37	37	37	26	26	26	35	35
g / C, Green / Cycle	0.10	0.51	0.51	0.37	0.37	0.37	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.08	0.34	0.36	0.12	0.24	0.25	0.06	0.14	0.09	0.33	0.06
s, saturation flow rate [veh/h]	1810	1900	1725	448	1900	1851	1081	1900	1352	1333	1366
c, Capacity [veh/h]	183	978	888	107	699	681	72	488	347	459	482
d1, Uniform Delay [s]	44.10	17.76	18.32	47.41	26.45	26.56	50.00	32.19	30.40	30.54	22.33
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.68	3.43	4.47	15.84	4.94	5.27	10.29	0.37	0.23	30.48	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

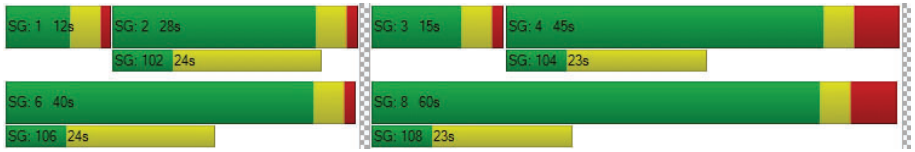
X, volume / capacity	0.83	0.66	0.70	0.50	0.66	0.67	0.86	0.55	0.36	0.95	0.18
d, Delay for Lane Group [s/veh]	47.78	21.19	22.79	63.26	31.39	31.83	60.29	32.56	30.63	61.02	22.40
Lane Group LOS	D	C	C	E	C	C	E	C	C	E	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.85	11.20	11.29	1.82	9.99	9.95	1.74	5.56	2.41	12.27	1.37
50th-Percentile Queue Length [ft/ln]	96.30	280.10	282.33	45.42	249.63	248.73	43.41	139.10	60.35	306.77	34.29
95th-Percentile Queue Length [veh/ln]	6.93	16.69	16.80	3.27	15.17	15.12	3.13	9.43	4.35	18.02	2.47
95th-Percentile Queue Length [ft/ln]	173.35	417.33	420.12	81.75	379.18	378.05	78.13	235.81	108.63	450.39	61.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.78	21.84	22.79	63.26	31.60	31.83	60.29	32.56	30.63	61.02	61.02	22.40
Movement LOS	D	C	C	E	C	C	E	C	C	E	E	C
d_A, Approach Delay [s/veh]	24.76			33.36			35.81			54.64		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.37											
Intersection LOS	C											
Intersection V/C	0.596											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	45.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	160	1251	50	20	948	30	6	80	140	66	170	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1251	50	20	948	30	6	80	140	66	170	80
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	330	13	5	247	8	2	24	41	18	48	22
Total Analysis Volume [veh/h]	169	1320	53	21	988	31	7	95	165	70	191	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	91	91	91	91	91	91	91	91
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	10	34	34	3	27	27	40	40
g / C, Green / Cycle	0.11	0.37	0.37	0.03	0.29	0.29	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.37	0.01	0.27	0.27	0.16	0.16
s, saturation flow rate [veh/h]	1810	1900	1861	1810	1900	1865	1663	1783
c, Capacity [veh/h]	205	711	697	60	558	548	733	786
d1, Uniform Delay [s]	39.35	27.88	28.07	42.95	30.98	31.07	16.84	16.86
k, delay calibration	0.04	0.50	0.50	0.04	0.27	0.28	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.15	27.02	29.71	1.31	14.05	15.29	1.35	1.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.97	0.98	0.35	0.92	0.92	0.35	0.36
d, Delay for Lane Group [s/veh]	42.50	54.90	57.79	44.26	45.03	46.36	18.18	18.13
Lane Group LOS	D	D	E	D	D	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.81	19.28	19.66	0.48	12.63	12.70	3.72	4.01
50th-Percentile Queue Length [ft/ln]	95.15	481.91	491.43	11.96	315.86	317.56	93.07	100.26
95th-Percentile Queue Length [veh/ln]	6.85	26.48	26.93	0.86	18.46	18.55	6.70	7.22
95th-Percentile Queue Length [ft/ln]	171.27	661.92	673.21	21.52	461.59	463.69	167.52	180.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.50	56.28	57.79	44.26	45.67	46.36	0.00	18.18	18.18	0.00	18.13	18.13
Movement LOS	D	E	E	D	D	D		B	B		B	B
d_A, Approach Delay [s/veh]	54.82			45.66			18.18			18.13		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	45.42											
Intersection LOS	D											
Intersection V/C	0.536											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	43.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	270	712	0	0	1238	40	0	0	0	650	280	869
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	712	0	0	1238	40	0	0	0	650	280	869
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	204	0	0	326	11	0	0	0	179	77	239
Total Analysis Volume [veh/h]	310	818	0	0	1304	42	0	0	0	715	308	956
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

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Version 7.00-06

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Miramar Hotel Redevelopment Scenario 7: 7 Future Plus Project - Alt Access Report File: \...\FP_Alt_PM_LOS.pdf

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	44	44		40	40	40	40
g / C, Green / Cycle	0.18	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.17	0.23	0.25	0.24		0.28	0.27	0.33	0.33
s, saturation flow rate [veh/h]	1810	3618	3618	1865		1810	1862	1412	1545
c, Capacity [veh/h]	334	2124	1317	679		608	626	475	520
d1, Uniform Delay [s]	48.10	13.21	32.23	31.91		36.66	36.27	39.19	39.27
k, delay calibration	0.34	0.50	0.50	0.50		0.30	0.28	0.42	0.42
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.99	0.53	2.86	4.99		7.89	6.28	30.96	30.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.39	0.68	0.66		0.83	0.81	0.97	0.97
d, Delay for Lane Group [s/veh]	74.09	13.74	35.09	36.90		44.55	42.55	70.14	69.64
Lane Group LOS	E	B	D	D		D	D	E	E
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.49	5.91	11.45	11.76		14.36	13.98	16.76	18.34
50th-Percentile Queue Length [ft/ln]	287.28	147.67	286.32	294.07		359.0	349.5	418.9	458.4
95th-Percentile Queue Length [veh/ln]	17.05	9.89	17.00	17.39		20.58	20.11	23.47	25.36
95th-Percentile Queue Length [ft/ln]	426.26	247.31	425.07	434.69		514.4	502.8	586.7	634.0

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	74.09	13.74	0.00	0.00	35.66	36.90	0.00	0.00	0.00	43.94	43.51	69.87
Movement LOS	E	B			D	D				D	D	E
d_A, Approach Delay [s/veh]	30.32			35.70			0.00			56.41		
Approach LOS	C			D			A			E		
d_I, Intersection Delay [s/veh]	43.54											
Intersection LOS	D											
Intersection V/C	0.747											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	792	330	546	1332	0	200	180	240	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	792	330	546	1332	0	200	180	240	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	220	92	147	358	0	57	52	69	0	0	0
Total Analysis Volume [veh/h]	0	879	366	586	1430	0	229	206	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	28	28	28	55	88	23	23	23
g / C, Green / Cycle	0.24	0.24	0.24	0.46	0.73	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.17	0.21	0.21	0.17	0.40	0.13	0.12	0.17
s, saturation flow rate [veh/h]	3618	1505	1464	3514	3618	1810	1729	1577
c, Capacity [veh/h]	850	354	344	1615	2651	344	329	300
d1, Uniform Delay [s]	42.38	44.24	44.56	21.03	7.07	45.00	44.63	47.61
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.17
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	2.85	3.66	0.63	0.79	0.83	0.73	15.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.88	0.90	0.36	0.54	0.66	0.63	0.92
d, Delay for Lane Group [s/veh]	42.84	47.09	48.23	21.66	7.87	45.83	45.36	63.36
Lane Group LOS	D	D	D	C	A	D	D	E
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.47	9.06	9.20	5.46	7.41	6.34	5.65	9.26
50th-Percentile Queue Length [ft/ln]	211.67	226.51	229.89	136.60	185.22	158.41	141.20	231.57
95th-Percentile Queue Length [veh/ln]	13.24	14.00	14.17	9.30	11.87	10.46	9.55	14.25
95th-Percentile Queue Length [ft/ln]	330.97	349.93	354.22	232.44	296.82	261.61	238.64	356.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	43.08	48.06	21.66	7.87	0.00	45.83	45.36	63.36	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	E			
d_A, Approach Delay [s/veh]	45.25			11.87			52.48			0.00		
Approach LOS	D			B			D			A		
d_I, Intersection Delay [s/veh]	29.60											
Intersection LOS	C											
Intersection V/C	0.570											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	52.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	765	310	140	803	140	208
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	765	310	140	803	140	208
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	213	87	44	252	40	60
Total Analysis Volume [veh/h]	854	346	176	1007	161	239
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.24	0.26	0.27	0.28	0.19	0.33
s, saturation flow rate [veh/h]	3618	1353	648	3618	832	734
c, Capacity [veh/h]	2509	938	445	2509	145	128
d1, Uniform Delay [s]	6.15	6.31	12.34	6.51	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.13	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	1.12	2.62	0.48	70.75	417.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.37	0.40	0.40	1.11	1.86
d, Delay for Lane Group [s/veh]	6.52	7.43	14.95	6.99	112.02	458.62
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.27	2.91	2.47	4.09	6.34	17.94
50th-Percentile Queue Length [ft/ln]	81.79	72.63	61.76	102.26	158.59	448.38
95th-Percentile Queue Length [veh/ln]	5.89	5.23	4.45	7.36	10.94	30.48
95th-Percentile Queue Length [ft/ln]	147.22	130.73	111.16	184.07	273.58	762.03

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.52	7.43	14.95	6.99	112.02	458.62
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	6.78		8.17		319.11	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	52.26					
Intersection LOS	D					
Intersection V/C	0.604					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.314

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	60	30	0	10	30	20	0	10	116	20	0	10	183	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	60	30	0	10	30	20	0	10	116	20	0	10	183	20
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	20	10	0	3	9	6	0	3	33	6	0	3	51	6
Total Analysis Volume [veh/h]	0	27	81	40	0	12	37	25	0	11	131	23	0	11	203	22
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	629	735	619	721	670	777	681	789
Degree of Utilization, x	0.17	0.05	0.08	0.03	0.21	0.03	0.31	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.62	0.17	0.26	0.11	0.80	0.09	1.34	0.09
95th-Percentile Queue Length [ft]	15.41	4.31	6.43	2.69	19.93	2.29	33.61	2.15
Approach Delay [s/veh]	9.14		8.63		9.23		10.11	
Approach LOS	A		A		A		B	
Intersection Delay [s/veh]	9.47							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.323

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	430	90	0	50	321	0	101	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	430	90	0	50	321	0	101	80
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	24	0	13	84	0	32	26
Total Analysis Volume [veh/h]	0	451	94	0	52	336	0	129	103
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	15	15
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.24	0.06	0.05	0.18	0.08	0.09
s, saturation flow rate [veh/h]	1900	1581	954	1900	1538	1208
c, Capacity [veh/h]	1108	867	482	1042	436	342
d1, Uniform Delay [s]	7.32	5.93	11.60	6.78	15.33	15.35
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	0.25	0.45	0.82	0.14	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

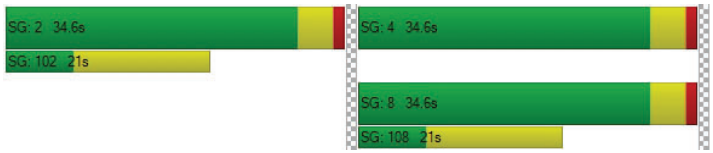
X, volume / capacity	0.41	0.11	0.11	0.32	0.30	0.30
d, Delay for Lane Group [s/veh]	8.43	6.19	12.06	7.60	15.47	15.53
Lane Group LOS	A	A	B	A	B	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.69	0.46	0.43	1.86	1.18	0.94
50th-Percentile Queue Length [ft/ln]	67.16	11.43	10.76	46.39	29.39	23.60
95th-Percentile Queue Length [veh/ln]	4.84	0.82	0.77	3.34	2.12	1.70
95th-Percentile Queue Length [ft/ln]	120.89	20.57	19.36	83.50	52.91	42.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.43	8.43	6.19	12.06	12.06	7.60	15.47	15.47	15.53
Movement LOS	A	A	A	B	B	A	B	B	B
d_A, Approach Delay [s/veh]	8.04			8.20			15.50		
Approach LOS	A			A			B		
d_I, Intersection Delay [s/veh]	9.58								
Intersection LOS	A								
Intersection V/C	0.323								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	130	20	10	90	10	20	135	20	10	145	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	130	20	10	90	10	20	135	20	10	145	20
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	39	6	3	24	3	6	41	6	3	44	6
Total Analysis Volume [veh/h]	47	154	24	11	96	11	24	165	24	12	175	24
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	695	673	705	706
Degree of Utilization, x	0.32	0.18	0.30	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.40	0.63	1.27	1.25
95th-Percentile Queue Length [ft]	35.10	15.78	31.82	31.34
Approach Delay [s/veh]	10.65	9.47	10.30	10.26
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	10.26			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	40	240	20	20	160	10	20	165	30	30	135	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	240	20	20	160	10	20	165	30	30	135	50
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	71	6	5	44	3	6	47	8	8	36	13
Total Analysis Volume [veh/h]	48	286	24	22	176	11	23	186	34	32	145	54
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	626	596	599	602
Degree of Utilization, x	0.57	0.35	0.41	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.61	1.57	1.96	1.80
95th-Percentile Queue Length [ft]	90.36	39.24	48.96	45.02
Approach Delay [s/veh]	16.14	12.27	13.04	12.67
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	13.87			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	29.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	105	320	40	20	220	20	20	120	95	30	130	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	320	40	20	220	20	20	120	95	30	130	30
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	89	11	6	61	6	6	33	26	9	38	9
Total Analysis Volume [veh/h]	117	356	45	22	245	22	22	133	105	35	152	35
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	508	577	480	536	511	492
Degree of Utilization, x	0.93	0.08	0.56	0.04	0.51	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.32	0.25	3.33	0.13	2.84	2.31
95th-Percentile Queue Length [ft]	283.02	6.32	83.30	3.21	71.07	57.71
Approach Delay [s/veh]	47.42		18.42		17.08	16.19
Approach LOS	E		C		C	C
Intersection Delay [s/veh]	29.42					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	18.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	10	281	110	170	331	20	30	60	10	120	30	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	281	110	170	331	20	30	60	10	120	30	30
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	79	31	48	93	6	8	16	3	35	9	9
Total Analysis Volume [veh/h]	11	316	124	191	372	22	31	63	10	141	35	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	51	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.56	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.01	0.25	0.18	0.21	0.03	0.04	0.11	0.05
s, saturation flow rate [veh/h]	1061	1744	1082	1866	1039	1811	1290	1373
c, Capacity [veh/h]	664	902	643	1048	202	330	244	251
d1, Uniform Delay [s]	6.98	14.03	8.47	10.97	36.15	31.36	38.53	31.71
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	1.88	1.18	1.03	0.13	0.12	0.81	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

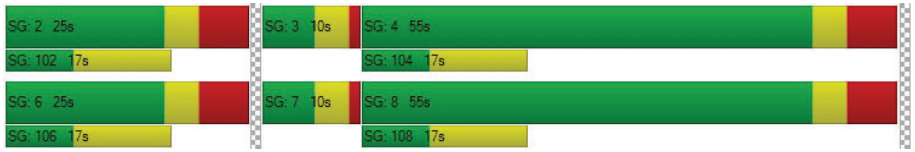
X, volume / capacity	0.02	0.49	0.30	0.38	0.15	0.22	0.58	0.28
d, Delay for Lane Group [s/veh]	6.98	15.91	9.65	12.01	36.28	31.48	39.34	31.93
Lane Group LOS	A	B	A	B	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	5.75	1.59	4.33	0.62	1.35	3.02	1.29
50th-Percentile Queue Length [ft/ln]	1.74	143.87	39.71	108.30	15.51	33.68	75.48	32.36
95th-Percentile Queue Length [veh/ln]	0.13	9.69	2.86	7.75	1.12	2.43	5.43	2.33
95th-Percentile Queue Length [ft/ln]	3.13	242.23	71.48	193.64	27.92	60.63	135.86	58.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.98	15.91	15.91	9.65	12.01	12.01	36.28	31.48	31.48	39.34	31.93	31.93
Movement LOS	A	B	B	A	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	15.69			11.24			32.91			36.88		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	18.40											
Intersection LOS	B											
Intersection V/C	0.410											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	77	200	30	10	70	10	10	175	30	20	155	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	200	30	10	70	10	10	175	30	20	155	20
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	56	8	3	21	3	3	53	9	5	42	5
Total Analysis Volume [veh/h]	87	226	34	12	84	12	12	212	36	21	166	21
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	665	619	655	641
Degree of Utilization, x	0.52	0.17	0.40	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.04	0.63	1.90	1.41
95th-Percentile Queue Length [ft]	75.99	15.69	47.54	35.14
Approach Delay [s/veh]	14.16	10.04	12.07	11.30
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.44			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	210	30	10	241	10	10	70	10	10	120	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	210	30	10	241	10	10	70	10	10	120	40
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	60	9	3	61	3	3	22	3	3	35	12
Total Analysis Volume [veh/h]	23	239	34	10	246	10	13	88	13	12	139	46
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	699	688	631	659
Degree of Utilization, x	0.42	0.39	0.18	0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.12	1.83	0.65	1.25
95th-Percentile Queue Length [ft]	52.91	45.68	16.37	31.31
Approach Delay [s/veh]	11.89	11.49	9.96	10.78
Approach LOS	B	B	A	B
Intersection Delay [s/veh]	11.26			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	5.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2750	50	0	2811	70	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2750	50	0	2811	70	40
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	747	14	0	719	19	11
Total Analysis Volume [veh/h]	2989	54	0	2877	77	44
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	70	70	70	70
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	52	52	52	7
g / C, Green / Cycle	0.75	0.75	0.75	0.10
(v / s)_i Volume / Saturation Flow Rate	0.64	0.61	0.47	0.08
s, saturation flow rate [veh/h]	3192	1661	6089	1530
c, Capacity [veh/h]	2398	1248	4574	150
d1, Uniform Delay [s]	5.92	5.54	4.09	30.78
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.50	0.05	3.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.81	0.63	0.81
d, Delay for Lane Group [s/veh]	6.24	6.04	4.14	34.62
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.47	5.19	2.64	2.07
50th-Percentile Queue Length [ft/ln]	136.70	129.75	66.05	51.81
95th-Percentile Queue Length [veh/ln]	9.30	8.93	4.76	3.73
95th-Percentile Queue Length [ft/ln]	232.57	223.15	118.89	93.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.18	6.04	0.00	4.14	34.62	34.62
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	6.18		4.14		34.62	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	5.78					
Intersection LOS	A					
Intersection V/C	0.715					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	155.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.212

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2340	750	40	370	440	10	568	470	0	0	370	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2340	750	40	370	440	10	568	470	0	0	370	330
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	642	206	11	109	129	3	142	122	0	0	108	96
Total Analysis Volume [veh/h]	2569	823	44	434	516	12	568	490	0	0	432	385
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	181	181	181	181	181	181	181
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	105	105	105	30	30	36	36
g / C, Green / Cycle	0.58	0.58	0.58	0.17	0.17	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.54	0.58	0.60	0.30	0.30	0.31	0.22
s, saturation flow rate [veh/h]	3192	1479	1425	1597	1592	1597	3783
c, Capacity [veh/h]	1845	855	824	265	264	318	752
d1, Uniform Delay [s]	34.92	38.20	38.20	75.50	75.50	72.50	72.50
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.03	32.03	43.16	382.52	384.86	259.51	40.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	1.01	1.04	1.82	1.82	1.54	1.09
d, Delay for Lane Group [s/veh]	35.95	70.23	81.36	458.02	460.36	332.01	113.37
Lane Group LOS	D	F	F	F	F	F	F
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	34.38	44.73	45.65	40.51	40.56	37.72	14.56
50th-Percentile Queue Length [ft/ln]	859.39	1118.35	1141.27	1012.73	1013.98	942.89	363.89
95th-Percentile Queue Length [veh/ln]	43.99	55.96	58.86	63.12	63.23	57.69	21.72
95th-Percentile Queue Length [ft/ln]	1099.78	1398.94	1471.43	1578.12	1580.67	1442.34	543.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.66	81.26	81.36	458.02	460.36	460.36	0.00	332.01	0.00	0.00	113.37	113.37
Movement LOS	D	F	F	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	55.87			459.19			332.01			113.37		
Approach LOS	E			F			F			F		
d_I, Intersection Delay [s/veh]	155.83											
Intersection LOS	F											
Intersection V/C	1.212											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.450

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	131	90	46	0	10	69	20	0	20	119	23	0	32	140	10
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	131	90	46	0	10	69	20	0	20	119	23	0	32	140	10
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	38	26	13	0	3	20	6	0	6	34	7	0	9	41	3
Total Analysis Volume [veh/h]	0	153	105	54	0	12	82	24	0	23	138	27	0	37	164	12
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	693	665	670	668
Degree of Utilization, x	0.45	0.18	0.28	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.34	0.64	1.15	1.37
95th-Percentile Queue Length [ft]	58.58	16.05	28.68	34.27
Approach Delay [s/veh]	12.39	9.59	10.45	10.89
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.17			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.195

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	30	70	20	10	59	10	10	30	20	30	80	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	70	20	10	59	10	10	30	20	30	80	30
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	22	6	3	16	3	4	11	7	9	24	9
Total Analysis Volume [veh/h]	38	88	25	11	64	11	14	42	28	36	96	36
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	670	797	671	785	666	785	675	800
Degree of Utilization, x	0.19	0.03	0.11	0.01	0.08	0.04	0.20	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.69	0.10	0.38	0.04	0.27	0.11	0.72	0.14
95th-Percentile Queue Length [ft]	17.19	2.43	9.38	1.07	6.86	2.77	18.03	3.52
Approach Delay [s/veh]	8.99		8.56		8.22		8.91	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.76							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	955	140	270	1423	0	32	1085	209	90	0	120
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	955	140	270	1423	0	32	1085	209	90	0	120
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	256	38	74	392	0	8	271	52	28	0	37
Total Analysis Volume [veh/h]	36	0	1025	150	298	1569	0	32	1085	209	112	0	150
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	104	104	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.09	0.44	0.43		0.09	0.13
s, saturation flow rate [veh/h]	1810	3618	1584	680	3618		1231	1132
c, Capacity [veh/h]	47	2509	1099	534	2625		192	177
d1, Uniform Delay [s]	72.54	9.82	7.77	6.78	9.96		58.69	61.51
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.49	0.26	4.18	1.01		1.04	13.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.41	0.14	0.56	0.60		0.58	0.85
d, Delay for Lane Group [s/veh]	81.74	10.31	8.03	10.95	10.97		59.74	74.88
Lane Group LOS	F	B	A	B	B		E	E
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	7.23	1.71	2.82	12.19		4.03	6.24
50th-Percentile Queue Length [ft/ln]	37.61	180.68	42.84	70.54	304.71		100.77	155.89
95th-Percentile Queue Length [veh/ln]	2.71	11.64	3.08	5.08	17.91		7.26	10.33
95th-Percentile Queue Length [ft/ln]	67.70	290.91	77.11	126.97	447.84		181.38	258.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.31	8.03	10.95	10.97	0.00	0.00	0.00	0.00	59.74	0.00	74.88
Movement LOS	F		B	A	B	B					E		E
d_A, Approach Delay [s/veh]	12.15				10.97			0.00			68.40		
Approach LOS	B				B			A			E		
d_I, Intersection Delay [s/veh]	15.90												
Intersection LOS	B												
Intersection V/C	0.586												

Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: PALISADES BEACH ROAD/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	54.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.243

Intersection Setup

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Pa-Ca			Pa-Ca			California Incline			California Incline		
Base Volume Input [veh/h]	30	2130	2	381	2960	20	20	30	30	87	20	500
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	2130	2	381	2960	20	20	30	30	87	20	500
Peak Hour Factor	0.8617	0.8617	1.0000	0.9777	0.9777	0.9777	0.6250	0.6250	0.6250	0.8305	0.8305	0.8305
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	618	1	97	757	5	8	12	12	26	6	151
Total Analysis Volume [veh/h]	35	2472	2	390	3028	20	32	48	48	105	24	602
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	3	8	0	7	4	0	5	5	0	0	1	1
Auxiliary Signal Groups												1,7
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	20	200	0	70	200	0	45	45	0	0	45	45
Amber [s]	3.2	4.3	0.0	3.2	4.3	0.0	3.2	3.2	0.0	0.0	3.2	3.2
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	5	0	7	7	0	0	7	7
Pedestrian Clearance [s]	0	10	0	0	13	0	10	10	0	0	10	10
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.2	4.3	0.0	2.2	4.3	0.0	2.2	2.2	0.0	0.0	2.2	2.2
Minimum Recall	No	Yes		No	Yes			No			No	No
Maximum Recall	No	No		No	No			No			No	No
Pedestrian Recall	No	No		No	No			No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	R
C, Cycle Length [s]	213	213	213	213	213	213	213	213
L, Total Lost Time per Cycle [s]	4.20	6.30	4.20	6.30	6.30	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	4.30	2.20	4.30	4.30	2.20	2.20	0.00
g_i, Effective Green Time [s]	6	103	50	147	147	45	45	100
g / C, Green / Cycle	0.03	0.48	0.24	0.69	0.69	0.21	0.21	0.47
(v / s)_i Volume / Saturation Flow Rate	0.02	0.48	0.22	0.55	0.55	0.55	0.23	0.37
s, saturation flow rate [veh/h]	1774	5176	1810	3618	1894	233	555	1615
c, Capacity [veh/h]	51	2499	429	2500	1308	70	148	756
d1, Uniform Delay [s]	102.47	54.53	79.05	22.73	22.82	77.12	85.53	48.07
k, delay calibration	0.04	0.04	0.16	0.04	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.94	3.20	11.01	0.23	1.23	419.55	45.94	8.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

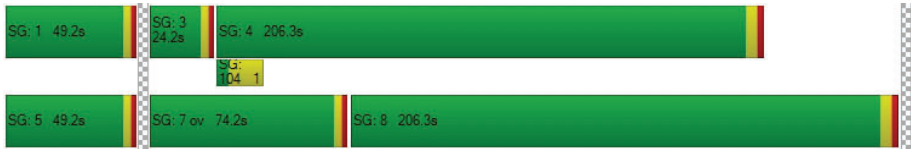
X, volume / capacity	0.69	0.99	0.91	0.80	0.80	1.82	0.87	0.80
d, Delay for Lane Group [s/veh]	108.41	57.73	90.06	22.96	24.05	496.67	131.46	56.61
Lane Group LOS	F	E	F	C	C	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.01	43.38	21.97	32.94	35.11	12.15	9.18	29.44
50th-Percentile Queue Length [ft/ln]	50.19	1084.43	549.36	823.44	877.63	303.63	229.38	735.95
95th-Percentile Queue Length [veh/ln]	3.61	54.18	29.66	42.35	44.82	21.82	14.14	38.34
95th-Percentile Queue Length [ft/ln]	90.35	1354.46	741.56	1058.75	1120.55	545.57	353.57	958.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	108.41	57.73	0.00	90.06	23.33	24.05	496.67	496.67	496.67	131.46	131.46	56.61
Movement LOS	F	E		F	C	C	F	F	F	F	F	E
d_A, Approach Delay [s/veh]	58.43			30.90			496.67			69.82		
Approach LOS	E			C			F			E		
d_I, Intersection Delay [s/veh]	53.99											
Intersection LOS	D											
Intersection V/C	1.243											

Sequence

Ring 1	1	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OCEAN AVENUE/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	191.0
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.999

Intersection Setup

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			25.00			35.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Ocean Ave			Ocean Ave			California Incline			California Ave			
Base Volume Input [veh/h]	373	501	56	45	421	106	100	100	231	0	42	179	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	373	501	56	45	421	106	100	100	231	0	42	179	89
Peak Hour Factor	0.9384	0.9384	0.9384	0.8743	0.8743	0.8743	0.9127	0.9127	0.9127	1.000	0.795	0.795	0.795
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	99	133	15	13	120	30	27	27	63	0	13	56	28
Total Analysis Volume [veh/h]	397	534	60	51	482	121	110	110	253	0	53	225	112
Presence of On-Street Parking	No		No	No		No	No		No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	41			136			112			255			
Bicycle Volume [bicycles/h]	12			64			28			69			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Permi	Permi	Permi	Permi
Signal Group	3	8	8	7	4	4	2	2	3	0	6	6	6
Auxiliary Signal Groups			8						2,3				
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	5	7	7	5	7	7	7	7	5	0	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	15	0	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	5.0	0.0	1.0	1.0	1.0
Split [s]	19	57	57	10	48	48	33	33	19	0	33	33	33
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	0	0	7	7	7
Pedestrian Clearance [s]	0	16	16	0	16	16	16	16	0	0	16	16	16
Rest In Walk		No			No			No				No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	2.6	2.6	2.6	2.6	2.6	6.6	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No	No			No	
Maximum Recall	No	No		No	No			No	No			No	
Pedestrian Recall	No	No		No	No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	10	50	50	4	43	43	28	47	28	28
g / C, Green / Cycle	0.10	0.50	0.50	0.04	0.43	0.43	0.28	0.47	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.22	0.28	0.05	0.03	0.25	0.09	1.53	0.16	0.55	0.10
s, saturation flow rate [veh/h]	1810	1900	1199	1810	1900	1301	144	1534	510	1094
c, Capacity [veh/h]	189	948	598	70	823	564	95	728	188	311
d1, Uniform Delay [s]	44.75	17.45	13.21	47.52	21.51	17.70	39.00	16.51	31.26	28.52
k, delay calibration	0.50	0.50	0.50	0.04	0.50	0.50	0.50	0.05	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	513.06	2.42	0.34	5.29	3.04	0.87	623.50	0.12	242.62	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

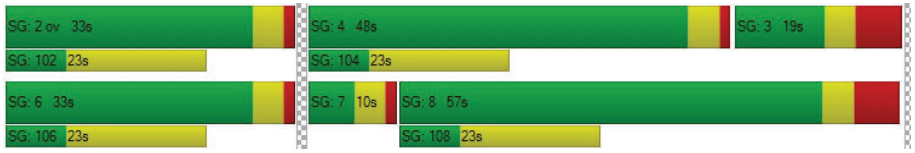
X, volume / capacity	2.10	0.56	0.10	0.73	0.59	0.21	2.32	0.35	1.48	0.36
d, Delay for Lane Group [s/veh]	557.81	19.87	13.54	52.81	24.55	18.57	662.50	16.63	273.88	28.78
Lane Group LOS	F	B	B	D	C	B	F	B	F	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	31.57	8.82	0.75	1.35	8.99	1.85	18.84	3.64	16.15	2.11
50th-Percentile Queue Length [ft/ln]	789.20	220.45	18.78	33.83	224.77	46.25	471.09	91.02	403.68	52.87
95th-Percentile Queue Length [veh/ln]	49.78	13.69	1.35	2.44	13.91	3.33	33.76	6.55	27.19	3.81
95th-Percentile Queue Length [ft/ln]	1244.42	342.20	33.81	60.89	347.71	83.25	844.06	163.84	679.65	95.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	557.81	19.87	13.54	52.81	24.55	18.57	662.50	662.50	16.63	273.8	273.8	273.8	28.78
Movement LOS	F	B	B	D	C	B	F	F	B	F	F	F	C
d_A, Approach Delay [s/veh]	234.99			25.65			317.04			203.50			
Approach LOS	F			C			F			F			
d_I, Intersection Delay [s/veh]	190.98												
Intersection LOS	F												
Intersection V/C	1.999												

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: OCEAN AVENUE/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	51.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.428

Intersection Setup

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Wilshire Blvd		
Base Volume Input [veh/h]	0	580	202	0	80	660	0	334	345
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	580	202	0	80	660	0	334	345
Peak Hour Factor	1.0000	0.9243	0.9243	1.0000	0.9478	0.9478	1.0000	0.8687	0.8687
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	157	55	0	21	174	0	96	99
Total Analysis Volume [veh/h]	0	627	219	0	84	696	0	384	397
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	164			254			306		
Bicycle Volume [bicycles/h]	9			2			14		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	8	0	7	4	0	6	7
Auxiliary Signal Groups									6,7
Lead / Lag	-	-	-	-	Lead	-	-	Lag	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	30	0	25	20
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	5.0	5.0	0.0	1.0	5.0	0.0	1.0	1.0
Split [s]	0	64	64	0	14	78	0	22	14
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	0	19	19	0	0	0	0	15	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	6.6	6.6	0.0	2.6	6.6	0.0	2.6	2.6
Minimum Recall		Yes			No	Yes		No	
Maximum Recall		No			No	No		No	
Pedestrian Recall		No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	0.00	6.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	58	58	58	69	69	17	17	17
g / C, Green / Cycle	0.58	0.58	0.58	0.69	0.69	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.16	0.09	0.19	0.21	0.15	0.24
s, saturation flow rate [veh/h]	1900	1729	1372	940	3618	1299	1695	1064
c, Capacity [veh/h]	1146	1010	802	687	2509	226	295	186
d1, Uniform Delay [s]	10.45	10.45	10.29	5.38	5.81	41.27	40.23	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.27	0.09	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.63	0.75	0.84	0.36	0.28	109.22	6.97	182.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

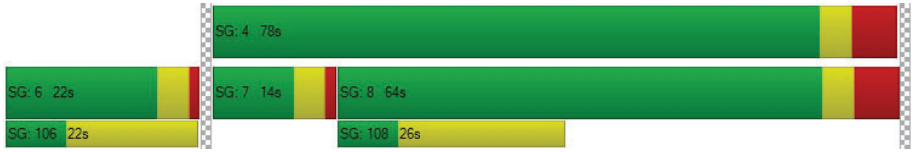
X, volume / capacity	0.29	0.30	0.27	0.12	0.28	1.19	0.88	1.35
d, Delay for Lane Group [s/veh]	11.08	11.20	11.13	5.74	6.09	150.49	47.20	223.92
Lane Group LOS	B	B	B	A	A	F	D	F
Critical Lane Group	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.64	3.34	2.44	0.56	2.52	12.37	6.71	13.92
50th-Percentile Queue Length [ft/ln]	90.90	83.40	61.08	14.12	62.94	309.25	167.76	348.03
95th-Percentile Queue Length [veh/ln]	6.54	6.00	4.40	1.02	4.53	19.65	10.96	22.72
95th-Percentile Queue Length [ft/ln]	163.62	150.11	109.95	25.41	113.29	491.35	273.97	567.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.08	11.14	11.13	5.74	5.74	6.09	150.49	118.18	161.80
Movement LOS	B	B	B	A	A	A	F	F	F
d_A, Approach Delay [s/veh]	11.14			6.05			139.81		
Approach LOS	B			A			F		
d_I, Intersection Delay [s/veh]	51.24								
Intersection LOS	D								
Intersection V/C	0.428								

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: OCEAN AVENUE/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.355

Intersection Setup

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Arizona Ave	
Base Volume Input [veh/h]	711	190	130	744	120	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	711	190	130	744	120	80
Peak Hour Factor	0.9093	0.9093	0.9413	0.9413	0.8468	0.8468
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	195	52	35	198	35	24
Total Analysis Volume [veh/h]	782	209	138	790	142	94
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	251		389		253	
Bicycle Volume [bicycles/h]	6		7		22	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	92.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	8	8	4	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	69	69	69	69	31	31
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	0	0	7	7
Pedestrian Clearance [s]	10	10	0	0	18	18
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60
g_i, Effective Green Time [s]	62	62	62	62	25
g / C, Green / Cycle	0.62	0.62	0.62	0.62	0.25
(v / s)_i Volume / Saturation Flow Rate	0.22	0.16	0.20	0.22	0.14
s, saturation flow rate [veh/h]	3618	1339	696	3618	1727
c, Capacity [veh/h]	2236	827	412	2236	431
d1, Uniform Delay [s]	9.30	8.64	16.27	9.32	32.55
k, delay calibration	0.50	0.50	0.50	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.43	0.73	2.18	0.44	0.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

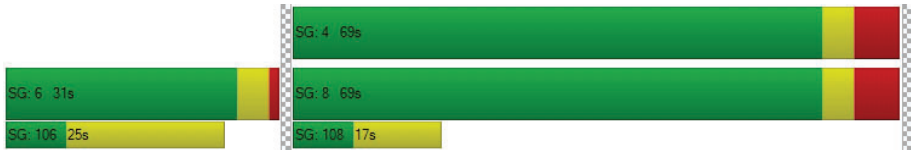
X, volume / capacity	0.35	0.25	0.33	0.35	0.55
d, Delay for Lane Group [s/veh]	9.73	9.37	18.46	9.76	32.95
Lane Group LOS	A	A	B	A	C
Critical Lane Group	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.98	2.08	2.19	4.03	4.89
50th-Percentile Queue Length [ft/ln]	99.56	51.98	54.86	100.87	122.29
95th-Percentile Queue Length [veh/ln]	7.17	3.74	3.95	7.26	8.52
95th-Percentile Queue Length [ft/ln]	179.21	93.57	98.75	181.57	212.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.73	9.37	18.46	9.76	32.95	32.95
Movement LOS	A	A	B	A	C	C
d_A, Approach Delay [s/veh]	9.65		11.06		32.95	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	12.81					
Intersection LOS	B					
Intersection V/C	0.355					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: OCEAN AVENUE/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Santa Monica Blvd	
Base Volume Input [veh/h]	751	260	130	764	190	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	751	260	130	764	190	120
Peak Hour Factor	0.8871	0.8871	0.8750	0.8750	0.9070	0.9070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	212	73	37	218	52	33
Total Analysis Volume [veh/h]	847	293	149	873	209	132
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	585		730		459	
Bicycle Volume [bicycles/h]	12		17		42	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	93.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	ProtPerm	Permissive	Permissive	Overlap
Signal Group	8	8	7	4	6	7
Auxiliary Signal Groups						6,7
Lead / Lag	-	-	Lead	-	Lag	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	15	30	25	15
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	1.0	5.0	1.0	1.0
Split [s]	69	69	12	81	19	12
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	7	7	0	0	7	0
Pedestrian Clearance [s]	8	8	0	0	12	0
Rest In Walk	No			No	Yes	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	2.6	6.6	2.6	2.6
Minimum Recall	Yes		No	Yes	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	0.00	6.60	2.60	0.00
g_i, Effective Green Time [s]	60	60	72	72	14	26
g / C, Green / Cycle	0.60	0.60	0.72	0.72	0.14	0.26
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.18	0.24	0.25	0.11
s, saturation flow rate [veh/h]	3618	1296	817	3618	832	1238
c, Capacity [veh/h]	2190	785	621	2618	120	325
d1, Uniform Delay [s]	10.17	10.06	5.08	5.03	42.78	30.42
k, delay calibration	0.50	0.50	0.50	0.50	0.42	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	1.36	0.91	0.34	360.49	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.37	0.24	0.33	1.74	0.41
d, Delay for Lane Group [s/veh]	10.68	11.42	5.99	5.37	403.27	30.73
Lane Group LOS	B	B	A	A	F	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.63	3.36	0.93	2.88	14.95	2.62
50th-Percentile Queue Length [ft/ln]	115.81	84.01	23.36	71.95	373.83	65.62
95th-Percentile Queue Length [veh/ln]	8.16	6.05	1.68	5.18	25.41	4.72
95th-Percentile Queue Length [ft/ln]	204.06	151.22	42.06	129.52	635.36	118.11

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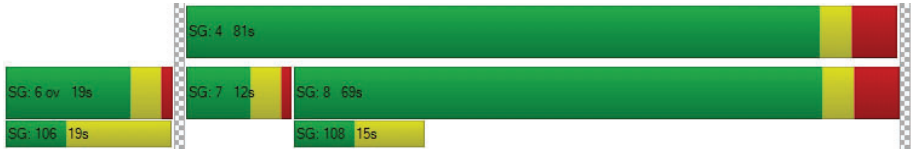
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.68	11.42	5.99	5.37	403.27	30.73
Movement LOS	B	B	A	A	F	C
d_A, Approach Delay [s/veh]	10.87		5.46		259.06	
Approach LOS	B		A		F	
d_I, Intersection Delay [s/veh]	42.48					
Intersection LOS	D					
Intersection V/C	0.516					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Intersection Level Of Service Report
Intersection 6: OCEAN AVENUE/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	46.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Santa Monica Pier			Colorado Ave		
Base Volume Input [veh/h]	20	1046	142	67	894	30	0	13	60	310	50	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1046	142	67	894	30	0	13	60	310	50	210
Peak Hour Factor	0.8914	0.8914	0.8613	0.9469	0.9520	0.9520	0.8523	0.5455	0.8523	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	293	41	18	235	8	0	6	18	87	14	59
Total Analysis Volume [veh/h]	22	1173	165	71	939	32	0	24	70	348	56	236
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			1733			0			1733		
Bicycle Volume [bicycles/h]	38			13			23			119		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	1	5	2	4	3	6	5
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	7	0	0	7	7	7	0	7	5	7	7
Maximum Green [s]	15	30	0	0	30	7	15	0	30	15	30	15
Amber [s]	3.6	3.6	0.0	0.0	3.6	20.0	3.6	0.0	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0	1.0	1.0
Split [s]	12	75	0	0	63	27	18	0	63	12	30	18
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	7	0	7	0	7	7
Pedestrian Clearance [s]	0	20	0	0	20	20	20	0	20	0	10	20
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	18.0	2.6	0.0	3.6	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes		No				No	
Maximum Recall	No	No			No		No				No	
Pedestrian Recall	No	No			No		No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	1
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	C	C	C	C	R
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	75	75	67	67	8	32	32
g / C, Green / Cycle	0.50	0.50	0.45	0.45	0.05	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.32	0.26	0.26	0.04	0.22	0.17
s, saturation flow rate [veh/h]	680	3618	1900	1874	1615	1822	1397
c, Capacity [veh/h]	298	1806	852	840	86	392	301
d1, Uniform Delay [s]	21.93	27.81	30.63	30.78	70.24	58.85	55.58
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.46	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	1.82	2.76	2.89	6.72	51.52	9.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

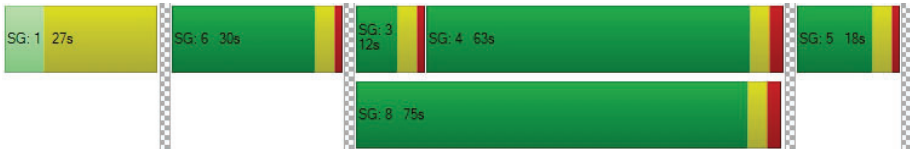
X, volume / capacity	0.07	0.65	0.57	0.58	0.81	1.03	0.79
d, Delay for Lane Group [s/veh]	21.97	29.64	33.39	33.67	76.96	110.37	65.37
Lane Group LOS	C	C	C	C	E	F	E
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.40	16.07	13.76	13.85	2.82	20.60	9.34
50th-Percentile Queue Length [ft/ln]	10.09	401.72	344.03	346.15	70.48	515.03	233.60
95th-Percentile Queue Length [veh/ln]	0.73	22.64	19.85	19.95	5.07	28.55	14.36
95th-Percentile Queue Length [ft/ln]	18.17	566.08	496.13	498.72	126.86	713.67	358.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.97	29.64	0.00	0.00	33.52	33.67	76.96	0.00	76.96	110.37	110.37	65.37
Movement LOS	C	C			C	C	E		E	F	F	E
d_A, Approach Delay [s/veh]	29.50			33.53			76.96			93.78		
Approach LOS	C			C			E			F		
d_I, Intersection Delay [s/veh]	46.32											
Intersection LOS	D											
Intersection V/C	0.589											

Sequence

Ring 1	1	6	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: OCEAN AVENUE/MOOMAT AHIKO

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		0.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Moomat Ahiko Way	
Base Volume Input [veh/h]	370	896	874	110	230	700
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	370	896	874	110	230	700
Peak Hour Factor	0.9529	0.9529	0.9745	0.9745	0.9595	0.9595
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	235	224	28	60	182
Total Analysis Volume [veh/h]	388	940	897	113	240	730
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		153		619	
Bicycle Volume [bicycles/h]	0		18		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	6	8	4	4	5	2
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	31	64	64	64	25	45
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	0	7	7	7	0
Pedestrian Clearance [s]	0	0	25	25	15	0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes	Yes		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	70	70	70	20	40
g / C, Green / Cycle	0.13	0.59	0.59	0.59	0.17	0.34
(v / s)_i Volume / Saturation Flow Rate	0.11	0.26	0.25	0.09	0.18	0.26
s, saturation flow rate [veh/h]	3514	3618	3618	1315	1322	2859
c, Capacity [veh/h]	452	2120	2120	770	225	964
d1, Uniform Delay [s]	51.18	13.88	13.66	11.24	49.75	35.38
k, delay calibration	0.04	0.50	0.50	0.50	0.31	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.67	0.62	0.40	65.74	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

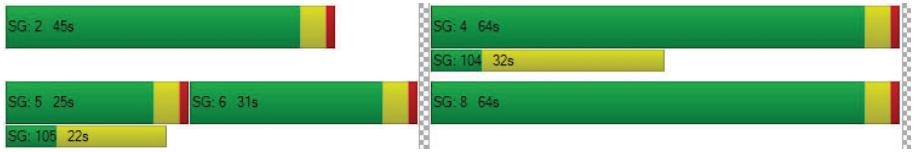
X, volume / capacity	0.86	0.44	0.42	0.15	1.07	0.76
d, Delay for Lane Group [s/veh]	53.07	14.55	14.28	11.64	115.49	35.84
Lane Group LOS	D	B	B	B	F	D
Critical Lane Group	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.82	7.12	6.68	1.43	11.19	10.14
50th-Percentile Queue Length [ft/ln]	145.55	178.02	167.11	35.84	279.73	253.39
95th-Percentile Queue Length [veh/ln]	9.78	11.50	10.92	2.58	17.20	15.36
95th-Percentile Queue Length [ft/ln]	244.48	287.43	273.11	64.51	430.03	383.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.07	14.55	14.28	11.64	115.49	35.84
Movement LOS	D	B	B	B	F	D
d_A, Approach Delay [s/veh]	25.81		13.98		55.55	
Approach LOS	C		B		E	
d_I, Intersection Delay [s/veh]	30.92					
Intersection LOS	C					
Intersection V/C	0.552					

Sequence

Ring 1	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: OCEAN AVENUE/PICO BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Approach	Northbound				Northeastbound				Southwestbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	0.00				35.00				35.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Ocean Ave				Pico Blvd				Pico Blvd			
Base Volume Input [veh/h]	0	0	0	0	70	180	90	0	270	0	300	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	70	180	90	0	270	0	300	350
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.7558	0.7558	0.7558	1.0000	0.9489	0.9319	0.9319	0.9319
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	23	60	30	0	71	0	80	94
Total Analysis Volume [veh/h]	0	0	0	0	93	238	119	0	285	0	322	376
Presence of On-Street Parking					No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	6				70				188			
Bicycle Volume [bicycles/h]	33				8				56			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	7	2	4	0	1	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	0	0	5	7	7	0	5	0	7	0
Maximum Green [s]	0	0	0	0	30	29	30	0	7	0	41	0
Amber [s]	0.0	0.0	0.0	0.0	3.6	3.6	3.6	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	33	55	0	12	0	45	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	2.0	3.0	2.0	0.0	2.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	5	7	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	24	10	0	0	0	20	0
Rest In Walk						No					No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.6	2.6	2.6	0.0	2.6	0.0	2.6	0.0
Minimum Recall						Yes			Yes		Yes	
Maximum Recall						No			No		No	
Pedestrian Recall						No			No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	R
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]		2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]		47	47	47	59	59	59
g / C, Green / Cycle		0.40	0.40	0.40	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate		0.09	0.10	0.12	0.24	0.17	0.26
s, saturation flow rate [veh/h]		1047	1900	1447	1170	1900	1453
c, Capacity [veh/h]		348	752	573	585	942	720
d1, Uniform Delay [s]		34.62	24.29	24.85	19.50	18.37	20.58
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.88	0.79	1.33	2.89	0.99	2.70
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.27	0.25	0.30	0.49	0.34	0.52
d, Delay for Lane Group [s/veh]		36.50	25.07	26.18	22.39	19.36	23.28
Lane Group LOS		D	C	C	C	B	C
Critical Lane Group		No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.33	3.68	3.52	5.10	5.57	7.49
50th-Percentile Queue Length [ft/ln]		58.27	91.88	87.89	127.60	139.26	187.20
95th-Percentile Queue Length [veh/ln]		4.20	6.62	6.33	8.81	9.44	11.98
95th-Percentile Queue Length [ft/ln]		104.89	165.38	158.21	220.23	236.02	299.40

Generated with PTV VISTRO 12/19/2019 Fehr & Peers
Version 7.00-06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	36.50	25.31	26.18	0.00	22.39	0.00	19.36	23.28
Movement LOS					D	C	C		C		B	C
d_A, Approach Delay [s/veh]	0.00				27.85				21.74			
Approach LOS	A				C				C			
d_I, Intersection Delay [s/veh]	30.97											
Intersection LOS	C											
Intersection V/C	0.582											

Miramar Hotel Redevelopment Scenario 9: 9 Future plus Project - Alt Access Report File: \...\FP_Alt_MD_LOS.pdf

Intersection Setup

Name	Neilson Way				Ocean Ave			
Approach	Northwestbound				Southeastbound			
Lane Configuration								
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Neilson Way				Ocean Ave			
Base Volume Input [veh/h]	0	50	646	180	260	934	0	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	50	646	180	260	934	0	120
Peak Hour Factor	1.0000	0.9421	0.9421	0.9421	0.9016	0.9016	0.9016	0.9624
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	171	48	72	259	0	31
Total Analysis Volume [veh/h]	0	53	686	191	288	1036	0	125
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	266				111			
Bicycle Volume [bicycles/h]	33				24			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	118.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive	Permissive
Signal Group	0	0	8	2	7	4	0	6
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	Lead	-	-	-
Minimum Green [s]	0	0	7	7	5	7	0	7
Maximum Green [s]	0	0	27	29	30	30	0	41
Amber [s]	0.0	0.0	3.6	3.6	3.6	3.6	0.0	3.6
All red [s]	0.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0
Split [s]	0	0	55	33	20	55	0	45
Vehicle Extension [s]	0.0	0.0	2.0	3.0	2.0	2.0	0.0	3.0
Walk [s]	0	0	7	5	0	7	0	7
Pedestrian Clearance [s]	0	0	14	24	0	10	0	20
Rest In Walk			No			No		
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.6	2.6	2.6	2.6	0.0	2.6
Minimum Recall			No		No	No		
Maximum Recall			No		No	No		
Pedestrian Recall			No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	32	32	32	51	51	51
g / C, Green / Cycle	0.26	0.26	0.26	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.15	0.26	0.31	0.32
s, saturation flow rate [veh/h]	491	3618	1246	1126	1900	1770
c, Capacity [veh/h]	60	955	329	438	813	757
d1, Uniform Delay [s]	59.98	40.11	38.39	26.27	28.47	29.03
k, delay calibration	0.04	0.04	0.04	0.11	0.22	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	0.39	0.61	1.75	2.53	3.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

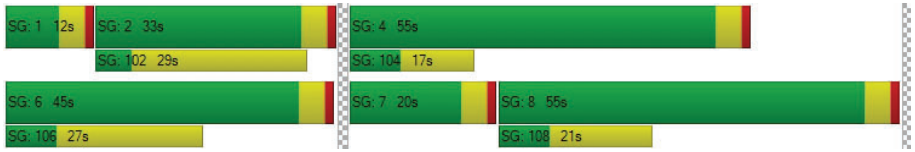
X, volume / capacity	0.88	0.72	0.58	0.66	0.72	0.76
d, Delay for Lane Group [s/veh]	74.28	40.50	39.00	28.02	31.01	32.64
Lane Group LOS	E	D	D	C	C	C
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.85	9.21	4.94	5.76	14.39	14.44
50th-Percentile Queue Length [ft/ln]	46.30	230.30	123.44	143.97	359.71	361.10
95th-Percentile Queue Length [veh/ln]	3.33	14.19	8.58	9.69	20.61	20.68
95th-Percentile Queue Length [ft/ln]	83.33	354.73	214.54	242.35	515.23	516.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	74.28	40.50	39.00	28.02	31.71	0.00	32.64
Movement LOS		E	D	D	C	C		C
d_A, Approach Delay [s/veh]	42.11				31.06			
Approach LOS	D				C			
d_I, Intersection Delay [s/veh]	30.97							
Intersection LOS	C							
Intersection V/C	0.582							

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: SECOND ST/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	264.1
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.051

Intersection Setup

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				Wilshire Blvd				Wilshire Blvd			
Base Volume Input [veh/h]	0	67	206	181	0	104	89	36	0	36	163	43	0	191	443	249
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	67	206	181	0	104	89	36	0	36	163	43	0	191	443	249
Peak Hour Factor	1.000	0.938	0.938	0.938	1.000	0.923	0.923	0.923	1.000	0.868	0.868	0.868	1.000	0.968	0.968	0.968
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	18	55	48	0	28	24	10	0	10	47	12	0	49	114	64
Total Analysis Volume [veh/h]	0	71	219	193	0	113	96	39	0	41	188	50	0	197	458	257
Presence of On-Street Parking	No			No	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31				25				375				379			
Bicycle Volume [bicycles/h]	12				12				24				15			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi	Permi
Signal Group	0	8	8	8	0	4	4	4	0	2	2	2	0	6	6	6
Auxiliary Signal Groups																
Lead / Lag	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Maximum Green [s]	0	30	30	30	0	30	30	30	0	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	21	21	21	0	21	21	21	0	45	45	45	0	45	45	45
Vehicle Extension [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	0	7	7	7	0	7	7	7	0	7	7	7
Pedestrian Clearance [s]	0	21	21	21	0	20	20	20	0	14	14	14	0	14	14	14
Rest In Walk																
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	0.0	4.6	4.6	4.6	0.0	2.6	2.6	2.6	0.0	2.6	2.6	2.6
Minimum Recall			No				No				Yes				Yes	
Maximum Recall			No				No				No				No	
Pedestrian Recall			No				No				No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	27

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	6.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	4.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	15	14	47	47	47	47	47
g / C, Green / Cycle	0.15	0.15	0.14	0.47	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	3.85	0.05	0.13	0.17	0.20	0.21
s, saturation flow rate [veh/h]	1274	1728	64	747	1822	1160	1900	1631
c, Capacity [veh/h]	73	268	62	304	861	499	898	771
d1, Uniform Delay [s]	50.02	42.26	47.97	25.20	16.01	24.07	17.40	17.52
k, delay calibration	0.04	0.23	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.90	250.26	1395.26	0.92	0.80	2.33	1.46	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	1.54	4.02	0.14	0.28	0.39	0.42	0.43
d, Delay for Lane Group [s/veh]	73.91	292.52	1443.23	26.12	16.81	26.40	18.86	19.30
Lane Group LOS	E	F	F	C	B	C	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.24	25.10	25.45	0.78	3.41	3.80	5.95	5.33
50th-Percentile Queue Length [ft/ln]	55.91	627.52	636.33	19.59	85.19	95.03	148.70	133.35
95th-Percentile Queue Length [veh/ln]	4.03	39.35	42.79	1.41	6.13	6.84	9.95	9.12
95th-Percentile Queue Length [ft/ln]	100.63	983.65	1069.72	35.26	153.34	171.05	248.70	228.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.91	73.91	292.5	292.5	1443.	1443.	1443.	1443.	26.12	26.12	16.81	16.81	26.40	26.40	18.94	19.30
Movement LOS	E	E	F	F	F	F	F	F	C	C	B	B	C	C	B	B
d_A, Approach Delay [s/veh]	260.39				1443.23				18.18				20.65			
Approach LOS	F				F				B				C			
d_I, Intersection Delay [s/veh]	264.10															
Intersection LOS	F															
Intersection V/C	4.051															

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SECOND STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	33.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Arizona Ave			ARIZONA AVENUE		
Base Volume Input [veh/h]	70	333	120	30	123	50	70	180	90	110	150	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	333	120	30	123	50	70	180	90	110	150	140
Peak Hour Factor	0.9474	0.9474	0.9474	0.8457	0.8457	0.8457	0.8114	0.8114	0.8114	0.8811	0.8811	0.8811
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	88	32	9	36	15	22	55	28	31	43	40
Total Analysis Volume [veh/h]	74	352	127	35	145	59	86	222	111	125	170	159
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	186			186			186			186		
Bicycle Volume [bicycles/h]	15			18			10			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	30	30	0	0	30	30	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	40	40	0	0	40	40	33	33	33	0	33	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	13	13	0	0	13	13	16	16	16	0	16	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	45	45
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.06	0.19	0.08	0.03	0.11	0.31	0.41
s, saturation flow rate [veh/h]	1197	1900	1546	1045	1779	1365	1100
c, Capacity [veh/h]	227	466	379	130	436	661	544
d1, Uniform Delay [s]	40.42	34.98	31.05	46.15	32.19	20.40	25.48
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.95	0.19	0.41	0.29	4.58	14.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

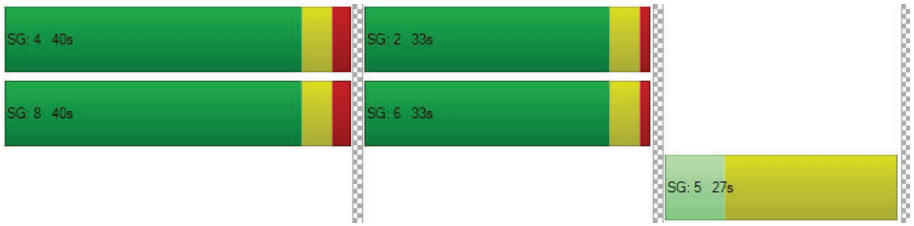
X, volume / capacity	0.33	0.76	0.34	0.27	0.47	0.63	0.83
d, Delay for Lane Group [s/veh]	40.73	35.93	31.24	46.55	32.48	24.98	39.50
Lane Group LOS	D	D	C	D	C	C	D
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.68	7.85	2.49	0.85	4.15	7.87	11.62
50th-Percentile Queue Length [ft/ln]	42.08	196.17	62.34	21.32	103.86	196.80	290.61
95th-Percentile Queue Length [veh/ln]	3.03	12.44	4.49	1.53	7.48	12.47	17.22
95th-Percentile Queue Length [ft/ln]	75.75	311.01	112.22	38.37	186.94	311.83	430.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.73	35.93	31.24	46.55	32.48	32.48	24.98	24.98	24.98	39.50	39.50	39.50
Movement LOS	D	D	C	D	C	C	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	35.50			34.54			24.98			39.50		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	33.80											
Intersection LOS	C											
Intersection V/C	0.598											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: SECOND STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	127.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.299

Intersection Setup

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	30	303	120	60	213	40	30	330	40	110	280	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	303	120	60	213	40	30	330	40	110	280	230
Peak Hour Factor	0.8883	0.8883	0.8883	0.9000	0.9000	0.9000	0.9237	0.9237	0.9237	0.8697	0.8697	0.8697
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	85	34	17	59	11	8	89	11	32	80	66
Total Analysis Volume [veh/h]	34	341	135	67	237	44	32	357	43	126	322	264
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	31			22			1066			1049		
Bicycle Volume [bicycles/h]	19			16			36			20		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	0	0	4	4	2	2	2	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	7	7	0	0	7	7	7	7	7	0	7	0
Maximum Green [s]	25	25	0	0	25	25	30	30	30	0	30	0
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0
All red [s]	2.0	2.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	25	25	0	0	25	25	48	48	48	0	48	0
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Walk [s]	7	7	0	0	7	7	7	7	7	0	7	0
Pedestrian Clearance [s]	8	8	0	0	8	8	11	11	11	0	10	0
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	0.0	0.0	3.6	3.6	2.6	2.6	2.6	0.0	2.6	0.0
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	19	19	19	19	19	50	50	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.17	0.06	0.15	0.52	0.03	1.12	0.17
s, saturation flow rate [veh/h]	1116	1900	800	1056	1831	753	1570	400	1581
c, Capacity [veh/h]	106	370	156	74	356	417	789	247	795
d1, Uniform Delay [s]	48.42	39.51	39.00	49.97	38.29	32.98	12.71	29.54	14.83
k, delay calibration	0.04	0.16	0.12	0.04	0.07	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	13.20	14.85	14.65	2.69	29.91	0.13	380.99	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

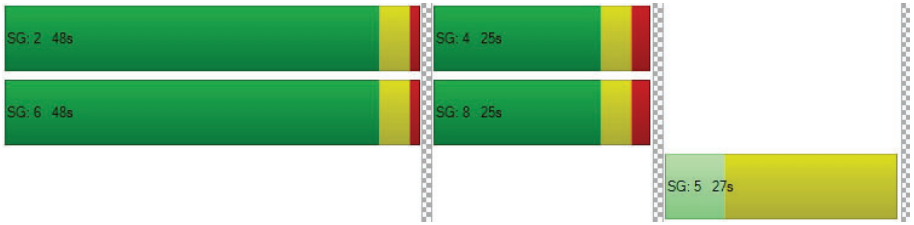
X, volume / capacity	0.32	0.92	0.87	0.91	0.79	0.93	0.05	1.81	0.33
d, Delay for Lane Group [s/veh]	49.06	52.71	53.85	64.62	40.98	62.90	12.84	410.53	15.96
Lane Group LOS	D	D	D	E	D	E	B	F	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.85	9.36	3.77	1.95	6.66	11.57	0.51	32.32	3.70
50th-Percentile Queue Length [ft/ln]	21.35	234.04	94.26	48.79	166.51	289.13	12.78	807.95	92.61
95th-Percentile Queue Length [veh/ln]	1.54	14.38	6.79	3.51	10.89	17.14	0.92	55.62	6.67
95th-Percentile Queue Length [ft/ln]	38.42	359.48	169.67	87.82	272.32	428.56	23.00	1390.47	166.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.06	52.71	53.85	64.62	40.98	40.98	62.90	62.90	12.84	410.53	410.53	15.96
Movement LOS	D	D	D	E	D	D	E	E	B	F	F	B
d_A, Approach Delay [s/veh]	52.77			45.53			57.92			264.23		
Approach LOS	D			D			E			F		
d_I, Intersection Delay [s/veh]	127.83											
Intersection LOS	F											
Intersection V/C	1.299											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: SECOND STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	2nd St			2nd St			Broadway			Br |		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Broadway			Br |		
Base Volume Input [veh/h]	30	202	270	112	321	20	30	220	130	170	285	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	202	270	112	321	20	30	220	130	170	285	162
Peak Hour Factor	0.8438	0.8438	0.8438	0.9353	0.9353	0.9353	0.9562	0.9562	0.9562	0.8663	0.8663	0.8663
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	60	80	30	86	5	8	58	34	49	82	47
Total Analysis Volume [veh/h]	36	239	320	120	343	21	31	230	136	196	329	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	28			54			2079			2069		
Bicycle Volume [bicycles/h]	45			24			40			17		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	2.0
Split [s]	41	30	41	41	30	41	30	41	30	30	41	30
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	10	12	10	10	10	10	10	10	10	12	10	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	3.6	2.6	3.6	3.6	2.6	3.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	24	24	24	24	24	43	43	43	43	43
g / C, Green / Cycle	0.24	0.24	0.24	0.24	0.24	0.43	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.03	0.13	0.22	0.10	0.19	0.03	0.21	0.19	0.17	0.12
s, saturation flow rate [veh/h]	1034	1900	1473	1159	1876	1068	1759	1032	1900	1559
c, Capacity [veh/h]	118	464	360	208	459	381	762	340	823	675
d1, Uniform Delay [s]	47.31	32.65	36.46	43.46	35.41	25.97	20.30	33.84	19.44	18.27
k, delay calibration	0.04	0.04	0.18	0.04	0.11	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.33	11.41	0.94	3.24	0.42	2.17	6.96	1.45	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

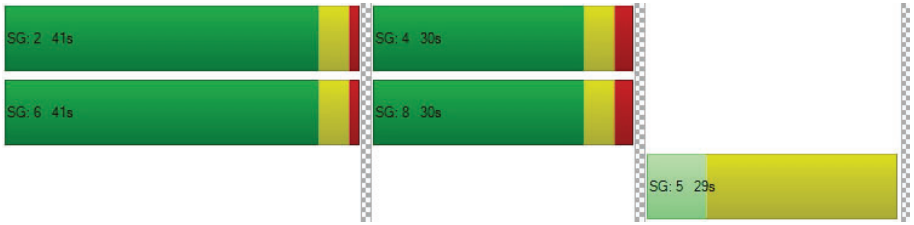
X, volume / capacity	0.31	0.51	0.89	0.58	0.79	0.08	0.48	0.58	0.40	0.28
d, Delay for Lane Group [s/veh]	47.84	32.98	47.87	44.41	38.65	26.39	22.47	40.80	20.89	19.28
Lane Group LOS	D	C	D	D	D	C	C	D	C	B
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.89	4.93	8.45	2.92	8.49	0.57	6.29	4.88	5.35	2.87
50th-Percentile Queue Length [ft/ln]	22.30	123.28	211.30	73.03	212.22	14.36	157.34	121.94	133.87	71.84
95th-Percentile Queue Length [veh/ln]	1.61	8.57	13.22	5.26	13.27	1.03	10.41	8.50	9.15	5.17
95th-Percentile Queue Length [ft/ln]	40.13	214.33	330.49	131.46	331.68	25.84	260.19	212.49	228.75	129.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.84	32.98	47.87	44.41	38.65	38.65	26.39	22.47	22.47	40.80	20.89	19.28
Movement LOS	D	C	D	D	D	D	C	C	C	D	C	B
d_A, Approach Delay [s/veh]	41.89			40.08			22.77			25.95		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.83											
Intersection LOS	C											
Intersection V/C	0.425											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: SECOND STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	43.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St			2nd St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	10	442	0	29	411	100	66	90	0	80	350	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	442	0	29	411	100	66	90	0	80	350	200
Peak Hour Factor	0.9314	0.9314	1.0000	0.9439	0.9303	0.9303	0.8321	0.8321	1.0000	0.9412	0.9412	0.9412
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	119	0	8	110	27	20	27	0	21	93	53
Total Analysis Volume [veh/h]	11	475	0	31	442	107	79	108	0	85	372	212
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	728			728			728			728		
Bicycle Volume [bicycles/h]	13			149			63			49		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	102.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	4	4	4	5	2	0	0	6	4
Auxiliary Signal Groups												4,6
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	7	7	7	10	0	0	0	7	7
Maximum Green [s]	0	30	0	25	25	25	10	0	0	0	30	25
Amber [s]	0.0	3.6	0.0	3.6	3.6	3.6	19.0	0.0	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	2.0
Split [s]	0	40	0	40	40	40	29	0	0	0	51	40
Vehicle Extension [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	10	0	13	13	13	19	0	0	0	10	13
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	0.0	3.6	3.6	3.6	17.0	0.0	0.0	0.0	2.6	3.6
Minimum Recall		No			No						Yes	
Maximum Recall		No			No						No	
Pedestrian Recall		Yes			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	R		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	33	33	33	33		58	58
g / C, Green / Cycle	0.27	0.27	0.27	0.27		0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.26	0.24	0.08		0.19	0.20
s, saturation flow rate [veh/h]	944	1863	1863	1400		1878	1500
c, Capacity [veh/h]	87	510	510	383		907	724
d1, Uniform Delay [s]	57.21	42.47	41.49	34.26		19.93	20.11
k, delay calibration	0.04	0.32	0.50	0.04		0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.24	19.08	17.63	0.15		1.34	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.93	0.87	0.28		0.40	0.42
d, Delay for Lane Group [s/veh]	57.45	61.55	59.12	34.41		21.27	21.89
Lane Group LOS	E	E	E	C		C	C
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	16.30	14.72	2.46		6.97	5.89
50th-Percentile Queue Length [ft/ln]	8.34	407.38	368.03	61.49		174.16	147.26
95th-Percentile Queue Length [veh/ln]	0.60	22.92	21.01	4.43		11.29	9.87
95th-Percentile Queue Length [ft/ln]	15.02	572.89	525.34	110.67		282.37	246.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.45	61.55	0.00	0.00	59.12	34.41	0.00	0.00	0.00	21.27	21.42	21.89
Movement LOS	E	E			E	C				C	C	C
d_A, Approach Delay [s/veh]	61.46			54.30			0.00			21.55		
Approach LOS	E			D			A			C		
d_I, Intersection Delay [s/veh]	43.48											
Intersection LOS	D											
Intersection V/C	0.457											

Sequence

Ring 1	5	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 23: THIRD STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

Intersection Setup

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Left	Thru	U-turn	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Wilshire Blvd			3rd St			Wilshire Blvd		
Base Volume Input [veh/h]	0	0	0	0	90	40	0	816	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	40	0	816	130
Peak Hour Factor	1.0000	0.9454	0.9454	1.0000	0.7500	0.7500	1.0000	0.9038	0.9038
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	30	13	0	226	36
Total Analysis Volume [veh/h]	0	0	0	0	120	53	0	903	144
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	420			12			431		
Bicycle Volume [bicycles/h]	4			3			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	9.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	2	0	4	4	0	6	6
Auxiliary Signal Groups									
Lead / Lag	-	Lag	-	-	Lag	-	-	-	-
Minimum Green [s]	0	7	7	0	7	7	0	7	7
Maximum Green [s]	0	30	30	0	20	20	0	30	30
Amber [s]	0.0	3.6	3.6	0.0	3.6	3.6	0.0	3.6	3.6
All red [s]	0.0	1.0	1.0	0.0	2.0	2.0	0.0	1.0	1.0
Split [s]	0	42	42	0	28	28	0	42	42
Vehicle Extension [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Walk [s]	0	0	0	0	7	7	0	7	7
Pedestrian Clearance [s]	0	0	0	0	10	10	0	15	15
Rest In Walk									
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	0.0	3.6	3.6	0.0	2.6	2.6
Minimum Recall			Yes		No			Yes	
Maximum Recall			No		No			No	
Pedestrian Recall			No		No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	L	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	55	55	9	9	55	55
g / C, Green / Cycle	0.55	0.55	0.09	0.09	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.07	0.03	0.30	0.30
s, saturation flow rate [veh/h]	547	1900	1810	1583	1900	1630
c, Capacity [veh/h]	254	1047	156	136	1083	899
d1, Uniform Delay [s]	0.00	0.00	44.71	43.19	14.29	14.33
k, delay calibration	0.50	0.50	0.04	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	3.03	0.67	1.77	2.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.00	0.77	0.39	0.52	0.54
d, Delay for Lane Group [s/veh]	0.00	0.00	47.74	43.86	16.06	16.66
Lane Group LOS	A	A	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.00	2.99	1.25	8.15	7.19
50th-Percentile Queue Length [ft/ln]	0.00	0.00	74.86	31.18	203.81	179.85
95th-Percentile Queue Length [veh/ln]	0.00	0.00	5.39	2.24	12.84	11.59
95th-Percentile Queue Length [ft/ln]	0.00	0.00	134.74	56.12	320.88	289.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.74	47.74	43.86	16.06	16.29	16.66
Movement LOS	A	A	A	D	D	D	B	B	B
d_A, Approach Delay [s/veh]	0.00			46.55			16.34		
Approach LOS	A			D			B		
d_I, Intersection Delay [s/veh]	20.62								
Intersection LOS	C								
Intersection V/C	0.364								

Sequence

Ring 1	4	2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 28: FOURTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	7.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.311

Intersection Setup

Name	4th St			4th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	100	40	100	163	50	30	260	20	40	191	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	100	40	100	163	50	30	260	20	40	191	50
Peak Hour Factor	0.9551	0.9551	0.9551	0.8843	0.8843	0.8843	0.8081	0.8081	0.8081	0.9233	0.9233	0.9233
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	26	10	28	46	14	9	80	6	11	52	14
Total Analysis Volume [veh/h]	10	105	42	113	184	57	37	322	25	43	207	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	79			124			24			52		
Bicycle Volume [bicycles/h]	20			19			1			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	15	0	0	15	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	C	C
C, Cycle Length [s]	32	32	32	32	32	32	32	32
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	9	9	9	9	9	9	13	13
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.30	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.01	0.06	0.03	0.09	0.10	0.04	0.21	0.18
s, saturation flow rate [veh/h]	1189	1900	1406	1226	1900	1481	1795	1681
c, Capacity [veh/h]	416	560	415	465	560	437	872	830
d1, Uniform Delay [s]	11.34	8.40	8.18	11.38	8.78	8.25	6.84	6.55
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.06	0.04	0.10	0.13	0.05	0.13	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

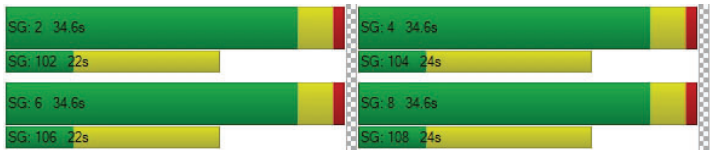
X, volume / capacity	0.02	0.19	0.10	0.24	0.33	0.13	0.44	0.37
d, Delay for Lane Group [s/veh]	11.35	8.46	8.22	11.48	8.91	8.30	6.97	6.65
Lane Group LOS	B	A	A	B	A	A	A	A
Critical Lane Group	No	No	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.04	0.36	0.14	0.54	0.70	0.20	1.25	0.86
50th-Percentile Queue Length [ft/ln]	1.11	8.90	3.49	13.48	17.54	5.11	31.26	21.62
95th-Percentile Queue Length [veh/ln]	0.08	0.64	0.25	0.97	1.26	0.37	2.25	1.56
95th-Percentile Queue Length [ft/ln]	2.00	16.02	6.28	24.27	31.57	9.20	56.26	38.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.35	8.46	8.22	11.48	8.91	8.30	6.97	6.97	6.97	6.65	6.65	6.65
Movement LOS	B	A	A	B	A	A	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	8.58			9.63			6.97			6.65		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.88											
Intersection LOS	A											
Intersection V/C	0.311											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 29: FOURTH STREET/CALIFORNIA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name	4th St			4th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			California Ave			California Ave		
Base Volume Input [veh/h]	70	119	40	20	230	33	21	218	170	20	235	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	119	40	20	230	33	21	218	170	20	235	50
Peak Hour Factor	0.8438	0.8438	0.8438	0.9286	0.9286	0.9286	0.8506	0.8506	0.8506	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	35	12	5	62	9	6	64	50	6	65	14
Total Analysis Volume [veh/h]	83	141	47	22	248	36	25	256	200	22	260	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	62			70			38			61		
Bicycle Volume [bicycles/h]	22			16			7			12		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	25	25	25	25	25	25
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	30	30	30	30	30	30	30	30	30	30	30	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	17	17	17	17	17	17	15	15	15	15	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	14	14	14	14	14	14
g / C, Green / Cycle	0.37	0.37	0.37	0.37	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.02	0.15	0.28	0.19
s, saturation flow rate [veh/h]	1083	1752	1151	1834	1689	1786
c, Capacity [veh/h]	417	653	477	683	745	783
d1, Uniform Delay [s]	12.72	8.23	10.79	8.69	9.94	8.80
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	0.09	0.01	0.15	0.35	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

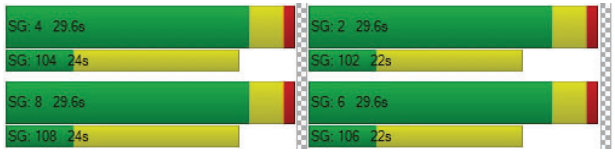
X, volume / capacity	0.20	0.29	0.05	0.42	0.65	0.43
d, Delay for Lane Group [s/veh]	12.81	8.31	10.80	8.84	10.29	8.94
Lane Group LOS	B	A	B	A	B	A
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	0.73	0.11	1.16	3.33	1.40
50th-Percentile Queue Length [ft/ln]	11.69	18.15	2.67	29.03	83.21	34.99
95th-Percentile Queue Length [veh/ln]	0.84	1.31	0.19	2.09	5.99	2.52
95th-Percentile Queue Length [ft/ln]	21.05	32.67	4.80	52.25	149.78	62.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.81	8.31	8.31	10.80	8.84	8.84	10.29	10.29	10.29	8.94	8.94	8.94
Movement LOS	B	A	A	B	A	A	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	9.69			8.98			10.29			8.94		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	9.56											
Intersection LOS	A											
Intersection V/C	0.440											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 30: FOURTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	47.7
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	77	150	130	100	260	20	49	527	65	220	759	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	150	130	100	260	20	49	527	65	220	759	110
Peak Hour Factor	0.7730	0.7730	0.7730	0.9286	0.9286	0.9286	0.9403	0.9403	0.9403	0.9065	0.9065	0.9065
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	49	42	27	70	5	13	140	17	61	209	30
Total Analysis Volume [veh/h]	100	194	168	108	280	22	52	560	69	243	837	121
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	23			35			360			281		
Bicycle Volume [bicycles/h]	10			8			15			7		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	0	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	0	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	1.0
Split [s]	24	24	24	24	24	24	0	29	29	14	43	43
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	0	7	7	0	7	7
Pedestrian Clearance [s]	19	19	19	18	18	18	0	13	13	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes		No	Yes	
Maximum Recall		No			No			No		No	No	
Pedestrian Recall		No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	3
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	26

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	18	18	18	18	18	18	31	31	45	45	45
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.18	0.31	0.31	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.09	0.10	0.11	0.09	0.15	0.01	0.09	0.34	0.23	0.26	0.26
s, saturation flow rate [veh/h]	1117	1900	1576	1208	1900	1580	595	1858	1077	1900	1803
c, Capacity [veh/h]	97	350	290	158	350	291	130	582	344	863	819
d1, Uniform Delay [s]	49.83	37.17	37.36	47.27	39.14	33.85	44.64	34.43	22.73	20.10	20.17
k, delay calibration	0.04	0.04	0.04	0.04	0.06	0.04	0.50	0.50	0.22	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	34.03	0.51	0.68	1.94	2.24	0.04	8.86	61.09	5.29	2.69	2.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

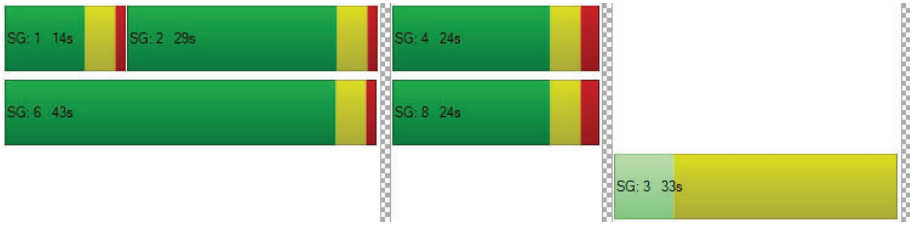
X, volume / capacity	1.03	0.55	0.58	0.68	0.80	0.08	0.40	1.08	0.71	0.57	0.57
d, Delay for Lane Group [s/veh]	83.86	37.68	38.04	49.21	41.38	33.89	53.49	95.52	28.02	22.79	23.07
Lane Group LOS	F	D	D	D	D	C	D	F	C	C	C
Critical Lane Group	No	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.31	4.28	3.74	2.75	6.65	0.44	1.58	23.60	3.96	8.74	8.45
50th-Percentile Queue Length [ft/ln]	82.86	107.03	93.44	68.83	166.21	11.01	39.62	590.08	98.93	218.60	211.29
95th-Percentile Queue Length [veh/ln]	5.97	7.67	6.73	4.96	10.88	0.79	2.85	33.20	7.12	13.59	13.22
95th-Percentile Queue Length [ft/ln]	149.14	191.87	168.20	123.90	271.93	19.81	71.32	829.94	178.07	339.84	330.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	83.86	37.68	38.04	49.21	41.38	33.89	53.49	95.52	95.52	28.02	22.90	23.07
Movement LOS	F	D	D	D	D	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	47.81			43.04			92.31			23.95		
Approach LOS	D			D			F			C		
d_I, Intersection Delay [s/veh]	47.70											
Intersection LOS	D											
Intersection V/C	0.575											

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 31: FOURTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	82.6
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	70	287	70	60	404	60	30	150	160	110	270	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	287	70	60	404	60	30	150	160	110	270	40
Peak Hour Factor	0.8864	0.8864	0.8864	0.7794	0.7794	0.7794	0.8804	0.8804	0.8804	0.9026	0.9026	0.9026
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	81	20	19	130	19	9	43	45	30	75	11
Total Analysis Volume [veh/h]	79	324	79	77	518	77	34	170	182	122	299	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	165			165			165			165		
Bicycle Volume [bicycles/h]	19			14			9			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	99.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	6	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lag	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	7	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	25	25	25
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0
Split [s]	0	37	37	37	37	0	0	33	0	33	33	33
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	7	7	7
Pedestrian Clearance [s]	0	10	10	10	10	0	0	10	0	11	11	11
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60
g_i, Effective Green Time [s]	39	39	39	39	39	39	28	28
g / C, Green / Cycle	0.39	0.39	0.39	0.39	0.39	0.39	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.05	0.07	0.16	0.16	0.24	0.48
s, saturation flow rate [veh/h]	836	1900	1554	1073	1900	1797	1619	959
c, Capacity [veh/h]	280	746	610	331	746	705	499	318
d1, Uniform Delay [s]	31.10	22.24	19.43	30.95	21.95	22.02	33.21	38.07
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.50	1.84	0.44	1.64	1.65	1.78	5.87	224.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

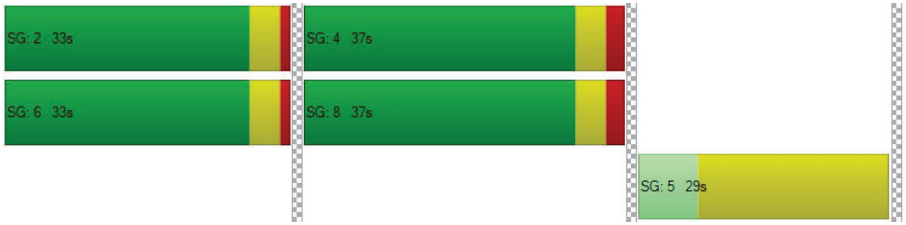
X, volume / capacity	0.28	0.43	0.13	0.23	0.41	0.41	0.77	1.46
d, Delay for Lane Group [s/veh]	33.60	24.08	19.87	32.59	23.60	23.80	39.08	262.28
Lane Group LOS	C	C	B	C	C	C	D	F
Critical Lane Group	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.74	5.75	1.22	1.64	5.31	5.13	9.37	27.67
50th-Percentile Queue Length [ft/ln]	43.50	143.72	30.45	40.94	132.68	128.19	234.33	691.64
95th-Percentile Queue Length [veh/ln]	3.13	9.68	2.19	2.95	9.09	8.84	14.39	43.73
95th-Percentile Queue Length [ft/ln]	78.31	242.02	54.81	73.70	227.14	221.04	359.85	1093.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.60	24.08	19.87	32.59	23.68	23.80	39.08	39.08	39.08	262.28	262.28	262.28
Movement LOS	C	C	B	C	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.95			24.72			39.08			262.28		
Approach LOS	C			C			D			F		
d_I, Intersection Delay [s/veh]	82.63											
Intersection LOS	F											
Intersection V/C	0.655											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 32: FOURTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	110	347	100	110	484	80	0	450	170	0	410	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	347	100	110	484	80	0	450	170	0	410	190
Peak Hour Factor	0.8258	0.8258	0.8258	0.9269	0.9269	0.9269	1.0000	0.9244	0.9244	1.0000	0.8781	0.8781
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	105	30	30	131	22	0	122	46	0	117	54
Total Analysis Volume [veh/h]	133	420	121	119	522	86	0	487	184	0	467	216
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	55			40			1011			826		
Bicycle Volume [bicycles/h]	18			23			18			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	38.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	8	4	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	0	7	0	0	7	7
Maximum Green [s]	0	30	30	30	30	0	0	30	0	0	30	30
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	43	43	43	43	0	0	30	0	0	30	30
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	7	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	9	9	9	9	0	0	12	0	0	12	12
Rest In Walk												
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.6	3.6	3.6	3.6	0.0	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	20

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.60	3.60	3.60	3.60	3.60	3.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	44	44	44	44	44	44	25	25	25	25
g / C, Green / Cycle	0.44	0.44	0.44	0.44	0.44	0.44	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.16	0.22	0.08	0.12	0.16	0.17	0.26	0.12	0.18	0.20
s, saturation flow rate [veh/h]	826	1900	1581	982	1900	1794	1900	1570	1900	1685
c, Capacity [veh/h]	326	842	700	327	842	795	483	399	483	429
d1, Uniform Delay [s]	28.53	19.91	16.80	31.15	18.55	18.59	37.27	31.48	33.88	34.85
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.04	0.09	0.15
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.74	2.11	0.54	3.11	1.25	1.35	33.72	0.31	1.55	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.50	0.17	0.36	0.37	0.37	1.01	0.46	0.71	0.80
d, Delay for Lane Group [s/veh]	32.27	22.02	17.33	34.26	19.80	19.93	70.99	31.79	35.42	39.59
Lane Group LOS	C	C	B	C	B	B	F	C	D	D
Critical Lane Group	No	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.89	7.15	1.72	2.64	4.88	4.69	16.09	3.75	7.63	8.20
50th-Percentile Queue Length [ft/ln]	72.26	178.76	43.05	66.07	122.12	117.24	402.20	93.76	190.77	205.03
95th-Percentile Queue Length [veh/ln]	5.20	11.54	3.10	4.76	8.51	8.24	22.77	6.75	12.16	12.90
95th-Percentile Queue Length [ft/ln]	130.07	288.40	77.49	118.92	212.74	206.03	569.21	168.77	304.02	322.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.27	22.02	17.33	34.26	19.85	19.93	0.00	70.99	31.79	0.00	36.54	39.59
Movement LOS	C	C	B	C	B	B		F	C		D	D
d_A, Approach Delay [s/veh]	23.20			22.22			60.24			37.51		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	35.51											
Intersection LOS	D											
Intersection V/C	0.477											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 33: FOURTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name	4th St			4th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Broadway			Broadway		
Base Volume Input [veh/h]	55	407	160	120	424	100	0	311	131	70	422	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	407	160	120	424	100	0	311	131	70	422	100
Peak Hour Factor	0.8648	0.8648	0.8648	0.7778	0.7778	0.7778	1.0000	0.8982	0.8982	0.8742	0.8742	0.8742
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	118	46	39	136	32	0	87	36	20	121	29
Total Analysis Volume [veh/h]	64	471	185	154	545	129	0	346	146	80	483	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	29			20			784			549		
Bicycle Volume [bicycles/h]	31			21			30			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	25.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Overlap	ProtPer	Permiss	Permiss
Signal Group	3	8	2	7	4	6	0	2	3	1	6	8
Auxiliary Signal Groups									2,3			
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	0	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	2.0	1.0	1.0	2.0	1.0	0.0	1.0	1.0	1.0	1.0	2.0
Split [s]	15	34	30	15	34	42	0	30	15	12	42	34
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	12	12	0	11	11	0	12	0	0	11	12
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	2.6	2.6	3.6	2.6	0.0	2.6	2.6	2.6	2.6	3.6
Minimum Recall	No	Yes		No	Yes			No	No	No	No	
Maximum Recall	No	No		No	No			No	No	No	No	
Pedestrian Recall	No	No		No	No			No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	7
Pedestrian Clearance [s]	22

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	5.60	5.60	5.60	5.60	5.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	3.60	3.60	0.00	3.60	3.60	2.60	0.00	0.00	2.60	2.60
g_i, Effective Green Time [s]	9	40	40	53	39	39	24	38	35	35	35
g / C, Green / Cycle	0.08	0.33	0.33	0.44	0.33	0.33	0.20	0.31	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.25	0.12	0.14	0.18	0.19	0.18	0.09	0.06	0.25	0.07
s, saturation flow rate [veh/h]	1810	1900	1562	1118	1900	1755	1900	1561	1251	1900	1570
c, Capacity [veh/h]	141	632	520	371	617	570	375	490	265	552	456
d1, Uniform Delay [s]	52.98	35.57	30.34	24.20	33.53	33.63	47.29	31.23	33.71	40.52	32.59
k, delay calibration	0.04	0.50	0.50	0.50	0.50	0.50	0.20	0.04	0.04	0.28	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	7.80	1.90	3.39	3.70	4.12	15.46	0.13	0.24	10.76	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

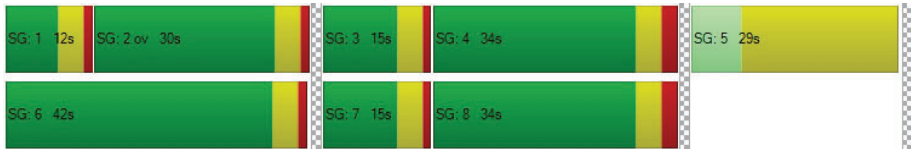
X, volume / capacity	0.46	0.75	0.36	0.41	0.56	0.57	0.92	0.30	0.30	0.87	0.25
d, Delay for Lane Group [s/veh]	53.83	43.36	32.25	27.59	37.23	37.75	62.75	31.35	33.94	51.28	32.69
Lane Group LOS	D	D	C	C	D	D	E	C	C	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.87	13.34	4.29	2.96	8.90	8.41	11.72	3.24	1.74	14.97	2.54
50th-Percentile Queue Length [ft/ln]	46.70	333.48	107.15	74.08	222.52	210.34	292.91	81.02	43.45	374.15	63.52
95th-Percentile Queue Length [veh/ln]	3.36	19.33	7.68	5.33	13.79	13.17	17.33	5.83	3.13	21.31	4.57
95th-Percentile Queue Length [ft/ln]	84.06	483.23	192.03	133.34	344.84	329.26	433.25	145.83	78.22	532.77	114.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.83	43.36	32.25	27.59	37.42	37.75	0.00	62.75	31.35	33.94	51.28	32.69
Movement LOS	D	D	C	C	D	D		E	C	C	D	C
d_A, Approach Delay [s/veh]	41.44			35.64			53.43			46.10		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	43.01											
Intersection LOS	D											
Intersection V/C	0.557											

Sequence

Ring 1	1	2	3	4	5	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 34: FOURTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

Intersection Setup

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	150	592	0	0	645	60	181	0	84	160	290	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	592	0	0	645	60	181	0	84	160	290	40
Peak Hour Factor	0.8365	0.8365	1.0000	1.0000	0.9063	0.9063	0.8717	1.0000	0.8717	0.9099	0.9099	0.9099
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	177	0	0	178	17	52	0	24	44	80	11
Total Analysis Volume [veh/h]	179	708	0	0	712	66	208	0	96	176	319	44
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	66			6			691			628		
Bicycle Volume [bicycles/h]	4			70			4			6		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	21.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss
Signal Group	3	8	0	0	4	6	5	0	3	1	6	8
Auxiliary Signal Groups									3			
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	0	7	7	10	0	5	0	7	7
Maximum Green [s]	20	40	0	0	30	40	10	0	20	0	40	40
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	19.0	0.0	3.6	0.0	3.6	3.6
All red [s]	1.0	2.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0
Split [s]	15	71	0	0	56	20	29	0	15	0	20	71
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	10	0	0	0	7	7
Pedestrian Clearance [s]	0	17	0	0	17	16	19	0	0	0	16	17
Rest In Walk												
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	3.6	0.0	0.0	3.6	2.6	17.0	0.0	2.6	0.0	2.6	3.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	5
Pedestrian Walk [s]	10
Pedestrian Clearance [s]	19

Lane Group Calculations

Lane Group	L	C	C	C		C	C
C, Cycle Length [s]	120	120	120	120		120	120
L, Total Lost Time per Cycle [s]	5.60	5.60	5.60	5.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.60	3.60	3.60		2.60	2.60
g_i, Effective Green Time [s]	70	70	58	58		21	21
g / C, Green / Cycle	0.58	0.58	0.48	0.48		0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.21	0.20	0.20	0.21		0.15	0.15
s, saturation flow rate [veh/h]	868	3618	1900	1828		1843	1672
c, Capacity [veh/h]	494	2115	916	881		317	287
d1, Uniform Delay [s]	13.20	12.88	20.26	20.47		48.62	48.65
k, delay calibration	0.11	0.50	0.50	0.50		0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	0.46	0.43	1.44	1.61		3.49	3.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

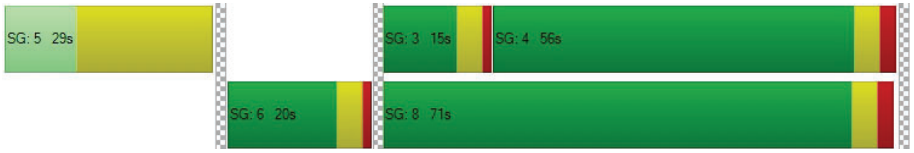
X, volume / capacity	0.36	0.33	0.42	0.44		0.89	0.89
d, Delay for Lane Group [s/veh]	13.66	13.30	21.71	22.08		52.10	52.58
Lane Group LOS	B	B	C	C		D	D
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	2.24	4.95	7.28	7.38		8.62	7.89
50th-Percentile Queue Length [ft/ln]	55.97	123.67	182.08	184.48		215.52	197.27
95th-Percentile Queue Length [veh/ln]	4.03	8.59	11.71	11.83		13.44	12.50
95th-Percentile Queue Length [ft/ln]	100.75	214.87	292.73	295.85		335.90	312.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.66	13.30	0.00	0.00	21.87	22.08	0.00	0.00	0.00	52.10	52.42	52.58
Movement LOS	B	B			C	C				D	D	D
d_A, Approach Delay [s/veh]	13.38			21.89			0.00			52.33		
Approach LOS	B			C			A			D		
d_I, Intersection Delay [s/veh]	25.91											
Intersection LOS	C											
Intersection V/C	0.416											

Sequence

Ring 1	5	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 35: FOURTH STREET/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	4th St		4th St			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	4th St		4th St			
Base Volume Input [veh/h]	394	0	0	825	620	428
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	394	0	0	825	620	428
Peak Hour Factor	0.8750	1.0000	1.0000	0.8841	0.9104	0.9104
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	0	0	233	170	118
Total Analysis Volume [veh/h]	450	0	0	933	681	470
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		8	

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	8	0	0	4	6	6
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-
Minimum Green [s]	7	0	0	7	7	7
Maximum Green [s]	35	0	0	35	30	30
Amber [s]	3.6	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	0.0	0.0	1.0	1.0	1.0
Split [s]	70	0	0	70	50	50
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	8	0	0	0	0	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No			No	No	
Maximum Recall	Yes			Yes	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	R
C, Cycle Length [s]	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	73	73	38	38
g / C, Green / Cycle	0.61	0.61	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.12	0.26	0.19	0.30
s, saturation flow rate [veh/h]	3618	3618	3514	1587
c, Capacity [veh/h]	2201	2201	1107	500
d1, Uniform Delay [s]	10.50	12.39	34.88	39.96
k, delay calibration	0.50	0.50	0.04	0.26
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.21	0.60	0.21	17.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

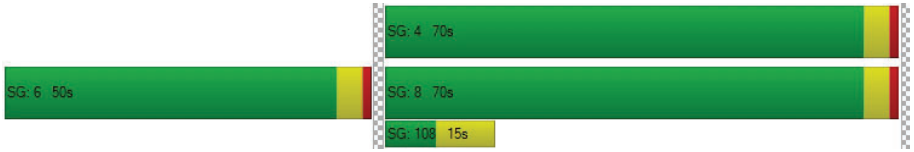
X, volume / capacity	0.20	0.42	0.62	0.94
d, Delay for Lane Group [s/veh]	10.71	12.99	35.09	57.81
Lane Group LOS	B	B	D	E
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.68	6.58	7.96	15.02
50th-Percentile Queue Length [ft/ln]	66.98	164.52	199.12	375.53
95th-Percentile Queue Length [veh/ln]	4.82	10.79	12.59	21.38
95th-Percentile Queue Length [ft/ln]	120.57	269.70	314.83	534.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.71	0.00	0.00	12.99	35.09	57.81
Movement LOS	B			B	D	E
d_A, Approach Delay [s/veh]	10.71		12.99		44.37	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	26.84					
Intersection LOS	C					
Intersection V/C	0.554					

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 36: FOURTH STREET/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	55.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name				4th St			Olympic Dr | Olympic Blvd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name				4th St			Olympic Dr | Olympic Blvd					
Base Volume Input [veh/h]	10	354	480	562	742	240	30	510	30	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	354	480	562	742	240	30	510	30	0	0	0
Peak Hour Factor	0.9769	0.9769	0.9769	0.8948	0.8948	0.8948	0.8369	0.8369	0.8369	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	91	123	157	207	67	9	152	9	0	0	0
Total Analysis Volume [veh/h]	10	362	491	628	829	268	36	609	36	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			107			118		
Bicycle Volume [bicycles/h]	0			2			10			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	115.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	5	5	5	7	7	7	7	7	7	0	0	0
Maximum Green [s]	15	25	25	20	30	30	30	30	30	0	0	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	10	57	57	33	80	80	30	30	30	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	0	0
Pedestrian Clearance [s]	0	17	17	0	14	14	15	15	15	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall	No	Yes		No	Yes			No				
Maximum Recall	No	No		No	No			No				
Pedestrian Recall	No	No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	1	25	25	63	87	87	18	18	18
g / C, Green / Cycle	0.01	0.21	0.21	0.53	0.73	0.73	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.19	0.27	0.18	0.29	0.33	0.13	0.13	0.13
s, saturation flow rate [veh/h]	1810	1900	1800	3514	1900	1655	1886	1729	1671
c, Capacity [veh/h]	22	396	375	1858	1378	1200	279	255	247
d1, Uniform Delay [s]	58.81	46.38	47.44	16.22	6.42	6.72	49.96	49.94	50.04
k, delay calibration	0.04	0.34	0.50	0.04	0.50	0.50	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.33	21.22	156.62	0.04	0.89	1.22	3.28	3.51	3.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

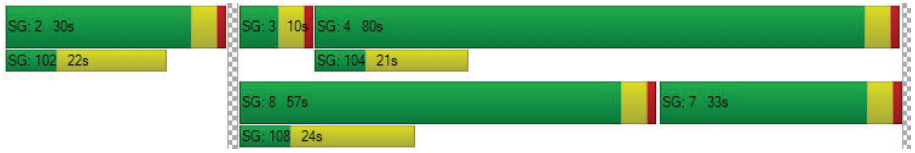
X, volume / capacity	0.45	0.91	1.31	0.34	0.41	0.45	0.87	0.87	0.88
d, Delay for Lane Group [s/veh]	64.15	67.60	204.06	16.26	7.30	7.94	53.23	53.45	54.02
Lane Group LOS	E	E	F	B	A	A	D	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	12.84	27.47	4.91	5.30	5.42	7.28	6.68	6.58
50th-Percentile Queue Length [ft/ln]	8.37	320.98	686.79	122.80	132.43	135.53	182.01	166.88	164.50
95th-Percentile Queue Length [veh/ln]	0.60	18.72	41.15	8.55	9.07	9.24	11.71	10.91	10.79
95th-Percentile Queue Length [ft/ln]	15.06	467.89	1028.87	213.66	226.80	230.99	292.64	272.81	269.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.15	67.60	204.06	16.26	7.51	7.94	53.23	53.55	54.02	0.00	0.00	0.00
Movement LOS	E	E	F	B	A	A	D	D	D			
d_A, Approach Delay [s/veh]	145.20			10.76			53.55			0.00		
Approach LOS	F			B			D			A		
d_I, Intersection Delay [s/veh]	55.17											
Intersection LOS	E											
Intersection V/C	0.581											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 38: FIFTH STREET/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	149	155	180	30	60	30	30	687	80	110	1010	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	149	155	180	30	60	30	30	687	80	110	1010	60
Peak Hour Factor	0.9022	0.9022	0.9022	0.9500	0.9500	0.9500	0.9581	0.9581	0.9581	0.9341	0.9341	0.9341
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	43	50	8	16	8	8	179	21	29	270	16
Total Analysis Volume [veh/h]	165	172	200	32	63	32	31	717	83	118	1081	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	246			311			131			69		
Bicycle Volume [bicycles/h]	12			13			8			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	25	25	25	25	25	25	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	33	33	33	33	33	33	67	67	67	67	67	67
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	20	20	20	20	20	20	14	14	14	11	11	11
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	25	25	25	25	25	61	61	61	61	61	61
g / C, Green / Cycle	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.14	0.09	0.14	0.03	0.06	0.06	0.20	0.06	0.16	0.30	0.31
s, saturation flow rate [veh/h]	1165	1900	1451	1168	1663	499	3618	1424	735	1900	1809
c, Capacity [veh/h]	289	480	366	255	420	281	2226	876	439	1169	1114
d1, Uniform Delay [s]	38.55	30.69	32.37	36.49	29.60	17.99	9.21	7.84	14.95	10.61	10.76
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	0.17	0.47	0.08	0.10	0.79	0.38	0.21	1.50	1.49	1.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

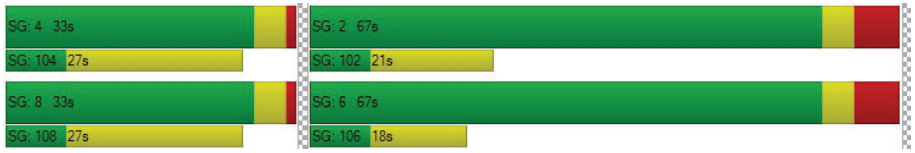
X, volume / capacity	0.57	0.36	0.55	0.13	0.23	0.11	0.32	0.09	0.27	0.49	0.51
d, Delay for Lane Group [s/veh]	39.22	30.86	32.85	36.57	29.70	18.78	9.59	8.06	16.45	12.10	12.43
Lane Group LOS	D	C	C	D	C	B	A	A	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.80	3.36	4.14	0.67	1.79	0.50	3.61	0.74	1.73	6.96	6.96
50th-Percentile Queue Length [ft/ln]	94.92	83.92	103.46	16.82	44.71	12.50	90.16	18.49	43.37	173.98	174.07
95th-Percentile Queue Length [veh/ln]	6.83	6.04	7.45	1.21	3.22	0.90	6.49	1.33	3.12	11.29	11.29
95th-Percentile Queue Length [ft/ln]	170.86	151.06	186.22	30.28	80.47	22.50	162.28	33.29	78.07	282.13	282.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.22	30.86	32.85	36.57	29.70	29.70	18.78	9.59	8.06	16.45	12.25	12.43
Movement LOS	D	C	C	D	C	C	B	A	A	B	B	B
d_A, Approach Delay [s/veh]	34.17			31.43			9.78			12.65		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	16.84											
Intersection LOS	B											
Intersection V/C	0.455											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 39: FIFTH STREET/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	110	344	50	20	130	30	20	450	60	50	300	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	344	50	20	130	30	20	450	60	50	300	90
Peak Hour Factor	0.9183	0.9183	0.9183	0.8454	0.8454	0.8454	0.8628	0.8628	0.8628	0.8299	0.8299	0.8299
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	94	14	6	38	9	6	130	17	15	90	27
Total Analysis Volume [veh/h]	120	375	54	24	154	35	23	522	70	60	361	108
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207			137			115			71		
Bicycle Volume [bicycles/h]	37			26			11			11		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	40.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	8	2	8	4	6	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	55	45	55	55	45	55	45	55	45	45	55	45
Vehicle Extension [s]	3.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	16	14	16	16	14	16	14	16	14	14	16	14
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		Yes			Yes			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	48	48	48	48	48	43	43
g / C, Green / Cycle	0.48	0.48	0.48	0.48	0.48	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.12	0.03	0.11	0.36	0.40
s, saturation flow rate [veh/h]	1148	1900	1750	953	1771	1698	1309
c, Capacity [veh/h]	531	914	842	445	853	762	599
d1, Uniform Delay [s]	20.09	15.20	15.30	19.01	15.06	25.03	26.59
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.25	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	0.62	0.71	0.23	0.60	4.73	11.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.24	0.25	0.05	0.22	0.81	0.88
d, Delay for Lane Group [s/veh]	21.08	15.82	16.01	19.24	15.66	29.76	38.28
Lane Group LOS	C	B	B	B	B	C	D
Critical Lane Group	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	2.95	2.88	0.37	2.54	13.02	13.72
50th-Percentile Queue Length [ft/ln]	49.12	73.76	71.95	9.22	63.45	325.55	342.97
95th-Percentile Queue Length [veh/ln]	3.54	5.31	5.18	0.66	4.57	18.94	19.79
95th-Percentile Queue Length [ft/ln]	88.42	132.77	129.52	16.60	114.21	473.50	494.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.08	15.90	16.01	19.24	15.66	15.66	29.76	29.76	29.76	38.28	38.28	38.28
Movement LOS	C	B	B	B	B	B	C	C	C	D	D	D
d_A, Approach Delay [s/veh]	17.04			16.07			29.76			38.28		
Approach LOS	B			B			C			D		
d_I, Intersection Delay [s/veh]	26.93											
Intersection LOS	C											
Intersection V/C	0.524											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 40: FIFTH STREET/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.413

Intersection Setup

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	210	444	0	140	150	30	110	480	60	30	310	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	444	0	140	150	30	110	480	60	30	310	50
Peak Hour Factor	0.8774	0.8774	0.8774	0.8859	0.8859	0.8859	0.8553	0.8553	0.8553	0.8004	0.8004	0.8004
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	127	0	40	42	8	32	140	18	9	97	16
Total Analysis Volume [veh/h]	239	506	0	158	169	34	129	561	70	37	387	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	519			403			140			120		
Bicycle Volume [bicycles/h]	16			19			6			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	85.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	8	8	8	4	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0
Split [s]	34	34	34	34	34	34	66	66	66	66	66	66
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	11	11	11	12	12	12	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	6.6	6.6	6.6	6.6	6.6	6.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	6.60	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	29	29	29	29	29	57	57	57	57	57	57
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.21	0.13	0.13	0.18	0.11	0.13	0.17	0.18	0.05	0.20	0.04
s, saturation flow rate [veh/h]	1142	1900	1900	886	1779	994	1900	1751	793	1900	1400
c, Capacity [veh/h]	283	559	559	220	524	511	1090	1004	436	1090	803
d1, Uniform Delay [s]	41.84	28.69	28.69	42.14	28.08	17.92	10.93	11.04	15.35	11.41	9.51
k, delay calibration	0.17	0.04	0.04	0.08	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.35	0.21	0.21	3.37	0.17	1.19	0.69	0.80	0.38	0.91	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

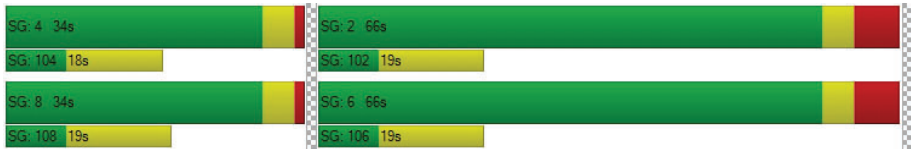
X, volume / capacity	0.85	0.45	0.45	0.72	0.39	0.25	0.29	0.31	0.08	0.36	0.08
d, Delay for Lane Group [s/veh]	52.19	28.91	28.91	45.51	28.25	19.11	11.62	11.83	15.74	12.31	9.69
Lane Group LOS	D	C	C	D	C	B	B	B	B	B	A
Critical Lane Group	Yes	No	No	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.70	4.84	4.84	4.06	3.80	2.04	3.67	3.59	0.52	4.62	0.62
50th-Percentile Queue Length [ft/ln]	167.62	121.12	121.12	101.40	95.07	50.98	91.76	89.71	12.93	115.60	15.56
95th-Percentile Queue Length [veh/ln]	10.95	8.45	8.45	7.30	6.85	3.67	6.61	6.46	0.93	8.15	1.12
95th-Percentile Queue Length [ft/ln]	273.78	211.36	211.36	182.52	171.13	91.77	165.17	161.48	23.28	203.76	28.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.19	28.91	28.91	45.51	28.25	28.25	19.11	11.71	11.83	15.74	12.31	9.69
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	36.38			35.81			12.98			12.24		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.74											
Intersection LOS	C											
Intersection V/C	0.413											

Sequence

Ring 1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 41: FIFTH STREET/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	22.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	5th St			5th St			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Broadway			Broadway		
Base Volume Input [veh/h]	200	574	50	30	110	60	70	461	40	40	302	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	574	50	30	110	60	70	461	40	40	302	30
Peak Hour Factor	0.9529	0.9529	0.9529	0.8976	0.8976	0.8976	0.9395	0.9395	0.9395	0.9046	0.9046	0.9046
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	151	13	8	31	17	19	123	11	11	83	8
Total Analysis Volume [veh/h]	210	602	52	33	123	67	75	491	43	44	334	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	357			276			62			70		
Bicycle Volume [bicycles/h]	45			37			1			9		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	61.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	2	8	2	6	4	6	4	2	4	8	6	8
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	30	30	30	30	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	64	36	64	64	36	64	36	64	36	36	64	36
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	12	12	12	12	11	12	11	12	11	12	12	12
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall		No			No			Yes			Yes	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	L	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	31	31	31	31	31	60	60	60	60	60
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.60	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.18	0.04	0.11	0.07	0.29	0.05	0.18	0.02
s, saturation flow rate [veh/h]	1190	1900	1807	790	1718	1033	1849	881	1900	1427
c, Capacity [veh/h]	304	583	555	175	527	589	1112	447	1142	858
d1, Uniform Delay [s]	39.34	29.06	29.20	39.46	26.98	13.45	11.18	17.35	9.65	8.14
k, delay calibration	0.06	0.05	0.06	0.04	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.51	0.42	0.56	0.19	0.15	0.45	1.49	0.44	0.65	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.57	0.58	0.19	0.36	0.13	0.48	0.10	0.29	0.04
d, Delay for Lane Group [s/veh]	40.85	29.48	29.76	39.66	27.13	13.90	12.67	17.79	10.30	8.22
Lane Group LOS	D	C	C	D	C	B	B	B	B	A
Critical Lane Group	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.04	6.55	6.42	0.73	3.47	0.94	6.43	0.65	3.43	0.29
50th-Percentile Queue Length [ft/ln]	125.92	163.72	160.51	18.36	86.75	23.56	160.85	16.21	85.78	7.22
95th-Percentile Queue Length [veh/ln]	8.72	10.75	10.58	1.32	6.25	1.70	10.59	1.17	6.18	0.52
95th-Percentile Queue Length [ft/ln]	217.94	268.64	264.40	33.04	156.15	42.42	264.85	29.19	154.40	13.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.85	29.61	29.76	39.66	27.13	27.13	13.90	12.67	12.67	17.79	10.30	8.22
Movement LOS	D	C	C	D	C	C	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	32.35			28.98			12.82			10.93		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	22.17											
Intersection LOS	C											
Intersection V/C	0.467											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 42: FIFTH STREET/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	14	774	130	60	40	120	0	0	0	6	260	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	774	130	60	40	120	0	0	0	6	260	50
Peak Hour Factor	0.9399	0.9091	0.9091	0.8478	0.8478	0.8478	1.0000	1.0000	1.0000	0.9301	0.7565	0.7565
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	213	36	18	12	35	0	0	0	2	86	17
Total Analysis Volume [veh/h]	15	851	143	71	47	142	0	0	0	6	344	66
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	343			1			50			83		
Bicycle Volume [bicycles/h]	54			4			10			16		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	65.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	4	8	4	7	4	8	0	0	0	2	6	2
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	10	10	10	7	10	10	0	0	0	0	7	0
Maximum Green [s]	30	30	30	15	30	30	0	0	0	0	10	0
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0
All red [s]	2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	55	42	55	13	55	42	0	0	0	0	45	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
Walk [s]	7	7	7	0	7	7	0	0	0	0	7	0
Pedestrian Clearance [s]	5	19	5	0	5	19	0	0	0	0	15	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	3.6	3.6	2.6	3.6	3.6	0.0	0.0	0.0	0.0	2.6	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		Yes		No	Yes						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C		C
C, Cycle Length [s]	100	100	100	100		100
L, Total Lost Time per Cycle [s]	5.60	5.60	4.60	5.60		4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	3.60	3.60	2.60	3.60		2.60
g_i, Effective Green Time [s]	39	39	6	49		40
g / C, Green / Cycle	0.39	0.39	0.06	0.49		0.40
(v / s)_i Volume / Saturation Flow Rate	0.24	0.11	0.04	0.12		0.22
s, saturation flow rate [veh/h]	3618	1338	1810	1620		1840
c, Capacity [veh/h]	1398	517	109	799		745
d1, Uniform Delay [s]	24.59	21.05	45.92	14.54		22.76
k, delay calibration	0.50	0.50	0.04	0.50		0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	1.98	1.32	2.42	0.70		2.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00

Lane Group Results

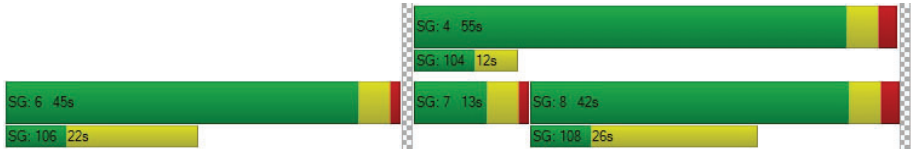
X, volume / capacity	0.61	0.28	0.65	0.24		0.55
d, Delay for Lane Group [s/veh]	26.57	22.38	48.34	15.24		25.68
Lane Group LOS	C	C	D	B		C
Critical Lane Group	Yes	No	Yes	No		Yes
50th-Percentile Queue Length [veh/ln]	8.25	2.45	1.77	2.50		7.80
50th-Percentile Queue Length [ft/ln]	206.23	61.34	44.30	62.47		195.12
95th-Percentile Queue Length [veh/ln]	12.96	4.42	3.19	4.50		12.39
95th-Percentile Queue Length [ft/ln]	323.98	110.41	79.73	112.45		309.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	26.57	22.38	48.34	15.24	15.24	0.00	0.00	0.00	0.00	25.68	25.68
Movement LOS		C	C	D	B	B					C	C
d_A, Approach Delay [s/veh]	25.96			24.28			0.00			25.68		
Approach LOS	C			C			A			C		
d_I, Intersection Delay [s/veh]	25.63											
Intersection LOS	C											
Intersection V/C	0.497											

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 49: SEVENTH STREET/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	34.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	7th St			7th St			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	10	150	50	110	180	38	70	350	30	50	291	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	50	110	180	38	70	350	30	50	291	120
Peak Hour Factor	0.8667	0.8667	0.8667	0.8864	0.8864	0.8864	0.8275	0.8275	0.8275	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	43	14	31	51	11	21	106	9	14	79	33
Total Analysis Volume [veh/h]	12	173	58	124	203	43	85	423	36	55	318	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	152			181			89			52		
Bicycle Volume [bicycles/h]	17			23			3			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	10.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	15	0	0	15	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	17	0	0	14	0	0	12	0	0	12	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	25	25	25	25	35	35	35	35	35
g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.50	0.50	0.50	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.31	0.10	0.55	0.07	0.08	0.25	0.06	0.17	0.10
s, saturation flow rate [veh/h]	600	600	600	600	1014	1840	927	1900	1325
c, Capacity [veh/h]	274	219	290	219	478	926	385	957	667
d1, Uniform Delay [s]	20.39	15.62	25.34	15.19	15.15	11.49	17.99	10.36	9.57
k, delay calibration	0.19	0.04	0.50	0.04	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.00	0.24	91.77	0.16	0.81	1.89	0.78	0.93	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

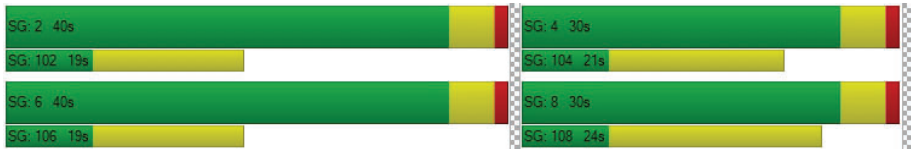
X, volume / capacity	0.68	0.26	1.13	0.20	0.18	0.50	0.14	0.33	0.20
d, Delay for Lane Group [s/veh]	25.40	15.85	117.11	15.36	15.96	13.39	18.77	11.29	10.23
Lane Group LOS	C	B	F	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.92	0.62	12.19	0.45	0.97	4.61	0.70	2.82	1.10
50th-Percentile Queue Length [ft/ln]	72.91	15.58	304.83	11.22	24.35	115.33	17.59	70.62	27.57
95th-Percentile Queue Length [veh/ln]	5.25	1.12	19.25	0.81	1.75	8.14	1.27	5.08	1.99
95th-Percentile Queue Length [ft/ln]	131.24	28.04	481.25	20.20	43.83	203.39	31.67	127.12	49.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.40	25.40	15.85	117.11	117.11	15.36	15.96	13.39	13.39	18.77	11.29	10.23
Movement LOS	C	C	B	F	F	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	23.12			105.29			13.79			11.83		
Approach LOS	C			F			B			B		
d_I, Intersection Delay [s/veh]	34.94											
Intersection LOS	C											
Intersection V/C	0.794											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 55: LINCOLN BOULEVARD/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Montana Ave			Montana Ave		
Base Volume Input [veh/h]	60	150	70	40	60	30	50	390	60	60	361	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	150	70	40	60	30	50	390	60	60	361	40
Peak Hour Factor	0.8963	0.8963	0.8963	0.6818	0.6818	0.6818	0.7972	0.7972	0.7972	0.9152	0.9152	0.9152
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	42	20	15	22	11	16	122	19	16	99	11
Total Analysis Volume [veh/h]	67	167	78	59	88	44	63	489	75	66	394	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	142			246			53			43		
Bicycle Volume [bicycles/h]	17			22			2			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	7	0	0	7	0	0	7	0	0	7	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	0	30	0	0	30	0	0	30	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	37	37	37	37	37	37	37	37
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	11	11	11	11	17	17	17	17
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.46	0.46	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.05	0.14	0.05	0.08	0.07	0.31	0.08	0.25
s, saturation flow rate [veh/h]	1231	1723	1111	1739	860	1799	819	1784
c, Capacity [veh/h]	424	509	333	514	396	820	327	813
d1, Uniform Delay [s]	12.97	10.71	14.97	9.94	11.69	7.99	14.13	7.26
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.26	0.09	0.10	0.07	0.39	0.11	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

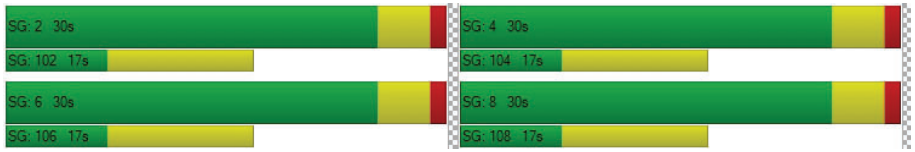
X, volume / capacity	0.16	0.48	0.18	0.26	0.16	0.69	0.20	0.54
d, Delay for Lane Group [s/veh]	13.03	10.97	15.06	10.03	11.76	8.37	14.24	7.47
Lane Group LOS	B	B	B	B	B	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.38	1.21	0.37	0.60	0.35	2.31	0.42	1.61
50th-Percentile Queue Length [ft/ln]	9.48	30.32	9.36	15.04	8.64	57.67	10.51	40.35
95th-Percentile Queue Length [veh/ln]	0.68	2.18	0.67	1.08	0.62	4.15	0.76	2.91
95th-Percentile Queue Length [ft/ln]	17.06	54.57	16.85	27.08	15.55	103.80	18.93	72.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.03	10.97	10.97	15.06	10.03	10.03	11.76	8.37	8.37	14.24	7.47	7.47
Movement LOS	B	B	B	B	B	B	B	A	A	B	A	A
d_A, Approach Delay [s/veh]	11.41			11.59			8.71			8.36		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	9.45											
Intersection LOS	A											
Intersection V/C	0.456											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 56: LINCOLN BOULEVARD/WILSHIRE BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Wilshire Blvd			Wilshire Blvd		
Base Volume Input [veh/h]	243	421	130	54	304	40	20	783	109	170	910	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	421	130	54	304	40	20	783	109	170	910	48
Peak Hour Factor	0.9450	0.9450	0.9450	0.8041	0.8041	0.8041	0.9541	0.9541	0.9541	0.9385	0.9385	0.9385
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	111	34	17	95	12	5	205	29	45	242	13
Total Analysis Volume [veh/h]	257	446	138	67	378	50	21	821	114	181	970	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	99			95			24			43		
Bicycle Volume [bicycles/h]	13			7			2			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	16.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	1	4	4	4	3	2	3	1	6	6
Auxiliary Signal Groups			1,8						2,3			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	15	30	30	30	15	30	15	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	40	12	28	28	28	12	48	12	12	60	60
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	7	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	21	0	21	21	21	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	No			No			Yes		No	Yes	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	35	35	35	23	23	23	44	44	44	55	55	55
g / C, Green / Cycle	0.35	0.35	0.35	0.23	0.23	0.23	0.44	0.44	0.44	0.55	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.21	0.23	0.09	0.07	0.11	0.12	0.04	0.23	0.08	0.21	0.27	0.04
s, saturation flow rate [veh/h]	1212	1900	1525	946	1900	1799	584	3618	1487	872	3618	1443
c, Capacity [veh/h]	435	670	538	83	442	419	223	1590	654	482	2008	801
d1, Uniform Delay [s]	25.75	27.36	23.02	49.91	33.24	33.34	28.54	20.33	17.02	12.82	13.52	10.26
k, delay calibration	0.50	0.15	0.04	0.04	0.04	0.04	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.81	1.57	0.09	6.64	0.32	0.35	0.84	1.20	0.58	2.23	0.83	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.67	0.26	0.80	0.49	0.50	0.09	0.52	0.17	0.38	0.48	0.06
d, Delay for Lane Group [s/veh]	31.57	28.93	23.12	56.54	33.56	33.69	29.38	21.53	17.60	15.05	14.36	10.41
Lane Group LOS	C	C	C	E	C	C	C	C	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.22	9.08	2.30	1.81	4.50	4.38	0.44	7.01	1.67	2.16	6.37	0.52
50th-Percentile Queue Length [ft/ln]	130.47	227.01	57.54	45.16	112.56	109.50	10.96	175.23	41.84	54.03	159.25	13.09
95th-Percentile Queue Length [veh/ln]	8.97	14.02	4.14	3.25	7.98	7.81	0.79	11.35	3.01	3.89	10.51	0.94
95th-Percentile Queue Length [ft/ln]	224.13	350.55	103.58	81.29	199.56	195.31	19.72	283.78	75.31	97.25	262.73	23.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.57	28.93	23.12	56.54	33.61	33.69	29.38	21.53	17.60	15.05	14.36	10.41
Movement LOS	C	C	C	E	C	C	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	28.78			36.72			21.23			14.29		
Approach LOS	C			D			C			B		
d_I, Intersection Delay [s/veh]	22.86											
Intersection LOS	C											
Intersection V/C	0.516											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 57: LINCOLN BOULEVARD/ARIZONA AVENUE

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.621

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Arizona Ave			Arizona Ave		
Base Volume Input [veh/h]	250	695	40	10	531	20	20	300	190	30	190	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	695	40	10	531	20	20	300	190	30	190	40
Peak Hour Factor	0.9488	0.9488	0.9488	0.8445	0.8445	0.8445	0.9409	0.9409	0.9409	0.9153	0.9153	0.9153
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	183	11	3	157	6	5	80	50	8	52	11
Total Analysis Volume [veh/h]	263	732	42	12	629	24	21	319	202	33	208	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	76			47			26			32		
Bicycle Volume [bicycles/h]	23			15			2			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	69.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	6	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	56	56	12	56	56	32	32	32	32	32	32
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	7	7	7
Pedestrian Clearance [s]	0	14	14	0	14	14	18	18	18	18	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	63	57	57	63	51	51	27	27	27	27
g / C, Green / Cycle	0.63	0.57	0.57	0.63	0.51	0.51	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.28	0.21	0.21	0.02	0.17	0.17	0.38	0.14	0.34	0.03
s, saturation flow rate [veh/h]	955	1900	1848	787	1900	1866	896	1462	706	1508
c, Capacity [veh/h]	632	1080	1050	527	974	956	283	400	234	413
d1, Uniform Delay [s]	8.63	11.73	11.76	7.39	14.37	14.38	32.54	30.60	31.67	27.16
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.02	0.94	0.98	0.08	0.94	0.96	118.77	0.37	66.50	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

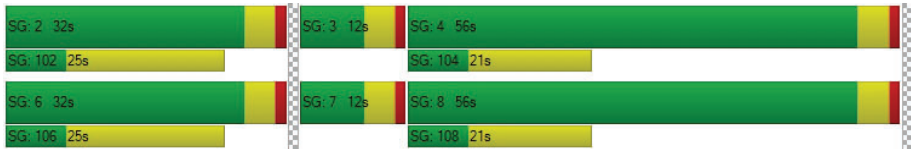
X, volume / capacity	0.42	0.36	0.36	0.02	0.34	0.34	1.20	0.50	1.03	0.11
d, Delay for Lane Group [s/veh]	10.65	12.68	12.74	7.47	15.30	15.35	151.31	30.96	98.16	27.20
Lane Group LOS	B	B	B	A	B	B	F	C	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.59	4.76	4.69	0.10	4.48	4.44	15.12	4.04	8.88	0.78
50th-Percentile Queue Length [ft/ln]	64.84	119.08	117.30	2.49	111.96	110.93	378.03	100.98	222.10	19.45
95th-Percentile Queue Length [veh/ln]	4.67	8.34	8.24	0.18	7.95	7.89	23.69	7.27	13.99	1.40
95th-Percentile Queue Length [ft/ln]	116.71	208.56	206.11	4.48	198.72	197.30	592.33	181.76	349.79	35.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.65	12.71	12.74	7.47	15.33	15.35	151.31	151.31	30.96	98.16	98.16	27.20
Movement LOS	B	B	B	A	B	B	F	F	C	F	F	C
d_A, Approach Delay [s/veh]	12.19			15.18			106.46			87.21		
Approach LOS	B			B			F			F		
d_I, Intersection Delay [s/veh]	41.63											
Intersection LOS	D											
Intersection V/C	0.621											

Sequence

Ring 1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 58: LINCOLN BOULEVARD/SANTA MONICA BOULEVARD

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Santa Monica Blvd			Santa Monica Blvd		
Base Volume Input [veh/h]	120	815	170	130	571	40	20	546	220	180	317	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	815	170	130	571	40	20	546	220	180	317	250
Peak Hour Factor	0.9725	0.9725	0.9725	0.9455	0.9455	0.9455	0.8995	0.8995	0.8995	0.9078	0.9078	0.9078
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	210	44	34	151	11	6	152	61	50	87	69
Total Analysis Volume [veh/h]	123	838	175	137	604	42	22	607	245	198	349	275
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	77			106			66			52		
Bicycle Volume [bicycles/h]	12			10			3			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	64.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	8	7	4	4	2	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	7
Maximum Green [s]	15	30	30	15	30	30	30	30	30	15	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Split [s]	12	47	47	12	47	47	27	27	27	14	41	41
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	14	14	0	13	13	13	13	13	0	15	15
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Minimum Recall	No	Yes		No	Yes			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.60	2.60	0.00	2.60	2.60	2.60	2.60	2.60	0.00	2.60	2.60
g_i, Effective Green Time [s]	54	43	43	54	43	43	22	22	22	36	36	36
g / C, Green / Cycle	0.54	0.43	0.43	0.54	0.43	0.43	0.22	0.22	0.22	0.36	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.28	0.18	0.17	0.17	0.02	0.24	0.26	0.19	0.18	0.19
s, saturation flow rate [veh/h]	971	1900	1749	781	1900	1839	992	1900	1583	1039	1900	1453
c, Capacity [veh/h]	544	818	753	409	821	794	129	423	352	340	689	527
d1, Uniform Delay [s]	11.90	22.35	22.55	14.44	19.49	19.54	45.48	38.89	38.89	25.68	24.89	25.06
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.04	0.24	0.30	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	3.78	4.37	2.20	1.44	1.52	0.23	47.29	85.73	7.13	0.21	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

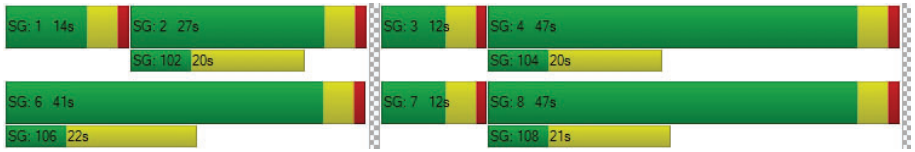
X, volume / capacity	0.23	0.64	0.65	0.34	0.40	0.40	0.17	1.06	1.15	0.58	0.51	0.52
d, Delay for Lane Group [s/veh]	12.37	26.13	26.92	16.64	20.94	21.05	45.71	86.18	124.62	32.81	25.10	25.36
Lane Group LOS	B	C	C	B	C	C	D	F	F	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.36	10.16	9.76	1.70	5.42	5.33	0.53	15.72	16.85	3.97	6.37	5.07
50th-Percentile Queue Length [ft/ln]	33.98	254.11	244.09	42.43	135.57	133.22	13.31	392.95	421.31	99.13	159.29	126.67
95th-Percentile Queue Length [veh/ln]	2.45	15.39	14.89	3.05	9.24	9.11	0.96	22.93	25.38	7.14	10.51	8.76
95th-Percentile Queue Length [ft/ln]	61.16	384.83	372.20	76.37	231.05	227.87	23.96	573.35	634.38	178.43	262.78	218.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.37	26.43	26.92	16.64	20.99	21.05	45.71	96.29	124.62	32.81	25.10	25.36
Movement LOS	B	C	C	B	C	C	D	F	F	C	C	C
d_A, Approach Delay [s/veh]	24.98			20.23			102.96			27.05		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	43.27											
Intersection LOS	D											
Intersection V/C	0.661											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 59: LINCOLN BOULEVARD/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	38.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.646

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Broadway			Broadway		
Base Volume Input [veh/h]	210	895	70	40	931	60	90	231	170	80	182	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	895	70	40	931	60	90	231	170	80	182	60
Peak Hour Factor	0.9222	0.9222	0.9222	0.9192	0.9192	0.9192	0.9657	0.9657	0.9657	0.9267	0.9267	0.9267
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	243	19	11	253	16	23	60	44	22	49	16
Total Analysis Volume [veh/h]	228	971	76	44	1013	65	93	239	176	86	196	65
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	128			168			130			86		
Bicycle Volume [bicycles/h]	51			51			7			5		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	66.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	2	6	4	6	4	2	4	1	6	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	5	7	7	7	7	7	7	7	7	5	7	7
Maximum Green [s]	15	30	25	25	30	25	30	25	30	7	25	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	1.0	5.0	1.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	1.0	5.0
Split [s]	15	60	28	40	45	40	45	28	45	12	40	60
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	0	7	7	7	7	7	7	7	7	0	7	7
Pedestrian Clearance [s]	0	16	17	17	16	17	16	17	16	0	17	16
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	6.6	2.6	2.6	6.6	2.6	6.6	2.6	6.6	2.6	2.6	6.6
Minimum Recall	No	Yes			Yes			No		Yes	No	
Maximum Recall	No	No			No			No		No	No	
Pedestrian Recall	No	No			No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	R	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.60	8.60	8.60	8.60	8.60	8.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	6.60	6.60	6.60	6.60	6.60	2.60	2.60	2.60	0.00	2.60
g_i, Effective Green Time [s]	11	51	51	36	36	36	26	26	26	35	35
g / C, Green / Cycle	0.11	0.51	0.51	0.36	0.36	0.36	0.26	0.26	0.26	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.13	0.28	0.29	0.08	0.29	0.29	0.08	0.13	0.13	0.20	0.05
s, saturation flow rate [veh/h]	1810	1900	1804	546	1900	1817	1160	1900	1352	1405	1366
c, Capacity [veh/h]	194	978	929	152	688	658	112	488	347	499	482
d1, Uniform Delay [s]	44.65	16.31	16.49	39.54	28.53	28.81	49.26	31.58	31.75	24.88	21.97
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.04	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	102.83	2.15	2.41	4.72	9.08	10.45	5.86	0.28	0.43	4.57	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

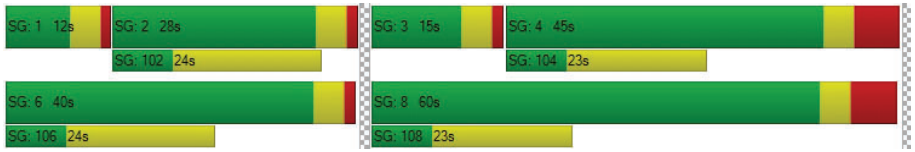
X, volume / capacity	1.18	0.54	0.56	0.29	0.79	0.81	0.83	0.49	0.51	0.56	0.13
d, Delay for Lane Group [s/veh]	147.48	18.45	18.90	44.27	37.61	39.25	55.11	31.87	32.17	29.45	22.02
Lane Group LOS	F	B	B	D	D	D	E	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	10.29	8.37	8.31	1.19	13.05	13.10	2.48	4.83	3.59	5.56	1.02
50th-Percentile Queue Length [ft/ln]	257.21	209.15	207.77	29.87	326.23	327.48	61.90	120.69	89.65	139.11	25.49
95th-Percentile Queue Length [veh/ln]	16.54	13.11	13.04	2.15	18.97	19.03	4.46	8.43	6.45	9.43	1.84
95th-Percentile Queue Length [ft/ln]	413.50	327.74	325.97	53.76	474.34	475.87	111.43	210.78	161.37	235.83	45.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	147.48	18.66	18.90	44.27	38.37	39.25	55.11	31.87	32.17	29.45	29.45	22.02
Movement LOS	F	B	B	D	D	D	E	C	C	C	C	C
d_A, Approach Delay [s/veh]	41.71			38.65			36.23			28.06		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	38.34											
Intersection LOS	D											
Intersection V/C	0.646											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 60: LINCOLN BOULEVARD/COLORADO AVENUE

Control Type:	Signalized	Delay (sec / veh):	60.8
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.866

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			Colorado Ave			Colorado Ave		
Base Volume Input [veh/h]	300	1015	180	20	1081	70	6	210	310	66	280	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	1015	180	20	1081	70	6	210	310	66	280	160
Peak Hour Factor	0.9480	0.9480	0.9480	0.9597	0.9597	0.9597	0.8750	0.8464	0.8464	0.9427	0.8889	0.8889
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	268	47	5	282	18	2	62	92	18	79	45
Total Analysis Volume [veh/h]	316	1071	190	21	1126	73	7	248	366	70	315	180
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			15			36			25		
Bicycle Volume [bicycles/h]	22			15			10			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	2	1	6	6	7	4	3	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	7	7	7	7	0	7	0	0	7	7
Maximum Green [s]	15	30	30	15	30	30	0	40	0	0	40	40
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	0.0	0.0	3.6	3.6
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	30	30	0	30	30	0	0	0	0	0	0
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
Walk [s]	0	7	7	0	7	7	0	7	0	0	7	7
Pedestrian Clearance [s]	0	15	15	0	15	15	0	18	0	0	18	18
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.6	0.0	0.0	2.6	2.6
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			Yes			Yes	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	15	42	42	3	30	30	40	40
g / C, Green / Cycle	0.15	0.42	0.42	0.03	0.30	0.30	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.17	0.34	0.35	0.01	0.32	0.32	0.37	0.28
s, saturation flow rate [veh/h]	1810	1900	1759	1810	1900	1832	1673	1767
c, Capacity [veh/h]	275	803	743	60	577	556	677	715
d1, Uniform Delay [s]	41.90	24.86	25.44	46.74	34.40	34.40	27.64	24.31
k, delay calibration	0.48	0.50	0.50	0.04	0.47	0.48	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	100.22	8.14	10.68	1.31	49.96	56.55	18.06	5.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.15	0.80	0.83	0.35	1.05	1.07	0.91	0.69
d, Delay for Lane Group [s/veh]	142.12	32.99	36.13	48.06	84.36	90.95	45.70	29.74
Lane Group LOS	F	C	D	D	F	F	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	14.25	14.32	14.60	0.52	21.45	21.70	16.44	10.33
50th-Percentile Queue Length [ft/ln]	356.34	358.12	364.98	13.12	536.24	542.60	411.10	258.20
95th-Percentile Queue Length [veh/ln]	21.79	20.53	20.87	0.94	29.97	30.58	23.09	15.60
95th-Percentile Queue Length [ft/ln]	544.68	513.29	521.64	23.62	749.21	764.51	577.36	389.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	142.12	34.25	36.13	48.06	87.40	90.95	0.00	45.70	45.70	0.00	29.74	29.74
Movement LOS	F	C	D	D	F	F		D	D		C	C
d_A, Approach Delay [s/veh]	56.09			86.94			45.70			29.74		
Approach LOS	E			F			D			C		
d_I, Intersection Delay [s/veh]	60.75											
Intersection LOS	E											
Intersection V/C	0.866											

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 61: LINCOLN BOULEVARD/OLYMPIC/I-10 WB OFF-RAMP

Control Type:	Signalized	Delay (sec / veh):	66.5
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

Intersection Setup

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			0.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Li-Ca			Lincoln Blvd			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	300	710	0	0	1471	30	0	0	0	750	660	785
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	710	0	0	1471	30	0	0	0	750	660	785
Peak Hour Factor	0.8706	0.8706	1.0000	1.0000	0.9494	0.9494	1.0000	1.0000	1.0000	0.9089	0.9089	0.9089
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	204	0	0	387	8	0	0	0	206	182	216
Total Analysis Volume [veh/h]	345	816	0	0	1549	32	0	0	0	825	726	864
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			22			34		
Bicycle Volume [bicycles/h]	4			0			10			21		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	35.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	6	6	0	0	0	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lag	-	-
Minimum Green [s]	7	7	0	0	7	7	0	0	0	7	7	7
Maximum Green [s]	15	30	0	0	30	30	0	0	0	30	30	30
Amber [s]	3.6	3.6	0.0	0.0	3.6	3.6	0.0	0.0	0.0	3.6	3.6	3.6
All red [s]	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0
Split [s]	27	75	0	0	48	48	0	0	0	45	45	45
Vehicle Extension [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
Walk [s]	0	7	0	0	7	7	0	0	0	7	7	7
Pedestrian Clearance [s]	0	16	0	0	7	7	0	0	0	22	22	22
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.6	2.6	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6
Minimum Recall	No	Yes			Yes						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C		L	C	C	R
C, Cycle Length [s]	120	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60		4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60		2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	22	70	43	43		40	40	40	40
g / C, Green / Cycle	0.19	0.59	0.36	0.36		0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.23	0.29	0.28		0.34	0.33	0.36	0.40
s, saturation flow rate [veh/h]	1810	3618	3618	1877		1810	1869	1571	1545
c, Capacity [veh/h]	337	2123	1310	680		609	629	529	520
d1, Uniform Delay [s]	48.76	13.22	34.43	33.92		39.77	39.42	39.77	39.77
k, delay calibration	0.42	0.50	0.50	0.50		0.46	0.43	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	50.87	0.53	5.34	8.44		38.46	29.18	56.96	102.5
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.38	0.80	0.78		1.01	0.98	1.06	1.19
d, Delay for Lane Group [s/veh]	99.63	13.74	39.78	42.36		78.24	68.59	96.74	142.3
Lane Group LOS	F	B	D	D		F	E	F	F
Critical Lane Group	Yes	No	Yes	No		No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.81	5.89	14.64	15.06		23.52	22.20	23.13	29.34
50th-Percentile Queue Length [ft/ln]	370.20	147.25	365.97	376.46		587.8	554.9	578.3	733.5
95th-Percentile Queue Length [veh/ln]	21.37	9.87	20.91	21.42		31.78	29.93	32.32	42.56
95th-Percentile Queue Length [ft/ln]	534.35	246.76	522.84	535.56		794.6	748.1	807.9	1064.

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	99.63	13.74	0.00	0.00	40.60	42.36	0.00	0.00	0.00	75.65	80.83	129.50
Movement LOS	F	B			D	D				E	F	F
d_A, Approach Delay [s/veh]	39.27			40.64			0.00			96.47		
Approach LOS	D			D			A			F		
d_I, Intersection Delay [s/veh]	66.48											
Intersection LOS	E											
Intersection V/C	0.882											

Sequence

Ring 1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 62: LINCOLN BOULEVARD/I-10 EB ON-RAMP

Control Type:	Signalized	Delay (sec / veh):	59.2
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.899

Intersection Setup

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			35.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Li-Ca			Li-Ca			Ol-Ca			Olympic Blvd		
Base Volume Input [veh/h]	0	980	620	908	1303	0	80	90	450	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	980	620	908	1303	0	80	90	450	0	0	0
Peak Hour Factor	1.0000	0.9015	0.9015	0.9313	0.9313	1.0000	0.8718	0.8718	0.8718	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	272	172	244	350	0	23	26	129	0	0	0
Total Analysis Volume [veh/h]	0	1087	688	975	1399	0	92	103	516	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			21			44		
Bicycle Volume [bicycles/h]	0			1			10			10		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Permiss	Protecte	Permiss
Signal Group	0	8	8	7	4	0	2	2	2	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	0	7	7	7	7	0	7	7	7	0	0	0
Maximum Green [s]	0	30	30	30	30	0	30	30	30	0	0	0
Amber [s]	0.0	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6	0.0	0.0	0.0
All red [s]	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	45	45	45	90	0	30	30	30	0	0	0
Vehicle Extension [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
Walk [s]	0	7	7	0	7	0	5	5	5	0	0	0
Pedestrian Clearance [s]	0	12	12	0	8	0	25	25	25	0	0	0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	2.6	2.6	2.6	0.0	2.6	2.6	2.6	0.0	0.0	0.0
Minimum Recall		No		Yes	Yes			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	C	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	38	38	38	42	85	25	25	25
g / C, Green / Cycle	0.32	0.32	0.32	0.35	0.71	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.25	0.30	0.30	0.28	0.39	0.06	0.05	0.33
s, saturation flow rate [veh/h]	3618	1504	1504	3514	3618	1816	1729	1579
c, Capacity [veh/h]	1158	482	482	1240	2574	385	366	334
d1, Uniform Delay [s]	36.73	39.32	39.32	34.76	8.14	39.44	39.43	47.28
k, delay calibration	0.04	0.04	0.04	0.50	0.50	0.04	0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.41	3.22	3.22	5.07	0.83	0.13	0.14	258.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.92	0.92	0.79	0.54	0.26	0.26	1.54
d, Delay for Lane Group [s/veh]	37.13	42.54	42.54	39.83	8.97	39.57	39.57	306.18
Lane Group LOS	D	D	D	D	A	D	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.56	12.73	12.73	13.48	7.97	2.47	2.34	33.87
50th-Percentile Queue Length [ft/ln]	288.91	318.30	318.30	336.94	199.26	61.67	58.52	846.79
95th-Percentile Queue Length [veh/ln]	17.13	18.58	18.58	19.50	12.60	4.44	4.21	52.50
95th-Percentile Queue Length [ft/ln]	428.29	464.59	464.59	487.45	315.02	111.00	105.33	1312.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	37.13	42.54	39.83	8.97	0.00	39.57	39.57	306.18	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	D	F			
d_A, Approach Delay [s/veh]	39.83			21.64			233.06			0.00		
Approach LOS	D			C			F			A		
d_I, Intersection Delay [s/veh]	59.22											
Intersection LOS	E											
Intersection V/C	0.899											

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 170: OCEAN AVENUE/BROADWAY

Control Type:	Signalized	Delay (sec / veh):	60.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

Intersection Setup

Name	Ocean Ave		Ocean Ave		Broadway	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Ocean Ave		Ocean Ave		Broadway	
Base Volume Input [veh/h]	976	220	110	904	250	125
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	976	220	110	904	250	125
Peak Hour Factor	0.8959	0.8959	0.7975	0.7975	0.8708	0.8708
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	272	61	34	283	72	36
Total Analysis Volume [veh/h]	1089	246	138	1133	287	144
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1493		1112		833	
Bicycle Volume [bicycles/h]	62		14		32	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	94.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal Group	8	8	4	4	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-
Minimum Green [s]	7	7	7	7	5	7
Maximum Green [s]	54	54	30	30	30	30
Amber [s]	3.6	3.6	3.6	3.6	3.6	3.6
All red [s]	5.0	5.0	5.0	5.0	1.0	1.0
Split [s]	79	79	79	79	22	22
Vehicle Extension [s]	2.0	2.0	2.0	2.0	2.0	2.0
Walk [s]	7	7	7	7	7	0
Pedestrian Clearance [s]	12	12	10	10	15	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	6.6	6.6	6.6	6.6	2.6	2.6
Minimum Recall	Yes			Yes	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	6.60	6.60	6.60	6.60	2.60	2.60
g_i, Effective Green Time [s]	69	69	69	69	17	17
g / C, Green / Cycle	0.69	0.69	0.69	0.69	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.30	0.18	0.26	0.31	0.34	0.20
s, saturation flow rate [veh/h]	3618	1353	524	3618	832	734
c, Capacity [veh/h]	2509	938	354	2509	145	128
d1, Uniform Delay [s]	6.72	5.74	14.46	6.84	41.27	41.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	0.68	3.21	0.59	462.90	79.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.26	0.39	0.45	1.98	1.12
d, Delay for Lane Group [s/veh]	7.27	6.42	17.67	7.43	504.17	120.74
Lane Group LOS	A	A	B	A	F	F
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.57	1.87	2.18	4.84	22.17	5.91
50th-Percentile Queue Length [ft/ln]	114.28	46.70	54.39	121.08	554.16	147.67
95th-Percentile Queue Length [veh/ln]	8.08	3.36	3.92	8.45	37.11	10.38
95th-Percentile Queue Length [ft/ln]	201.95	84.06	97.90	211.31	927.67	259.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.27	6.42	17.67	7.43	504.17	120.74
Movement LOS	A	A	B	A	F	F
d_A, Approach Delay [s/veh]	7.11		8.54		376.06	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	60.07					
Intersection LOS	E					
Intersection V/C	0.658					

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 180: 3RD/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	3rd St				3rd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	3rd St				3rd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	20	30	20	0	20	60	30	0	20	298	20	0	20	138	30
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	30	20	0	20	60	30	0	20	298	20	0	20	138	30
Peak Hour Factor	1.000	0.744	0.744	0.744	1.000	0.805	0.805	0.805	1.000	0.888	0.888	0.888	1.000	0.900	0.900	0.900
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	7	10	7	0	6	19	9	0	6	84	6	0	6	38	8
Total Analysis Volume [veh/h]	0	27	40	27	0	25	74	37	0	23	336	23	0	22	153	33
Pedestrian Volume [ped/h]	73				70				96				43			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	558	649	571	657	661	764	634	733
Degree of Utilization, x	0.12	0.04	0.17	0.06	0.54	0.03	0.28	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.41	0.13	0.62	0.18	3.28	0.09	1.12	0.14
95th-Percentile Queue Length [ft]	10.17	3.25	15.57	4.46	82.10	2.33	28.03	3.53
Approach Delay [s/veh]	9.59		9.83		14.03		10.10	
Approach LOS	A		A		B		B	
Intersection Delay [s/veh]	11.83							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 357: OCEAN AVENUE/MONTANA AVENUE

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

Intersection Setup

Name	Ocean Ave			Ocean Ave			Montana Ave		
Approach	Northbound			Southbound			Westbound		
Lane Configuration									
Turning Movement	U-turn	Thru	Right	U-turn	Left	Thru	U-turn	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Ocean Ave			Ocean Ave			Montana Ave		
Base Volume Input [veh/h]	0	401	100	0	40	551	0	140	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	401	100	0	40	551	0	140	70
Peak Hour Factor	1.0000	0.9531	0.9531	1.0000	0.9557	0.9557	1.0000	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	105	26	0	10	144	0	45	22
Total Analysis Volume [veh/h]	0	421	105	0	42	577	0	179	90
Presence of On-Street Parking	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	85			120			0		
Bicycle Volume [bicycles/h]	2			4			24		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	0	0	4	0	2	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	Lag	-
Minimum Green [s]	0	7	0	0	0	7	0	7	0
Maximum Green [s]	0	30	0	0	0	30	0	30	0
Amber [s]	0.0	3.6	0.0	0.0	0.0	3.6	0.0	3.6	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	0	0	0	14	0
Rest In Walk		No				No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.6	0.0	0.0	0.0	2.6	0.0	2.6	0.0
Minimum Recall		No				No		No	
Maximum Recall		Yes				Yes		No	
Pedestrian Recall		No				No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	30	30	30	30	16	16
g / C, Green / Cycle	0.55	0.55	0.55	0.55	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.22	0.07	0.04	0.30	0.12	0.07
s, saturation flow rate [veh/h]	1900	1581	981	1900	1542	1213
c, Capacity [veh/h]	1101	861	132	1035	444	349
d1, Uniform Delay [s]	7.32	6.11	27.52	8.19	15.79	15.07
k, delay calibration	0.50	0.50	0.50	0.50	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.29	6.20	2.16	0.22	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

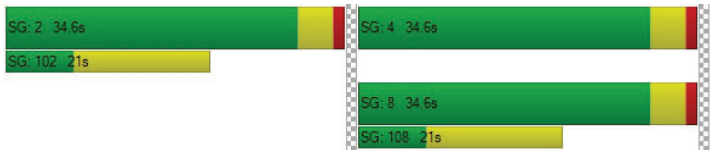
X, volume / capacity	0.38	0.12	0.32	0.56	0.40	0.26
d, Delay for Lane Group [s/veh]	8.33	6.40	33.73	10.35	16.01	15.22
Lane Group LOS	A	A	C	B	B	B
Critical Lane Group	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.50	0.52	0.75	3.98	1.69	0.81
50th-Percentile Queue Length [ft/ln]	62.44	13.11	18.70	99.41	42.34	20.35
95th-Percentile Queue Length [veh/ln]	4.50	0.94	1.35	7.16	3.05	1.47
95th-Percentile Queue Length [ft/ln]	112.38	23.61	33.66	178.93	76.22	36.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.33	8.33	6.40	33.73	33.73	10.35	16.01	16.01	15.22
Movement LOS	A	A	A	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	7.95			11.94			15.74		
Approach LOS	A			B			B		
d_I, Intersection Delay [s/veh]	11.18								
Intersection LOS	B								
Intersection V/C	0.420								

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 476: SIXTH STREET/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name	6th St			6th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	6th St			6th St			California Ave			California Ave		
Base Volume Input [veh/h]	10	50	10	20	120	10	10	108	30	20	89	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	50	10	20	120	10	10	108	30	20	89	30
Peak Hour Factor	0.8424	0.8424	0.8424	0.9348	0.9348	0.9348	0.8194	0.8194	0.8194	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	3	5	32	3	3	33	9	6	27	9
Total Analysis Volume [veh/h]	12	59	12	21	128	11	12	132	37	24	107	36
Pedestrian Volume [ped/h]	58			58			36			31		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	736	746	780	776
Degree of Utilization, x	0.11	0.21	0.23	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.38	0.81	0.90	0.81
95th-Percentile Queue Length [ft]	9.50	20.28	22.39	20.35
Approach Delay [s/veh]	8.52	9.15	9.00	8.91
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.95			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 477: SEVENTH STREET/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

Intersection Setup

Name	7th St			7th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th St			7th St			California Ave			California Ave		
Base Volume Input [veh/h]	9	149	20	20	250	20	31	78	29	40	110	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	149	20	20	250	20	31	78	29	40	110	40
Peak Hour Factor	0.8406	0.8406	0.8406	0.9094	0.9094	0.9094	0.8864	0.8864	0.8864	0.9322	0.9322	0.9322
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	44	6	5	69	5	9	22	8	11	29	11
Total Analysis Volume [veh/h]	11	177	24	22	275	22	35	88	33	43	118	43
Pedestrian Volume [ped/h]	78			94			70			50		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	667	685	639	650
Degree of Utilization, x	0.32	0.47	0.24	0.31

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.36	2.48	0.95	1.34
95th-Percentile Queue Length [ft]	34.11	62.04	23.87	33.54
Approach Delay [s/veh]	10.89	12.76	10.45	11.06
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	11.52			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 478: LINCOLN BOULEVARD/CALIFORNIA AVENUE

Control Type:	All-way stop	Delay (sec / veh):	69.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.157

Intersection Setup

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lincoln Blvd			Lincoln Blvd			California Ave			California Ave		
Base Volume Input [veh/h]	120	320	40	20	370	40	40	140	108	80	120	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	320	40	20	370	40	40	140	108	80	120	20
Peak Hour Factor	0.8988	0.8988	0.8988	0.8983	0.8983	0.8983	0.9036	0.9036	0.9036	0.8571	0.8571	0.8571
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	89	11	6	103	11	11	39	30	23	35	6
Total Analysis Volume [veh/h]	134	356	45	22	412	45	44	155	120	93	140	23
Pedestrian Volume [ped/h]	40			113			52			65		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	490	471	434	471	432	407
Degree of Utilization, x	1.16	0.10	1.01	0.10	0.74	0.63

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	18.33	0.32	13.06	0.32	5.95	4.15
95th-Percentile Queue Length [ft]	458.16	7.89	326.41	7.89	148.77	103.68
Approach Delay [s/veh]	112.45		69.35		31.39	25.56
Approach LOS	F		F		D	D
Intersection Delay [s/veh]	69.18					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 514: Main St & Olympic Dr

Control Type:	Signalized	Delay (sec / veh):	99.7
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.663

Intersection Setup

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Main St						Olympic Blvd			Olympic Dr | Olympic Blvd		
Base Volume Input [veh/h]	20	362	260	140	161	0	30	330	0	160	300	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	362	260	140	161	0	30	330	0	160	300	20
Peak Hour Factor	0.8901	0.8901	0.8901	0.8891	0.8891	0.8891	0.9545	0.9545	0.9545	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	102	73	39	45	0	8	86	0	47	88	6
Total Analysis Volume [veh/h]	22	407	292	157	181	0	31	346	0	187	351	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	34			213			108			165		
Bicycle Volume [bicycles/h]	4			3			61			31		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	7	0	5	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.6	3.6	0.0	3.6	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.0	5.0	0.0	1.0	5.0	0.0	0.0	5.0	0.0	0.0	5.0	0.0
Split [s]	10	55	0	10	55	0	0	25	0	0	25	0
Vehicle Extension [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.6	6.6	0.0	2.6	6.6	0.0	0.0	6.6	0.0	0.0	6.6	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	Yes		No	Yes			Yes			Yes	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	8.60	8.60	8.60	8.60	8.60	8.60	8.60	8.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	6.60	0.00	6.60	6.60	6.60	6.60	6.60
g_i, Effective Green Time [s]	56	47	56	50	16	16	16	16
g / C, Green / Cycle	0.63	0.52	0.63	0.55	0.18	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.17	0.10	0.03	0.18	0.18	0.21
s, saturation flow rate [veh/h]	1272	1678	900	1900	1024	1900	1051	1814
c, Capacity [veh/h]	856	872	425	1047	80	347	80	331
d1, Uniform Delay [s]	6.48	17.80	13.51	10.04	45.04	36.79	45.04	36.82
k, delay calibration	0.04	0.50	0.50	0.50	0.04	0.04	0.04	0.05
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	7.67	2.46	0.36	1.13	13.02	602.53	62.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

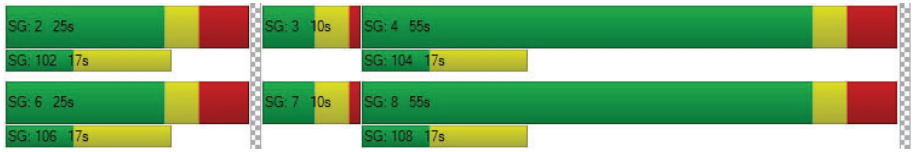
X, volume / capacity	0.03	0.80	0.37	0.17	0.39	1.00	2.33	1.13
d, Delay for Lane Group [s/veh]	6.48	25.47	15.97	10.40	46.17	49.81	647.57	98.84
Lane Group LOS	A	C	B	B	D	D	F	F
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.14	12.53	1.40	1.77	0.71	8.69	15.18	12.74
50th-Percentile Queue Length [ft/ln]	3.50	313.35	35.01	44.30	17.78	217.15	379.44	318.48
95th-Percentile Queue Length [veh/ln]	0.25	18.34	2.52	3.19	1.28	13.52	27.01	19.71
95th-Percentile Queue Length [ft/ln]	6.29	458.51	63.02	79.73	32.00	337.98	675.20	492.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.48	25.47	25.47	15.97	10.40	10.40	46.17	49.81	49.81	647.57	98.84	98.84
Movement LOS	A	C	C	B	B	B	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	24.89			12.99			49.52			281.75		
Approach LOS	C			B			D			F		
d_I, Intersection Delay [s/veh]	99.68											
Intersection LOS	F											
Intersection V/C	0.663											

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 598: FIFTH/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name	5th St			5th St			California Ave			California Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			0.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	5th St			5th St			California Ave			California Ave		
Base Volume Input [veh/h]	65	100	20	10	110	10	10	88	20	20	109	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	100	20	10	110	10	10	88	20	20	109	10
Peak Hour Factor	0.8856	0.8856	0.8856	0.8333	0.8333	0.8333	0.8235	0.8235	0.8235	0.9314	0.9314	0.9314
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	28	6	3	33	3	3	27	6	5	29	3
Total Analysis Volume [veh/h]	73	113	23	12	132	12	12	107	24	21	117	11
Pedestrian Volume [ped/h]	49			71			44			14		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	740	733	727	719
Degree of Utilization, x	0.28	0.21	0.20	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.16	0.80	0.73	0.78
95th-Percentile Queue Length [ft]	29.04	20.02	18.17	19.39
Approach Delay [s/veh]	9.77	9.22	9.16	9.31
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.40			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 716: 4TH STREET/WASHINGTON AVENUE

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2000	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	4th St			4th St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	4th St			4th St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	20	90	30	10	273	10	20	100	60	30	70	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	90	30	10	273	10	20	100	60	30	70	20
Peak Hour Factor	0.8804	0.8804	0.8804	0.9808	0.9808	0.9808	0.7941	0.7941	0.7941	0.8617	0.8617	0.8617
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	26	9	3	70	3	6	31	19	9	20	6
Total Analysis Volume [veh/h]	23	102	34	10	278	10	25	126	76	35	81	23
Pedestrian Volume [ped/h]	39			32			45			46		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	683	701	696	661
Degree of Utilization, x	0.23	0.43	0.33	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.90	2.13	1.42	0.79
95th-Percentile Queue Length [ft]	22.43	53.23	35.47	19.74
Approach Delay [s/veh]	9.86	11.88	10.66	9.89
Approach LOS	A	B	B	A
Intersection Delay [s/veh]	10.82			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: PCH & Entrada Drive

Control Type:	Signalized	Delay (sec / veh):	7.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.669

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	2330	90	0	2661	140	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2330	90	0	2661	140	30
Peak Hour Factor	0.9200	0.9200	1.0000	0.9770	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	633	24	0	681	38	8
Total Analysis Volume [veh/h]	2533	98	0	2724	154	33
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	10	0	0	10	6	0
Maximum Green [s]	100	0	0	136	36	0
Amber [s]	4.3	0.0	0.0	4.3	3.2	0.0
All red [s]	1.5	0.0	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	2.0	2.0	0.0
Walk [s]	10	0	0	7	10	0
Pedestrian Clearance [s]	20	0	0	10	20	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.8	0.0	0.0	3.8	2.7	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	48	48	48	48
L, Total Lost Time per Cycle [s]	5.80	5.80	5.80	4.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	3.80	2.70
g_i, Effective Green Time [s]	30	30	30	7
g / C, Green / Cycle	0.63	0.63	0.63	0.15
(v / s)_i Volume / Saturation Flow Rate	0.55	0.53	0.45	0.12
s, saturation flow rate [veh/h]	3192	1644	6089	1563
c, Capacity [veh/h]	2017	1039	3847	233
d1, Uniform Delay [s]	7.21	6.96	5.88	19.70
k, delay calibration	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.75	0.09	2.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.84	0.71	0.80
d, Delay for Lane Group [s/veh]	7.68	7.71	5.97	22.15
Lane Group LOS	A	A	A	C
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.04	3.99	2.50	1.95
50th-Percentile Queue Length [ft/ln]	101.00	99.70	62.44	48.66
95th-Percentile Queue Length [veh/ln]	7.27	7.18	4.50	3.50
95th-Percentile Queue Length [ft/ln]	181.80	179.46	112.39	87.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.69	7.71	0.00	5.97	22.15	22.15
Movement LOS	A	A		A	C	C
d_A, Approach Delay [s/veh]	7.69		5.97		22.15	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.33					
Intersection LOS	A					
Intersection V/C	0.669					

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1001: PCH & Channel Rd

Control Type:	Signalized	Delay (sec / veh):	94.8
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Thru	Right	Right2	Left2	Left	Right	Left2	Left	Thru	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2050	260	50	220	460	40	568	330	0	0	310	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2050	260	50	220	460	40	568	330	0	0	310	520
Peak Hour Factor	0.9110	0.9110	0.9110	0.8520	0.8520	0.8520	1.0000	0.9600	1.0000	1.0000	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	563	71	14	65	135	12	142	86	0	0	90	152
Total Analysis Volume [veh/h]	2250	285	55	258	540	47	568	344	0	0	362	607
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss
Signal Group	6	0	0	0	5	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lead	-	-	Lead	-	-	-	-
Minimum Green [s]	20	0	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	100	0	0	0	30	0	0	36	0	0	36	0
Amber [s]	4.3	0.0	0.0	0.0	3.6	0.0	0.0	3.6	0.0	0.0	3.6	0.0
All red [s]	1.5	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Walk [s]	0	0	0	0	7	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk	No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	1.2	0.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0	2.6	0.0
Minimum Recall	No				No			No			No	
Maximum Recall	No				No			No			No	
Pedestrian Recall	No				No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R	L	C	L	R
C, Cycle Length [s]	156	156	156	156	156	156	156
L, Total Lost Time per Cycle [s]	1.20	1.20	1.20	4.60	4.60	4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	1.20	1.20	1.20	2.60	2.60	2.60	2.60
g_i, Effective Green Time [s]	79	79	79	30	30	36	36
g / C, Green / Cycle	0.51	0.51	0.51	0.19	0.19	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.47	0.48	0.24	0.27	0.27	0.22	0.26
s, saturation flow rate [veh/h]	3192	1568	1425	1597	1575	1597	3783
c, Capacity [veh/h]	1627	799	726	307	303	369	874
d1, Uniform Delay [s]	35.34	35.92	24.61	62.89	62.89	58.70	59.89
k, delay calibration	0.04	0.24	0.04	0.50	0.50	0.38	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.02	11.85	0.18	189.44	193.80	27.05	50.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.94	0.47	1.38	1.39	0.93	1.11
d, Delay for Lane Group [s/veh]	36.37	47.77	24.78	252.33	256.68	85.74	110.25
Lane Group LOS	D	D	C	F	F	F	F
Critical Lane Group	No	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	26.18	29.00	8.22	28.38	28.37	16.08	15.58
50th-Percentile Queue Length [ft/ln]	654.44	724.98	205.60	709.42	709.19	402.10	389.62
95th-Percentile Queue Length [veh/ln]	34.57	37.83	12.93	43.02	43.11	22.66	23.32
95th-Percentile Queue Length [ft/ln]	864.21	945.77	323.18	1075.60	1077.80	566.53	583.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.02	24.78	24.78	252.33	256.68	256.68	0.00	85.74	0.00	0.00	110.25	110.25
Movement LOS	D	C	C	F	F	F		F			F	F
d_A, Approach Delay [s/veh]	38.15			254.50			85.74			110.25		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	94.82											
Intersection LOS	F											
Intersection V/C	1.002											

Sequence

Ring 1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1064: 2ND/CALIFORNIA

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.266

Intersection Setup

Name	2nd St				2nd St				California Ave				California Ave			
Approach	Northbound				Southbound				Eastbound				Westbound			
Lane Configuration																
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	35.00				35.00				0.00				35.00			
Grade [%]	0.00				0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes				Yes			

Volumes

Name	2nd St				2nd St				California Ave				California Ave			
Base Volume Input [veh/h]	0	37	70	38	0	20	69	20	0	20	99	0	0	50	99	20
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	37	70	38	0	20	69	20	0	20	99	0	0	50	99	20
Peak Hour Factor	1.000	0.858	0.858	0.858	1.000	0.845	0.845	0.845	1.000	0.865	0.865	0.865	1.000	0.854	0.854	0.854
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	11	20	11	0	6	20	6	0	6	29	0	0	15	29	6
Total Analysis Volume [veh/h]	0	43	82	44	0	24	82	24	0	23	114	0	0	59	116	23
Pedestrian Volume [ped/h]	62				105				70				66			

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	747	735	727	746
Degree of Utilization, x	0.23	0.18	0.19	0.27

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.87	0.64	0.69	1.07
95th-Percentile Queue Length [ft]	21.66	16.00	17.26	26.71
Approach Delay [s/veh]	9.22	8.95	9.10	9.57
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.25			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1065: 2ND/WASHINGTON

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.163

Intersection Setup

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St			2nd St			Washington Ave			Washington Ave		
Base Volume Input [veh/h]	10	70	20	10	49	10	10	70	20	30	60	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	70	20	10	49	10	10	70	20	30	60	10
Peak Hour Factor	0.8000	0.8000	0.8000	0.9196	0.9196	0.9196	0.7083	0.7083	0.7083	0.8304	0.8304	0.8304
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	22	6	3	13	3	4	25	7	9	18	3
Total Analysis Volume [veh/h]	13	88	25	11	53	11	14	99	28	36	72	12
Pedestrian Volume [ped/h]	44			39			44			34		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	679	794	670	785	693	812	677	809
Degree of Utilization, x	0.15	0.03	0.10	0.01	0.16	0.03	0.16	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	0.10	0.32	0.04	0.58	0.11	0.56	0.05
95th-Percentile Queue Length [ft]	13.01	2.44	7.89	1.07	14.50	2.68	14.12	1.13
Approach Delay [s/veh]	8.62		8.45		8.59		8.84	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.64							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 1162530: OCEAN AVENUE/OLYMPIC BLVD

Control Type:	Signalized	Delay (sec / veh):	42.1
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Approach	Northbound				Southbound			Eastbound			Westbound		
Lane Configuration													
Turning Movement	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	1	0	0	0	0	0	0	0	1
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00			35.00			30.00		
Grade [%]	0.00				0.00			0.00			0.00		
Crosswalk	Yes				Yes			No			Yes		

Volumes

Name	Ocean Ave				Ocean Ave			Olympic Blvd			Olympic Blvd		
Base Volume Input [veh/h]	36	0	946	130	290	1054	0	32	1085	209	90	0	220
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	946	130	290	1054	0	32	1085	209	90	0	220
Peak Hour Factor	1.000	1.000	0.932	0.932	0.9070	0.9070	1.0000	1.0000	1.0000	1.0000	0.8012	1.0000	0.8012
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	254	35	80	291	0	8	271	52	28	0	69
Total Analysis Volume [veh/h]	36	0	1015	139	320	1162	0	32	1085	209	112	0	275
Presence of On-Street Parking	No			No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	207				130			0			0		
Bicycle Volume [bicycles/h]	22				6			42			51		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Prote	Permi	Permi	Permi	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	0	8	0	7	4	0	0	0	0	6	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	0	7	0	5	7	0	0	0	0	7	0	0
Maximum Green [s]	15	0	30	0	15	30	0	0	0	0	30	0	0
Amber [s]	3.6	0.0	3.6	0.0	3.6	3.6	0.0	0.0	0.0	0.0	3.6	0.0	0.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	0	97	0	25	110	0	0	0	0	28	0	0
Vehicle Extension [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Walk [s]	0	0	7	0	0	7	0	0	0	0	7	0	0
Pedestrian Clearance [s]	0	0	12	0	0	21	0	0	0	0	21	0	0
Rest In Walk			No			No					No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.6	0.0	2.6	0.0	2.6	2.6	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Minimum Recall	No		Yes		No	Yes					No		
Maximum Recall	No		No		No	No					No		
Pedestrian Recall	No		No		No	No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C		L	R
C, Cycle Length [s]	150	150	150	150	150		150	150
L, Total Lost Time per Cycle [s]	4.60	4.60	4.60	4.60	4.60		4.60	4.60
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.60	2.60	2.60	0.00	2.60		2.60	2.60
g_i, Effective Green Time [s]	4	103	103	117	109		23	23
g / C, Green / Cycle	0.03	0.69	0.69	0.78	0.73		0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.02	0.28	0.09	0.46	0.32		0.09	0.24
s, saturation flow rate [veh/h]	1810	3618	1584	691	3618		1231	1132
c, Capacity [veh/h]	47	2495	1093	542	2625		192	177
d1, Uniform Delay [s]	72.54	10.03	7.91	7.03	8.31		58.69	63.23
k, delay calibration	0.04	0.50	0.50	0.50	0.50		0.04	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	9.20	0.49	0.24	4.67	0.54		1.04	275.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.41	0.13	0.59	0.44		0.58	1.56
d, Delay for Lane Group [s/veh]	81.74	10.53	8.15	11.71	8.85		59.74	338.86
Lane Group LOS	F	B	A	B	A		E	F
Critical Lane Group	Yes	No	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	7.25	1.60	3.10	7.50		4.03	20.30
50th-Percentile Queue Length [ft/ln]	37.61	181.18	40.03	77.58	187.51		100.77	507.53
95th-Percentile Queue Length [veh/ln]	2.71	11.66	2.88	5.59	11.99		7.26	32.67
95th-Percentile Queue Length [ft/ln]	67.70	291.55	72.06	139.65	299.80		181.38	816.83

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.74	0.00	10.53	8.15	11.71	8.85	0.00	0.00	0.00	0.00	59.74	0.00	338.86
Movement LOS	F		B	A	B	A					E		F
d_A, Approach Delay [s/veh]	12.40				9.47			0.00			258.08		
Approach LOS	B				A			A			F		
d_I, Intersection Delay [s/veh]	42.06												
Intersection LOS	D												
Intersection V/C	0.584												

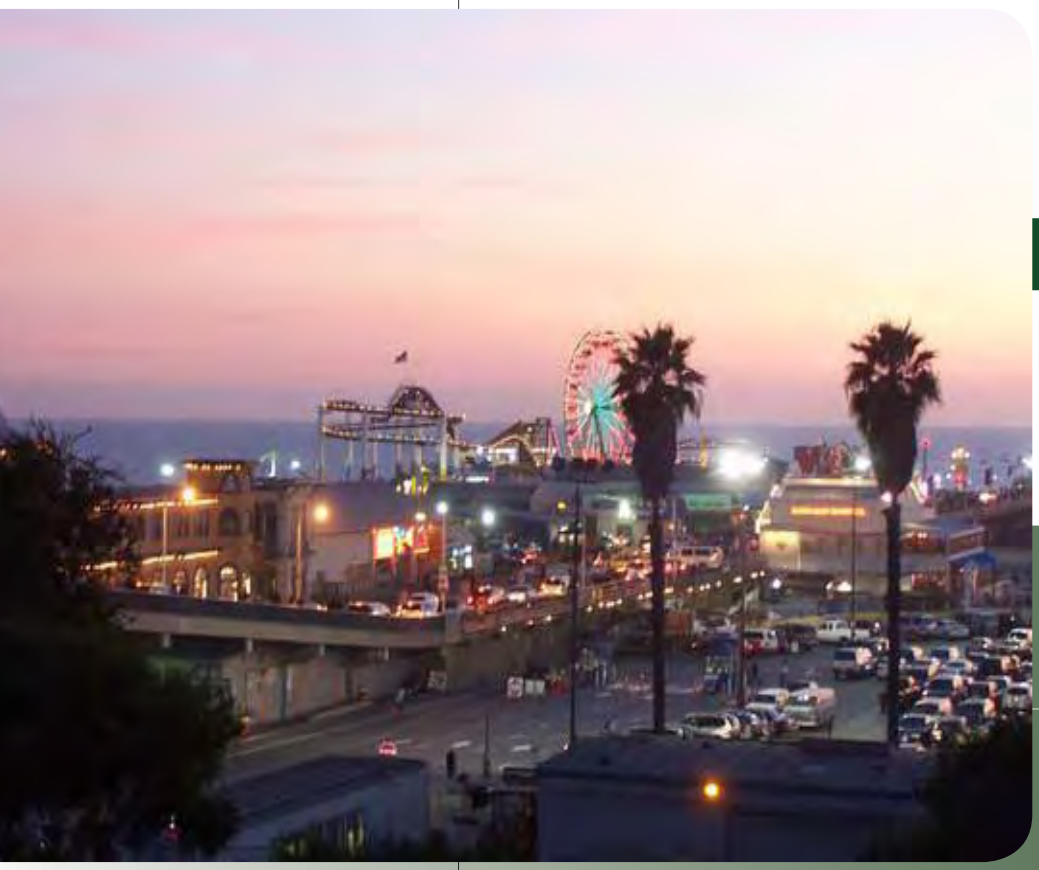
Sequence

Ring 1	-	-	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Miramar Hotel Redevelopment Scenario 9: 9 Future plus Project - Alt Access Report File: \...\FP_Alt_MD_LOS.pdf

APPENDIX C:
SANTA MONICA TRAVEL DEMAND FORECASTING MODEL DOCUMENTATION

SANTA MONICA LUCE MODEL DEVELOPMENT REPORT



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December 2009

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TRANSPORTATION CONSULTANTS

SANTA MONICA LUCE
MODEL DEVELOPMENT REPORT

December 2009

Prepared for:

CITY OF SANTA MONICA

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INTRODUCTION

The purpose of this report is to introduce the Travel Demand Forecasting (TDF) model built for Santa Monica's Land Use and Circulation Element (LUCE) update. This report describes the model development process in general, and how this process was applied to develop the City of Santa Monica model, including the sources of data used to develop key model inputs.

GENERAL DISCUSSION OF THE TDF MODEL

This section summarizes the answers to commonly asked questions related to TDF models and how the City can use a TDF model.

What is a TDF model?

A TDF model is a computer program that simulates traffic levels and travel patterns for a specific geographic area. The program consists of input files that summarize the area's land uses, street network, travel characteristics, and other key factors. Using this data, the model performs a series of calculations to determine the amount of trips generated, the beginning and ending location of each trip, and the route taken by the trip. The model's output includes projections of traffic volumes on major roads, and peak hour turning movements at certain key intersections.

How is a TDF model useful?

The City TDF model will be a valuable tool for preparing long-range transportation planning studies, such as Santa Monica's General Plan Update. The travel model will be used to estimate the average daily and peak hour traffic volumes on the major roads in response to future land use, transportation infrastructure, and policy assumptions, and form a consistent basis by which to analyze the different potential land use scenarios. Additionally, using these traffic projections, transportation improvements will be identified to accommodate the changing traffic patterns associated with the General Plan's preferred land use alternative.

How do we know if the TDF model is accurate?

To be deemed accurate for projecting traffic volumes in the future, a model must first be calibrated to a year in which actual land use data and traffic volumes are available and well documented. A model is accurately calibrated when it replicates the actual traffic counts on the major roads within certain ranges of error established in *Travel Forecasting Guidelines* (Caltrans, 1992) and it demonstrates stable responses to varying levels of inputs. The Santa Monica model has been calibrated to 2008 base year conditions using actual traffic counts, census data, and land use data surveyed and compiled by City staff.

Is the City of Santa Monica TDF model consistent with standard practices?

The City of Santa Monica model is consistent in form and function with standard travel forecasting models used in transportation planning. The model includes a land use/trip generation module, a gravity-based trip distribution model, and a capacity-restrained equilibrium traffic assignment process. The travel model utilizes Version 5.0 of the TransCAD Transportation GIS software, which is consistent with many of the models used by local jurisdictions in California and throughout the nation. The Southern California Association of Governments (SCAG), the metropolitan planning organization (MPO) for Southern California, maintains their current regional travel demand model in TransCAD.

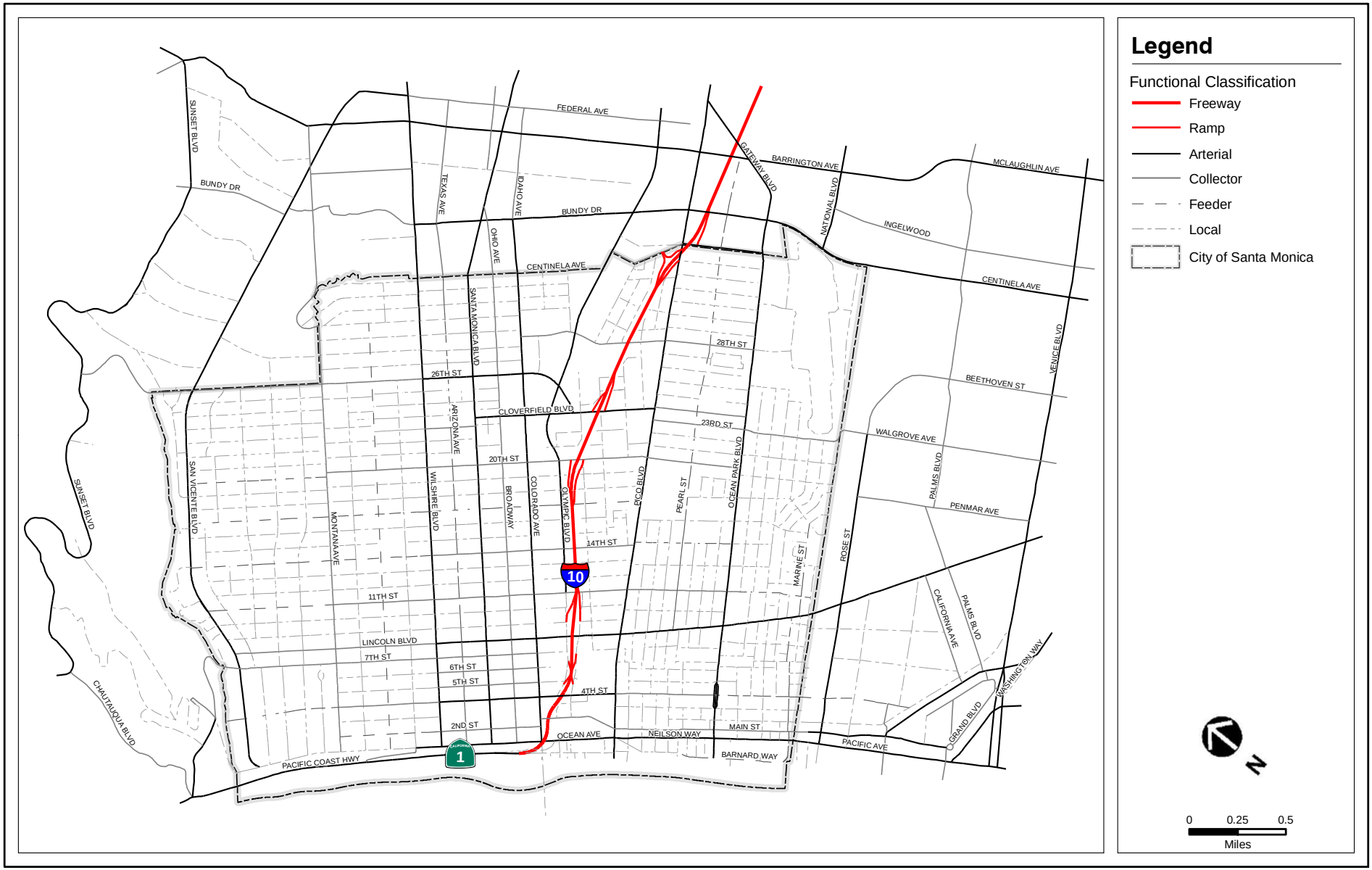
How can the TDF model be used?

The TDF model can be used for many purposes related to the planning and design of the City's transportation system. The following is a partial listing of the potential uses of the TDF model:

- To update the land use and circulation elements of the General Plan
- To conduct a city-wide traffic impact fee program
- To evaluate the traffic impacts of area-wide land use plan alternatives
- To evaluate the shift in traffic resulting from a roadway improvement
- To evaluate the traffic impacts of land development proposals
- To determine trip distribution patterns of larger land development proposals
- To support the development of transportation sections of Environmental Impact Reports (EIRs)
- To support the preparation of project development reports for Caltrans

STUDY AREA AND STREET NETWORK

Figure 1 shows the study area for the City travel demand forecasting model. The model area encompasses the City of Santa Monica and neighboring areas in the City of Los Angeles that have high levels of interaction with Santa Monica. The study area contains all areas that may experience land use changes under *Santa Monica LUCE* and the LUCE alternatives.



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SANTA MONICA
STUDY AREA AND STREET NETWORK
FIGURE 1

SUMMARY OF THE INPUT DATA

DATA COLLECTION

A data collection effort was undertaken at the outset of the *Santa Monica LUCE* process. Data sources include SCAG for street network and regional travel data, Caltrans and the City of Santa Monica for traffic count data, and the City of Santa Monica for land use, and street network data.

LAND USE DATA

Land use data is one of the primary inputs to the Santa Monica model, and this data is instrumental in estimating trip generation. The model's primary source of land use data is the City's parcel-level land use database (maintained in a GIS format). This database provides information on how much development currently exists within each traffic analysis zone (TAZ) (discussed below). The City's land use data is supplemented by SCAG TAZ-based data for areas in the City of Los Angeles bordering the City of Santa Monica.

Land use in the model is divided into a variety of residential and non-residential categories. The City of Santa Monica model employs 30 land use data categories to describe land use in the City, as shown in Table 1.

TRAFFIC ANALYSIS ZONE SYSTEM

Travel demand models use traffic analysis zones (TAZs) to subdivide the study area for the purpose of connecting land uses to the street network. TAZs represent physical areas containing land uses that produce or attract vehicle-trip ends. Since SCAG is the MPO for the area, the TAZ system for the Santa Monica model was developed to nest within SCAG's TAZ system. After reviewing the TAZ layer used in the SCAG regional model, along with the street network and recent aerial photographs, a set of TAZ boundaries was created for the Santa Monica model to achieve the following local area enhancements:

- Large TAZs were subdivided, allowing for a more detailed assignment of local traffic to the highway network. This level of detail was necessary to forecast traffic volumes at the turning movement level.
- Considerable detail was added to the TAZ system in the downtown street grid to allow for a detailed traffic assignment and a more accurate calculation of the 4D variables (density, diversity of land uses, design of the streetscape, and access to regional destinations).
- TAZs were created to be consistent with large developments such as the Water Garden and Santa Monica Place.

The resulting 2008 model TAZ system includes 824 zones in the model area, of which 599 zones cover the City of Santa Monica and the remaining 225 cover the surrounding areas of the City of Los Angeles. Detailed maps showing the TAZ numbers in all portions of the model area are included in Appendix A.

Also included in the TAZ structure are the external stations or gateways at points where major roadways provide access into the model area. The external gateways represent all major routes by which traffic can enter or exit the study area and capture the traffic entering, exiting, or passing through the model area. Table 2 contains a list of the 22 external gateways numbered from 1001 to 1022 that were established for this model. Figure 2 illustrates the locations of the external stations.

TABLE 1 MODEL LAND USE CATEGORIES	
Residential	
Land Use Type	**Units**
Single-Family (SF)	Dwelling Units
Multi-Family Zero Cars (MF_0)	Dwelling Units
Multi-Family One Car (MF_1)	Dwelling Units
Multi-Family Two Cars or More Cars (MF_2P)	Dwelling Units
Convalescent Care	Dwelling Units
Non-Residential	
Land Use Type	**Units**
Personal Services	Thousand Square-feet
Airport	Based Aircraft
Entertainment	Thousand Square-feet
Office	Thousand Square-feet
Creative Office	Thousand Square-feet
Government Office	Thousand Square-feet
Medical Office	Thousand Square-feet
Hospital	Thousand Square-feet
Automotive Related	Thousand Square-feet
Lodging	Thousand Square-feet
Cultural	Thousand Square-feet
Nightlife	Thousand Square-feet
Restaurant	Thousand Square-feet
Retail	Thousand Square-feet
Light Industrial	Thousand Square-feet
Heavy Industrial	Thousand Square-feet
Police and Fire Services	Thousand Square-feet
Elementary and Middle School	Students
High Schools	Students
College	Students
Religious Facilities	Thousand Square-feet
Recreation (Parks and Beaches)	Acres
SCAG Retail[1]	Employees
SCAG Office[1]	Employees
SCAG Industrial[1]	Employees

[1] Data adapted from SCAG TAZs uses SCAG units of employment

Source: Fehr & Peers, 2009.

TABLE 2 EXTERNAL GATEWAYS	
Gateway Number	**Gateway Description**
1001	PCH north of Chatauqua
1002	Sunset Bl south of Hartzell (north of Chatauqua)
1003	Kenter Ave north of Sunset
1004	Barrington Ave north of Sunset
1005	Sunset Bl east of s Barrington Place
1006	Wilshire east of Federal
1007	Ohio east of Federal
1008	Santa Monica Bl east of Federal
1009	Olympic east of Federal
1010	Pico west of Purdue
1011	National east of Barrington
1012	Palms east of McLaughlin
1013	Venice east of McLaughlin
1014	McLaughlin south of Venice
1015	Inglewood south of Venice
1016	Centinela south of Venice
1017	Walgrove south of Venice
1018	Lincoln south of Venice
1019	Abbot Kinney btw Washington Way & Victoria Ave
1020	Ocean Ave south of Venice
1021	Pacific Ave south of Venice
1022	I-10 at Barrington

Source: Fehr & Peers, 2009.

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SANTA MONICA
EXTERNAL STATION LOCATIONS
FIGURE 2

STREET NETWORK

The street network for the base year conditions is derived from the City's GIS roadway centerline file. The model street network includes all freeways, state highways, arterials, collectors, and local roads within the study area (see Figure 1). These classifications are based on the City's 1984 General Plan circulation element and reflect existing conditions.

The streets shown in Figure 1 are classified in four major categories and form the primary street network that is represented in the model structure. As is typical for urban-area models, the model network focuses on the most used facility types. Residential streets are included as well, not to precisely replicate individual travel patterns but to distribute traffic volumes more realistically. The four major street categories are described below.

Freeways

Freeways are high-capacity facilities that primarily serve longer distance travel. Access is limited to interchanges typically spaced at least one mile apart. Interstate 10 is the freeway that runs directly through the Santa Monica model area.

Highways

Roadways designated as highways are typically State highways that are not limited-access freeways. In Santa Monica, these facilities serve travel between the City and its neighboring jurisdictions. The primary highway in Santa Monica is SR 1 (PCH). Portions of Lincoln Boulevard and Santa Monica Boulevard are also designated as State Routes in Santa Monica. However, these facilities function more like arterials and are coded as such in the model.

Arterials

Roadway segments classified as arterials are major roads that provide connections within the City, between the City and neighboring areas, and through the City (cut-through traffic). Arterials in Santa Monica typically have two lanes in each direction, with travel speeds of 30-35 miles per hour (mph).

Collectors

Collectors are facilities that connect local streets to the arterial and highway system, and may also provide direct access to local land uses. Collectors typically have one lane in each direction, with speeds of 25-30 mph. In Santa Monica, streets that fulfill this purpose but are primarily located in residential areas are called feeders.

For each of its records, the street network database includes a street name, distance, functional class, speed, capacity, and number of lanes. These attributes were checked using maps, aerial photographs, and other data provided by the City. Table 3 shows the initial roadway speeds, lanes and capacities used for each roadway class in the model. Where necessary, these values were then modified to reflect current conditions at specific locations.

For a representative sample of network links, traffic counts for daily, AM peak hour, and PM peak hour have been coded for validating the model. These traffic counts were collected as part of the City's ongoing count program.

TABLE 3 TYPICAL ROADWAY SPEEDS AND CAPACITIES				
Roadway Classification [1]	**Speed (MPH)**	**Total Through Lanes**	**Lane Capacity (Vehicles per hour per lane)**	**Total Facility Capacity (Vehicles per hour)**
Freeway	65	4-10	2,000	8,000-20,000
Highway	50	4-6	1,200	4,800-7,200
Arterial	30-35	4	900	3,600
Collector/Feeder	25-30	2	600	1,200
Local	25	2	600	1,200
Ramp	30	1	1,800	1,500
Centroid Connector[2]	30	2	10,000	20,000

[1] City of Santa Monica Land Use and Circulation Element, 1984.

[2] Centroid connectors are abstract representations of the starting and ending point of each trip, and thus should have no

Source: Fehr & Peers, 2009.

DESCRIPTION OF THE MODEL CALIBRATION PROCESS

Model calibration is the process by which parameters for the model are determined. These parameters are based on comparing travel estimates computed by the model with actual data from the area being modeled. This section provides a general description of the calibration steps and the adjustments made during the process to achieve accuracy levels that are within Caltrans guidelines.

TRIP GENERATION RATES

Trip generation rates relate the number of vehicle trips going to and from a site to some measure of the intensity of use at the site. Each trip has two ends, a "production" and an "attraction". By convention, trips with one end at a residence are defined as being "produced" by the residence and "attracted" to the other use (workplace, school, retail store, etc.), and are called "Home-Based" trips. Trips that do not have one end at a residence are called "Non-Home-Based" trips.

There are eight trip purposes used in the Santa Monica model:

1. Home-Based Work (HBW): trips between a residence and a workplace.
2. Home-Based Other (HBO): trips between a residence and any other destination.
3. Non-Home-Based (NHB): trips that do not begin or end at a residence, such as traveling from a workplace to a restaurant, or from a retail store to a bank.
4. School (SCHOOL): trips to and from a school.
5. College (COLLEGE): trips to and from a college.
6. Recreational (REC): trips to and from the beaches and parks.
7. Internal to External Commute Trips (IXHBW): Work trips of model area residents who work outside the model area
8. External to Internal Commute Trips (XIHBW): Work trips of model area employees who live outside the model area.

Trip generation rates are initially defined for total trips and later split by trip purpose, for both productions and attractions.

The most widely used source for individual project vehicle trip generation rates in the transportation planning field is *Trip Generation, 8th Edition* (Institute of transportation Engineers [ITE], 2008). This book contains national averages of trip generation rates for a variety of land uses in what are generally suburban locations. The ITE land use categories tend to be very specific, while model land use categories (accounting for all land use in the City) tend to be more general. ITE rates are appropriate for smaller site specific uses, such as traffic studies for development review, and they can provide a starting point for travel models by capturing the interaction between all land uses in the City. However, the unique local characteristics of Santa Monica require the development of specific trip generation rates for the model.

A traffic impact study uses ITE trip generation rates because, in most cases, the project being examined shares characteristics with the information contained in *Trip Generation, 8th Edition.* In other words, both the traffic impact study and the ITE rates rely on single-use, isolated projects that have plenty of free

parking and little or no interaction with other nearby uses. When assessing the impact of an individual project, the ITE rates are typically appropriate since they can correctly mimic the site being analyzed in the traffic impact study.

The Santa Monica model, on the other hand, generates trips by purpose, and balances productions to attractions. The model also has trip rates calibrated to local conditions and other advanced trip generation features such as the cross classification of dwelling units by vehicle availability. Traffic impact studies rely on ITE trip rates that only vary based on land use type or size. While these trip rates are a valid starting point for model calibration and validation, they have a different purpose and are not necessarily suitable for demand forecasting without customization.

Certain ITE rates are more applicable to Santa Monica model rates because of their comparable level of detail. For example, both ITE and the Santa Monica model have a generic office category. Some ITE rates, however, cannot be used directly because the land use category is not the same as the City's land use classifications. For example, ITE's restaurant categories include high turnover restaurant, fast food restaurant, fast food restaurant with drive-through with seating, fast food restaurant with drive-through and no seating, etc. By necessity, Santa Monica restaurant rates represent a compilation and average of those rates customized to the City. It is important to recognize that ITE rates are also averages, based on driveway counts at multiple locations, so the utilization of average rates within the Santa Monica model is entirely appropriate.

The 2008 trip generation rates were initially based on residential trip generation surveys, the SCAG regional model, the San Diego Association of Governments' (SANDAG) trip generation survey, recently calibrated models in similar areas, and *Trip Generation, 8th Edition*. For example, calibrated trip generation rates from Santa Barbara and West Hollywood were used as a starting point. These areas were selected because they share socioeconomic and land use characteristics with the City of Santa Monica. The rates were then modified to account for local conditions based on counts, production-to-attraction balancing (discussed below), and the difference between ITE and model land use definitions. The final Santa Monica trip generation rates are unique to the Santa Monica model, and they are ultimately based upon the results of successful model calibration and validation.

PRODUCTION/ATTRACTION BALANCING

Local trips (internal-to-internal, or I-I) are trips that both start and end in the study area. One of the basic assumptions of any travel model is that the total number of local trips produced is equal to the total number of local trips attracted. It is logically assumed that if a journey is started somewhere, it must have an ending somewhere else. If the total productions and attractions are not equal, the model will typically adjust the attractions to match the productions, thus ensuring that each departing traveler finds a destination. While it is never possible to achieve a perfect match between productions and attractions prior to the automatic balancing procedure, the existence of a substantial mismatch in one or more trip purposes indicates that either land use inputs or trip generation factors may be in error.

Table 4 summarizes the local trip productions and attractions from the Santa Monica travel model for each trip purpose, prior to the application of the automatic balancing procedure. Guidelines published by Federal Highway Administration's Transportation Model Improvement Program (TMIP) and National Highway Cooperative Research Program (NCHRP) suggest that, prior to balancing, the number of productions and attractions should match to within plus or minus 10% (i.e., the production-to-attraction ratio should be within the range of 0.90 to 1.10). The results shown in Table 4 indicate that the 2008 model meets the published guidelines for all trip purposes.

TABLE 4 TRIP PRODUCTION TO ATTRACTION RATIOS BY PURPOSE			
		Percent of Total Daily Vehicle Trips	
Trip Purpose	Production/ Attraction Ratio	2008 Santa Monica Model[1]	California[2]
Home-Based Work (HBW)	1.00	22%	21%
Home-Based Other (HBO)	1.00	47%	48%
Non-Home-Based (NHB)	1.00	32%	31%
Total		101%	100%

[1] The trip purposes listed are the broad categories applied in most every travel model. The more specific Santa Monica trip purposes are subsets of these broader trip purposes, and have been aggregated here for ease of comparison. IXHBW and XIHBW are subsets of the HBW trip purpose. School, College, and REC are subsets of the HBO trip purpose.

[2] 2000-2001 California Statewide Household Travel Survey Final Report, June 2002.

Note: May not total 100% due to rounding

Source: Fehr & Peers, 2009.

In addition to production and attraction balancing, the percent of total trips for each purpose were checked for reasonableness. Typical values are provided below:

- HBW[1] trips 18% to 27% of all trips
- HBO trips: 47% to 54% of all trips
- NHB trips: 22% to 31% of all trips

This information, in conjunction with trip generation rate comparisons and trip purpose distributions discussed later in this report, indicates that the trip generation component of the Santa Monica model is performing reasonably.

FURTHER REFINEMENT

In addition to the standard trip generation procedures, certain enhancements were added to the Santa Monica model to better capture local trip making characteristics and provide the ability to test certain policy options for future development scenarios. These enhancements include dividing the model area into four "area types" and cross-classifying multifamily households by auto ownership.

Area Types

The model area contains a variety of development patterns, each with different land use characteristics and associated trip making patterns. To account for these differences, the model area was divided into four "area types." The four area types, shown in Figure 3, have their own associated trip generation rates and internal/external trip making characteristics.[2] Trip generation rates for each land use in each area type are shown in Table 5.

Area type 1 represents Downtown Santa Monica and the Special Office District. This area contains the greatest concentration of commercial and retail land uses within the boundaries of the model. These land uses are grouped together because of their similar density and propensity to attract trips from outside the model area. These two locations differ from the rest of the model area by exhibiting high levels of walkability and a lower propensity for driving. The boundary between area type 1 locations and the rest of the model was based on the likelihood of pedestrian travel between complementary land uses.

Modal choice is strongly determined by auto availability, and since most people arrive in Downtown Santa Monica and the Special Office District by car, the locations covered by area type 1 were defined by two factors that counteracted what otherwise would have been a predisposition towards driving. Distance from parking garages was the first factor. People are more likely to walk than drive when the distance they need to travel is a quarter mile or less. The second factor was a high density of complementary land uses. Driving trips are eliminated when people can park once and walk to multiple destinations.

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[1] The trip purposes listed are the broad categories applied in most every travel model. The more specific Santa Monica trip purposes are subsets of these broader trip purposes, and have been aggregated here for ease of comparison. IXHBW and XIHBW are subsets of the HBW trip purpose. School, College, and REC are subsets of the HBO trip purpose.

[2] Internal/External trip making is explained in the Trip Distribution section below

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SANTA MONICA
MODEL AREA TYPES
FIGURE 3

TABLE 5 DAILY VEHICLE TRIP GENERATION RATE COMPARISON					
Residential[1]					
Land Use Type	**Units**	**Santa Monica Model Area Type 1**	**Santa Monica Model Area Type 2**	**Santa Monica Model Area Type 3**	**Santa Monica Model Area Type 4**
Single-Family (SF)	Dwelling Units	10.00	10.00	10.00	10.00
Multi-Family Zero Cars (MF_0)	Dwelling Units	1.61	2.21	2.21	N/A
Multi-Family One Car (MF_1)	Dwelling Units	3.22	3.85	3.85	3.85
Multi-Family Two Cars or More Cars (MF_2P)	Dwelling Units	5.50	6.49	6.49	N/A
Convalescent Care	Dwelling Units	N/A	2.02	2.02	N/A
Non-Residential[2]					
Land Use Type	**Units**	**Santa Monica Model Area Type 1**	**Santa Monica Model Area Type 2**	**Santa Monica Model Area Type 3**	**Santa Monica Model Area Type 4**
Personal Services	Thousand Square-feet	20.00	44.32	44.32	N/A
Airport	Based Aircraft	N/A	5.00	N/A	N/A
Entertainment	Thousand Square-feet	36.00	40.00	40.00	N/A
Office	Thousand Square-feet	10.00	10.52	N/A	N/A
Creative Office	Thousand Square-feet	9.00	9.00	N/A	N/A
Government Office	Thousand Square-feet	36.00	80.00	N/A	N/A
Medical Office	Thousand Square-feet	30.00	30.00	N/A	N/A
Hospital	Thousand Square-feet	N/A	16.50	N/A	N/A
Automotive Related	Thousand Square-feet	152.84	152.84	N/A	N/A
Lodging	Thousand Square-feet	1.93	1.93	1.93	N/A
Cultural	Thousand Square-feet	29.75	29.75	29.75	N/A
Nightlife	Thousand Square-feet	21.77	21.77	21.77	N/A
Restaurant	Thousand Square-feet	80.00	82.00	80.00	N/A
Retail	Thousand Square-feet	29.75	41.00	38.76	N/A
Light Industrial	Thousand Square-feet	1.50	1.50	N/A	N/A
Heavy Industrial	Thousand Square-feet	N/A	1.50	N/A	N/A
Police and Fire Services	Thousand Square-feet	6.31	6.31	N/A	N/A
Elementary and Middle School	Students	1.29	1.25	N/A	N/A
High Schools	Students	N/A	1.71	N/A	N/A
College	Students	N/A	1.20	N/A	N/A
Religious Facilities	Thousand Square-feet	9.11	9.11	N/A	N/A
Recreation (Parks and Beaches)	Acres	27.50	55.00	52.50	N/A
SCAG_Retail[1]	Employees	N/A	N/A	16.47	16.47
SCAG_Office[1]	Employees	N/A	N/A	2.89	2.89
SCAG_Industrial[1]	Employees	N/A	N/A	1.19	1.19

[1] The ITE manual does not stratify multifamily dwelling units by auto ownership. ITE multifamily rates range from 4.18 to 6.72 depending on the dwelling type. Rates based on auto ownership were developed from National Household Travel Survey (NHTS) data for the City of Santa Monica. NHTS rates range from a minimum of 1.16 to a maximum of 12.52.

[2] Not all non-residential land use categories are present in each area type. 2008 trip generation rates were only developed for land uses present in 2008 in each area type.

Source: Fehr & Peers, 2009.

Complementary land uses also allow people who do not arrive by car (by way of public transit, biking, walking) to carry out multiple trips within their walking radius.

Area type 2 represents the remaining residential and commercial portion of Santa Monica. This area has development patterns generally consisting of connecting streets, and a mixture of residential and non-residential land uses.

Area type 3 represents the beach areas in the model area. These areas contain a large portion of the recreational land use. Most of the commercial land uses in the area support the recreational land uses. There is limited residential development in area type 3.

Area type 4 represents the areas of the City of Los Angeles surrounding the City of Santa Monica.

Multi-Family Unit Vehicle Ownership

In order to provide the ability to test certain potential policy alternatives, multi-family dwelling units were divided into three types representing varying levels of automobile ownership. Auto-ownership data for each census tract in Santa Monica was obtained from the 2002 National Household Travel Survey, which is conducted by the United States Census Bureau. The total number of multifamily units in each census tract was apportioned to the relevant multi-family trip generation category based on the percentage of households at each level of auto ownership.

TRIP DISTRIBUTION (GRAVITY MODEL)

Once the trip generation step has determined the number of trips that begin and end in each zone, the trip distribution process determines the specific destination of each originating trip. The destination may be within the zone itself, resulting in an intra-zonal trip. If the destination is outside of the zone of origin, it is an inter-zonal trip. Internal-internal (I-I) trips originate and terminate within the model area. Trips that originate within but terminate outside of the model area are internal-external (I-X), and trips that originate outside and terminate inside of the model area are external-internal (X-I). Trips passing completely through the model area are external-external (E-E).

The trip distribution model uses a gravity model equation to distribute trips to all zones. This equation estimates an accessibility index for each zone based on the number of attractions in each zone and a friction factor, which is a function of travel time between zones. Each attraction zone is given its share of productions based on its share of the accessibility index. This process applies to the I-I, I-X, and X-I trips. The E-E trips are added to the trip table prior to final assignment.

Friction Factors

Friction factors, also known as travel time factors, determine the relative attractiveness of each destination zone based on the travel time between TAZs and the number of potential origins and destinations in each TAZ. These factors are used in the trip distribution stage of the model. The 2008 Santa Monica model friction factors are based on data reported in national modeling reference documents such as National Cooperative Highway Research Program (NCHRP) 365, and modified based on local conditions and comparison with the SCAG model. See Appendix B for friction factor curves.

Trips between the Model Area and External Areas

One of the important inputs to a travel model is an estimate of the amount of travel between the study area and neighboring areas outside the model. These are typically called internal-external, or I-X/X-I, trips.

The United States Census Bureau surveys residential and work locations at the place level. Table 6 illustrates the distribution of work locations for Santa Monica residents, while Table 7 illustrates the distribution of residential locations for Santa Monica employees. The census data is specific to Santa Monica, while the model area also encompasses parts of neighboring Los Angeles. It is assumed that a certain percentage of Santa Monica employees who live outside the City of Santa Monica live in the neighboring area of Los Angeles included in the model area.

Based on this data, the proportion of HBW trips entering and leaving the study area was estimated. For non-work trip purposes, information from the SCAG Regional Model was used to develop an initial estimate of the percent of HBO and NHB trips that travel between Santa Monica and other areas. These estimates were then refined using the City's land use database. Table 8 summarizes the proportion of trips by purpose and area type that are assumed to have one end outside the model area.

After the number of I-X/X-I trips was estimated, these trips were distributed to the stations around the perimeter of the model area using external station weights. External station weights were based on counts collected at each external station. The number of through trips at each station was subtracted from the count and the remainder was made up of I-X/X-I trips. The resulting external station weights are presented in Figure 4.

Through Trips

Through trips (also called external-external, or EE trips) are those that pass through the study area without stopping inside the study area. The major flows of through traffic in the Santa Monica area use I-10, PCH and Lincoln Boulevard, with lower volumes of through traffic using other streets. The size of these flows was estimated based on Caltrans traffic counts and the SCAG Regional Model. The through trips were modified in conjunction with the external station weights so that results at the model gateways accurately represented observed data. The resulting through trip matrix is summarized in Table 9.

TRIP ASSIGNMENT

The trip assignment process determines the route that each vehicle trip takes from origin to destination. The model selects these routes in a manner that is sensitive to congestion and the desire of drivers to minimize overall travel time. It uses an iterative, capacity-restrained assignment, and volume adjustments are made that progress towards equilibrium. This technique finds a travel path for each trip that minimizes travel time, while taking into account congestion delays caused by other trips in the model.

The general assignment process includes the following steps.

- Assign all trips to the links along their selected paths.
- After all assignments, examine the volume on each link and adjust its impedance based on the volume-to-capacity ratio.
- Repeat the assignment process for a set number of iterations or until specified criteria related to minimizing travel delays are satisfied.

TABLE 6 WORK LOCATIONS FOR SANTA MONICA RESIDENTS		
Year	**Percent Working Inside Santa Monica**	**Percent Working Outside Santa Monica**
2000	33%	67%
Source: U.S. Census Bureau.		

TABLE 7 RESIDENTIAL LOCATIONS FOR SANTA MONICA EMPLOYEES		
Year	**Percent Living Inside Santa Monica**	**Percent Living Outside Santa Monica**
2000	17%	83%
Source: U.S. Census Bureau.		

TABLE 8
PERCENT OF TRIPS BY PURPOSE THAT ARE INTERNAL/EXTERNAL FOR EACH AREA TYPE

Purpose	Area Type 1		Area Type 2		Area Type 3		Area Type 4	
	Production	Attraction	Production	Attraction	Production	Attraction	Production	Attraction
Home-Based Work (HBW)[1]	50%	80%	58%	80%	58%	80%	39%	80%
Home-Based Other (HBO)	20%	65%	10%	60%	20%	65%	39%	75%
Non-Home-Based (NHB)	20%	25%	10%	22%	20%	25%	39%	26%
School	3%	4%	3%	5%	3%	4%	15%	15%
College	9%	N/A	9%	72%	N/A	N/A	9%	72%
Recreational (REC)	5%	75%	5%	75%	5%	83%	6%	0%

[1] Percentages for HBW reported in this table also account for the IXHBW and XIHBW trip purposes.

Source: Fehr & Peers, 2009.

TABLE 9
MATRIX OF DAILY THROUGH (EE) TRIPS

Origin \ Destination	PCH north of Chatauqua	Sunset south of Hartzell (north of Chatauqua)	Kenter Ave north of Sunset	Barrington Ave north of Sunset	Sunset east of Barrington Place	Wilshire east of Federal	Ohio east of Federal	Santa Monica east of Federal	Olympic east of Federal	Pico west of Purdue	National east of Barrington	Palms east of McLaughlin	Venice east of McLaughlin	McLaughlin south of Venice	Inglewood south of Venice	Centinela south of Venice	Walgrove south of Venice	Lincoln south of Venice	Abbot Kinney btw Washington Way & Victoria Ave	Ocean Ave south of Venice	Pacific Ave south of Venice	I-10 at Barrington	Total
PCH north of Chatauqua		0	0	0	0	60	0	5	325	620	145	5	10	15	150	230	100	1,130	730	1,920	1,355	28,365	**35,165**
Sunset south of Hartzell (north of Chatauqua)	0		0	150	2,925	1,645	145	125	70	15	5	10	10	0	10	30	5	30	15	65	15	845	**6,115**
Kenter Ave north of Sunset	0	0		80	2,445	650	45	55	5	0	10	10	20	10	35	235	5	0	0	0	0	50	**3,655**
Barrington Ave north of Sunset	0	150	80		0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	**240**
Sunset east of Barrington Place	0	2,925	2,445	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5,370**
Wilshire east of Federal	60	1,645	650	0	0		0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	**2,370**
Ohio east of Federal	0	145	45	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**190**
Santa Monica east of Federal	5	125	55	0	0	0	0		5	0	0	0	0	0	0	5	0	0	0	0	0	10	**205**
Olympic east of Federal	325	70	5	0	0	0	0	5		0	0	0	0	0	450	0	0	0	0	0	0	645	**1,500**
Pico west of Purdue	620	15	0	0	0	0	0	0	0		0	0	0	10	45	350	25	30	0	20	30	285	**1,430**
National east of Barrington	145	5	10	0	0	0	0	0	0	0		0	0	45	0	10	0	0	0	0	0	5	**220**
Palms east of McLaughlin	5	10	10	0	0	0	0	0	0	0	0		0	40	25	115	30	0	0	5	5	0	**245**
Venice east of McLaughlin	10	10	20	0	0	0	0	0	0	0	0	0		310	905	2,140	370	170	0	240	665	0	**4,840**
McLaughlin south of Venice	15	0	10	0	0	0	0	0	0	10	45	40	310		0	0	0	0	0	0	0	0	**430**
Inglewood south of Venice	150	10	35	0	0	0	0	0	450	45	0	25	905	0		0	0	0	0	0	0	0	**1,620**
Centinela south of Venice	230	30	235	5	0	15	0	5	0	350	10	115	2,140	0	0		0	0	0	0	0	10	**3,145**
Walgrove south of Venice	100	5	5	0	0	0	0	0	0	25	0	30	370	0	0	0		0	0	0	0	0	**535**
Lincoln south of Venice	1,130	30	0	0	0	0	0	0	0	30	0	0	170	0	0	0	0		0	0	0	0	**1,360**
Abbot Kinney btw Washington Way & Victoria Ave	730	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	**745**
Ocean Ave south of Venice	1,920	65	0	0	0	0	0	0	0	20	0	5	240	0	0	0	0	0	0		0	0	**2,250**
Pacific Ave south of Venice	1,355	15	0	5	0	0	0	0	0	30	0	5	665	0	0	0	0	0	0	0		0	**2,075**
I-10 at Barrington	28,365	845	50	0	0	0	0	10	645	285	5	0	0	0	0	10	0	0	0	0	0		**30,215**
Total	**35,165**	**6,115**	**3,655**	**240**	**5,370**	**2,370**	**190**	**205**	**1,500**	**1,430**	**220**	**245**	**4,840**	**430**	**1,620**	**3,145**	**535**	**1,360**	**745**	**2,250**	**2,075**	**30,215**	**23,380**

Note: All trips are rounded to the nearest 5.
Source: SCAG

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SANTA MONICA
EXTERNAL STATION WEIGHTS
FIGURE 4

Calibration of the street network included modification of the centroid connectors to more accurately represent the location at which traffic accesses local roads; adjustment of speeds from posted speed limits to reflect the attractiveness of the route and the prevailing speed of traffic; and refinement of turn penalties.

Turn Penalties

Turn penalties are used to prohibit or add delay to certain turning movements. The Santa Monica model prohibits traffic from getting off a freeway ramp and then immediately getting back on. The model also prohibits traffic from making turns across impassable medians. In addition, the model does not allow U-turns in order to avoid counter-intuitive traffic routing. Information on prohibited turns was provided by the City and supplemented with field surveys. Turn penalties may be in effect during the entire day, or only during one or both peak periods.

MODEL VALIDATION

Model validation is the term used to describe model performance in terms of how closely the model's output matches existing travel data in the base year. During the model development process, these outputs are used to further calibrate model inputs. The extent to which model outputs match existing travel data validates the assumptions of the inputs.

Traditionally, most model validation guidelines have focused on the performance of the trip assignment function in accurately assigning trips to the street network. This metric is called static validation, and it remains the most common means of measuring model accuracy.

Models are seldom used for static applications; however, by far the most common use of models is to forecast how a change in inputs would result in a change in traffic conditions. Therefore, another test of a model's accuracy focuses on the model's ability to predict realistic differences in outputs as inputs are changed. This method is referred to as dynamic validation. This section describes the highest-level validation checks that have been performed for the Santa Monica model.

STATIC VALIDATION

The most critical static measurement of the accuracy of any travel model is the degree to which it can approximate actual traffic counts in the base year. Caltrans has established certain trip assignment guidelines for models forecasting future year traffic in *Travel Forecasting Guidelines* (California Department of Transportation, November 1992). The validity of the Santa Monica model was tested under daily, AM peak hour, and PM peak hour conditions. Model volumes were compared to existing traffic counts at 198 individual count sites for daily validation, and 560 count sites for AM and PM peak hour validation. The results are shown in Tables 10 and 11.

Link volume results from model runs were examined and checked for reasonableness. Links where model results varied substantially from the observed counts were identified, and the characteristics of these links were reviewed to ensure that the link attributes reflected local operating conditions. In some cases, link characteristics such as speeds were modified to better reflect conditions on the ground.

Comparison Techniques

Travel model accuracy is usually tested using four comparison techniques:

- The volume-to-count ratio is computed by dividing the model volume by the actual traffic count for individual roadways (or intersections) area-wide.
- The maximum deviation is the difference between the model volume and the actual count divided by the actual count.
- The correlation coefficient estimates the relationship between actual traffic counts and the estimated traffic volumes from the model.
- The percent root mean square error (RMSE) is the square root of the model volume minus the actual count squared, divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model.

TABLE 10 RESULTS OF DAILY MODEL VALIDATION		
Validation Item	**Criterion for Acceptance**	**Model Results**
Count Locations	N/A	198
% of Links Within Caltrans Standard Deviations	At Least 75%	75%
% of Screenlines Within Caltrans Standard Deviations	100%	100%
2-way Sum of All Links Counted	Within ± 10%	6%
Correlation Coefficient	Greater than 88%	98%
RMSE	40% or less	24%
Source: Fehr & Peers, 2009.		

TABLE 11 RESULTS OF PEAK HOUR MODEL VALIDATION			
Validation Item	**Criterion for Acceptance**	**AM Peak Hour Model Results**	**PM Peak Hour Model Results**
Count Locations	N/A	560	560
% of Links Within Caltrans Standard Deviations	At Least 75%	77%	78%
% of Screenlines Within Caltrans Standard Deviations	100%	100%	100%
2-way Sum of All Links Counted	Within ± 10%	-6%	5%
Correlation Coefficient	Greater than 88%	95%	94%
RMSE	40% or less	25%	29%
Source: Fehr & Peers, 2009.			

Validation Guidelines

For a model to be considered accurate and appropriate for use in travel forecasting, it must replicate actual conditions within a certain level of accuracy. Since it would be impossible for any model to replicate all counts precisely, validation guidelines have been established by Caltrans and other agencies. Key validation standards for daily travel models based on the Caltrans guidelines are summarized below:

- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 15 to 60 percent depending on total volume (the larger the volume, the less deviation is permitted).
- All of the roadway screenlines should be within the maximum desirable deviation, which ranges from approximately 15 to 64 percent depending on total volume.
- The two-way sum of the volumes on all roadway links for which counts are available should be within 10 percent of the counts.
- The correlation coefficient between the actual ground counts and the estimated traffic volumes should be greater than 88 percent.

Although not stated in the Caltrans standards, an additional Fehr & Peers validation guideline was applied to the Santa Monica model:

- The RMSE should not exceed 40 percent.

DYNAMIC VALIDATION

The traditional approach to the validation of travel demand models is to compare the link volumes for the model's base year to actual traffic counts. This approach provides information on a model's ability to reproduce a static condition. While reproducing these conditions is very important, it is also important to know that the model will produce stable and reasonable results when various inputs such as land use are changed. The following section presents a selection of the dynamic validation results.

Land Use Changes

A basic form of dynamic validation is to vary the amounts of a particular land use type and compare the magnitude and direction of change from the original forecast. Of particular interest are changes in:

- Vehicle Trips (VT)
- Change in VT per land use unit change (VT/DU or KSF)
- Vehicle Miles Traveled (VMT)
- Change in VMT per land use unit change (VMT/DU or KSF)
- Vehicle Hours Traveled (VHT)
- Change in VHT per land use unit change (VHT/DU or KSF)
- Vehicle miles traveled per vehicle trip (VMT/VT)

This form of dynamic validation was performed on the Santa Monica model by adjusting the number of multi-family one car dwelling units and the retail development in TAZs 150 and 539. These zones were

selected due to their geographic location and the existing land use mix within the zone. To isolate each of these changes, tests were done sequentially, changing one item at a time.

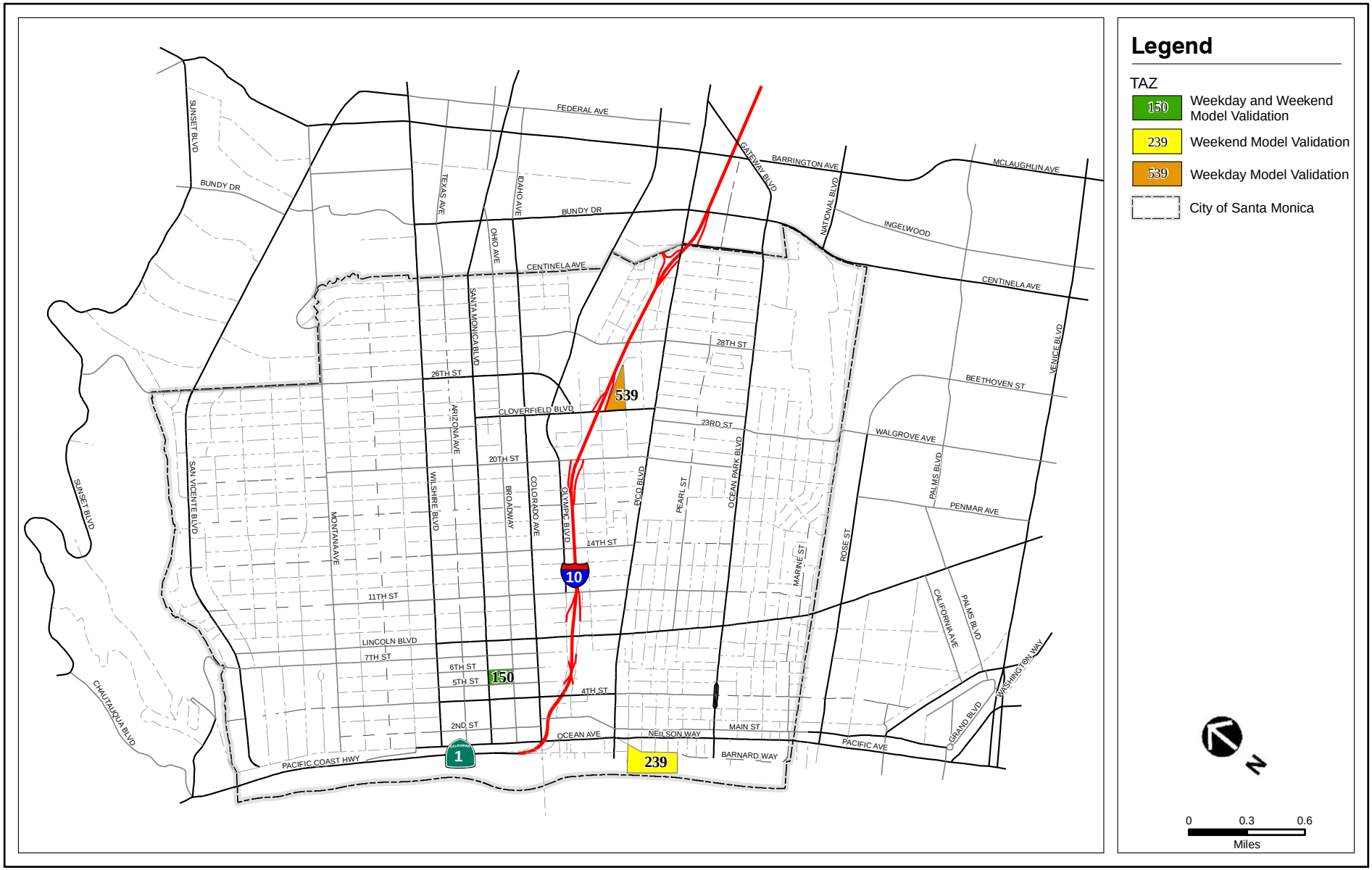
Figure 5 shows the location of the zones that were used for dynamic validation. Zone 150 is located downtown near the intersection of 5th Street and Santa Monica Boulevard and contains a broad mix of residential and non-residential land uses. Zone 539 is located near Clover Park and contains only single-family dwelling units. The values added to a zone were selected based on adjacent land uses. The results are shown in Table 12.

- The change in VT per added DU ranges from 2.7 – 3.2. This is reasonable given the mix of land uses in the various zones and the different trip generation rates of each area type. Within each individual area type there is slight variability, showing stable trip generation across the range of land use magnitudes. The average vehicle trips per added DU are lower for zone 150 due to the abundance of other land uses for the residents to interact with.

- Adding a single DU to the model is a test of how much noise (random error) is in the model. Total VMT changed by between 7 and 25 vehicle miles per day per dwelling unit added, depending on the zone it was added to. Both zones showed a little noise when a single dwelling unit was added. However, both zones perform very well when a realistic quantity of development is added.

- The VHT per DU change is fairly stable around -3.0 to 1.4. There is some noise when adding a single dwelling unit to zone 539. Again, the noise at this extremely small level of change is no longer present for typical increases in the level of development.

- Adding retail land uses to either zone shows a high level of stability and logical results in all metrics. VT/KSF is lower downtown than in the zone near Clover Park, which would be expected given the character of the surrounding area. Similarly, VT/KSF generally declines with an increase in the quantity of retail land use added. Finally, VHT/KSF is greater downtown where travel is generally slower than in other parts of the City.



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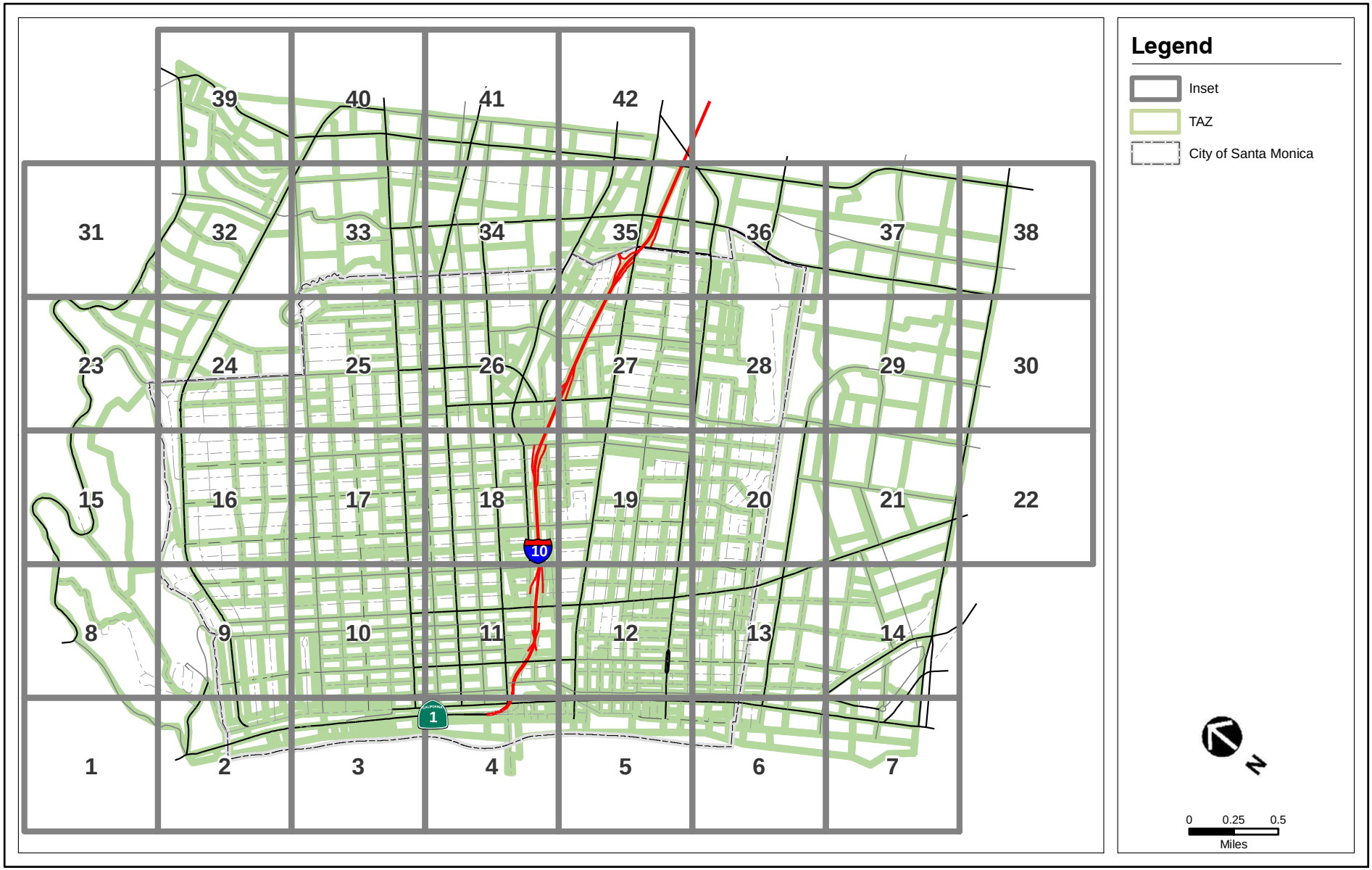
SANTA MONICA
TAZs USED FOR DYNAMIC MODEL VALIDATION
FIGURE 5

TABLE 12 RESULTS OF DYNAMIC VALIDATION TESTS								
TAZ	Scenario	Vehicle Trips (VT)1	Change in VT/DU or KSF Change	Vehicle Miles Traveled (VMT)1	Change in VMT/DU or KSF Change	Vehicle Hours Traveled (VHT)1	Change in VHT/DU or KSF Change	VMT/VT
Residential Land Use Results - Multifamily Unit with 1 Car								
Base Case		1,120,686	N/A	2,997,763	N/A	123,809	N/A	2.67
150 - Downtown	Added 1 DU	1,120,689	3.0	2,997,788	25.0	123,811	2.0	2.67
	Added 50 DUs	1,120,821	2.7	2,998,112	7.0	123,833	0.5	2.67
	Added 100 DUs	1,120,954	2.7	2,998,463	7.0	123,859	0.5	2.67
549 - Near Clover Park	Added 1 DU	1,120,689	3.0	2,997,775	12.0	123,806	-3.0	2.67
	Added 50 DUs	1,120,845	3.2	2,998,127	7.3	123,838	0.6	2.67
	Added 100 DUs	1,121,001	3.2	2,998,479	7.2	123,867	0.6	2.67
Retail Land Use Results								
Base Case		1,120,686	N/A	2,997,763	N/A	123,809	N/A	2.67
150 - Downtown	Added 1 KSF	1,120,707	21.0	2,997,817	54.0	123,815	6.0	2.67
	Added 10 KSF	1,120,876	19.0	2,998,363	60.0	123,857	4.8	2.68
	Added 50 KSF	1,121,628	18.8	3,000,710	58.9	124,057	5.0	2.68
549 - Near Clover Park	Added 1 KSF	1,120,711	25.0	2,997,827	64.0	123,812	3.0	2.67
	Added 10 KSF	1,120,925	23.9	2,998,321	55.8	123,854	4.5	2.67
	Added 50 KSF	1,121,890	24.1	3,000,634	57.4	124,059	5.0	2.67

[1] VT, VMT, and VHT, as reported here, represent all model area trips on the model network, including through trips. This approach is taken to measure the effect of these changes on the model area as a whole. Performance measures reported in other documents using model data may differ in methodological approach.

Source: Fehr & Peers, 2009.

APPENDIX A:
TRAFFIC ANALYSIS ZONES KEY MAP



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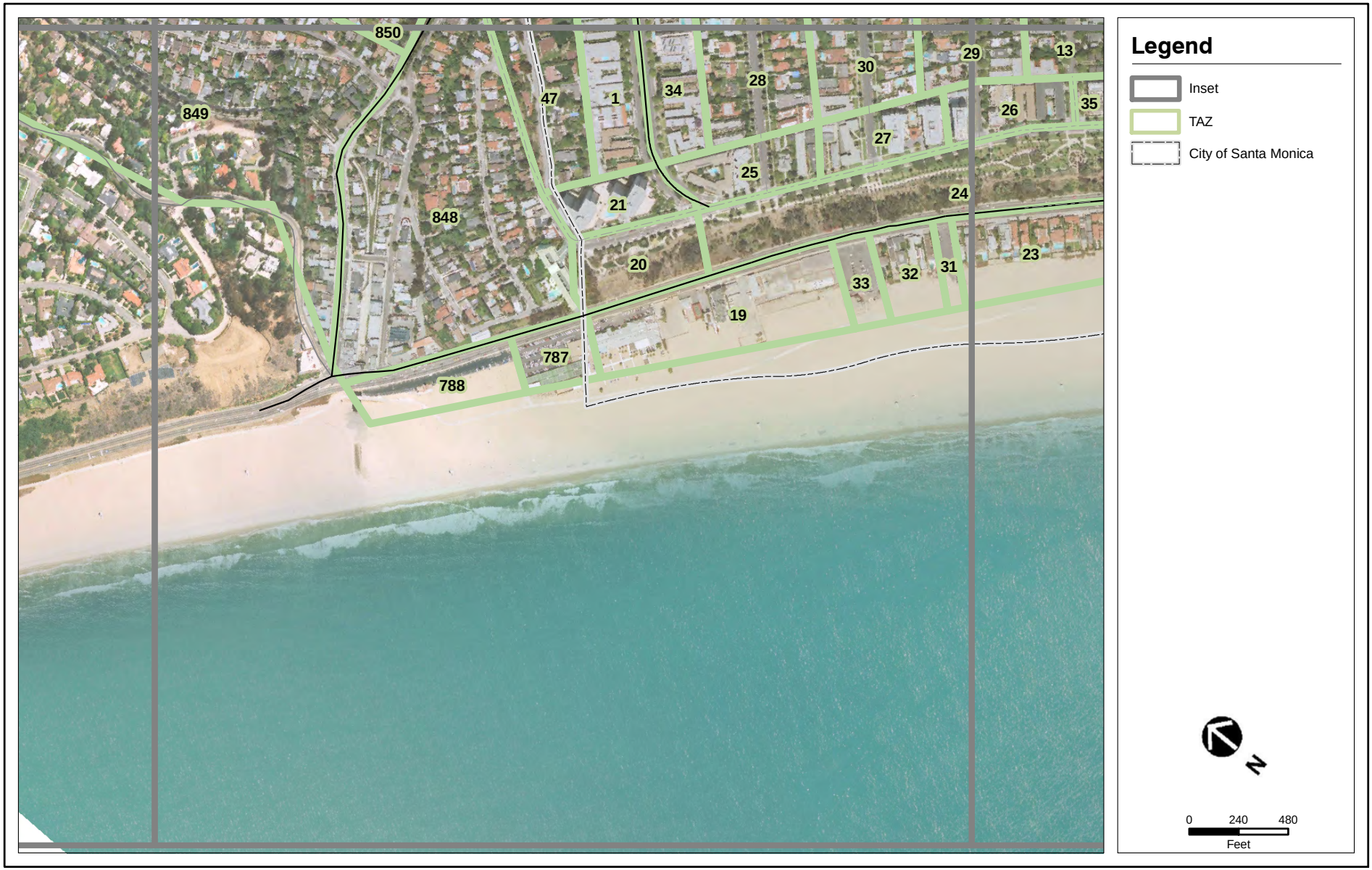
TRAFFIC ANALYSIS ZONES
KEY MAP



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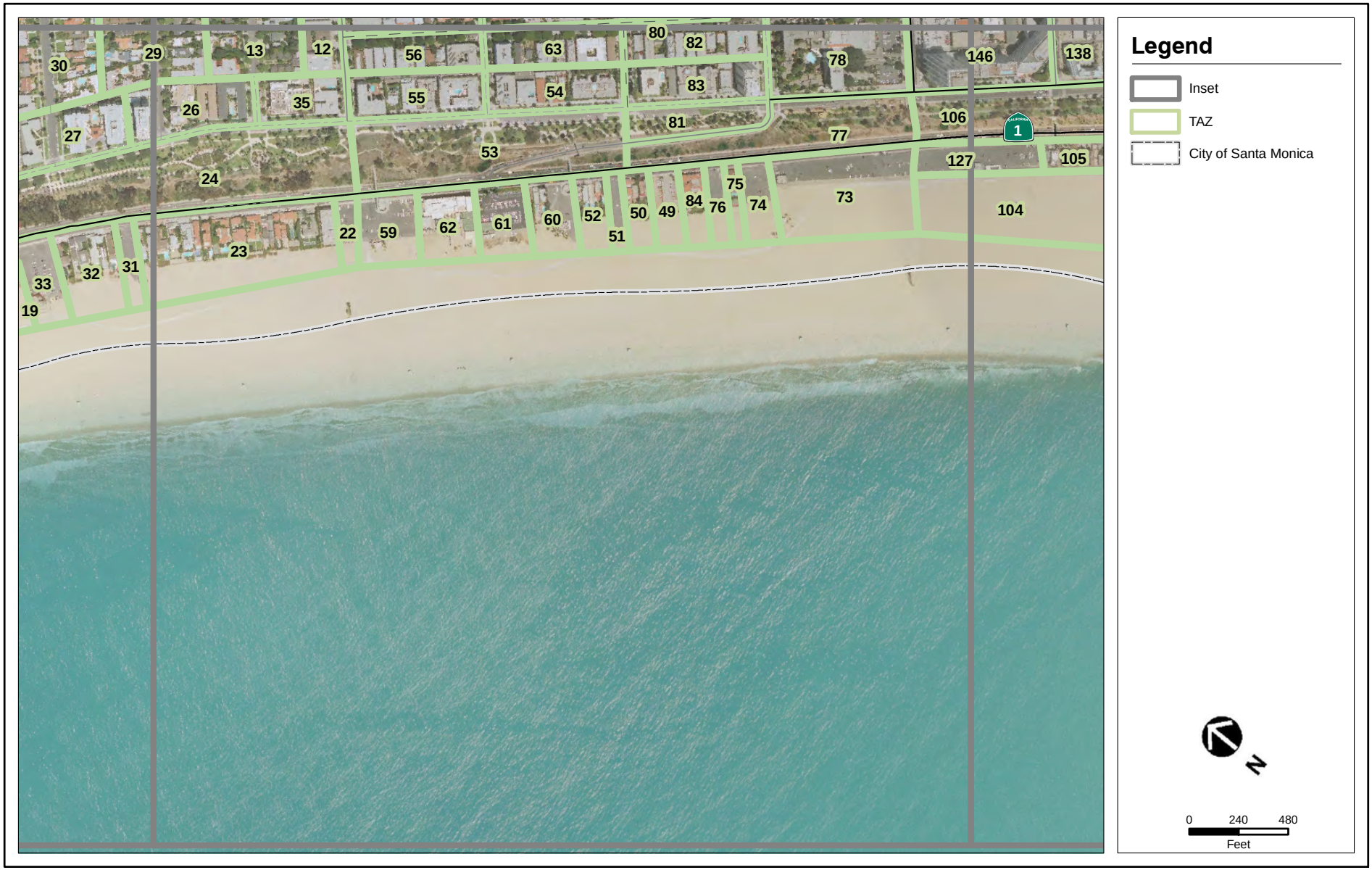

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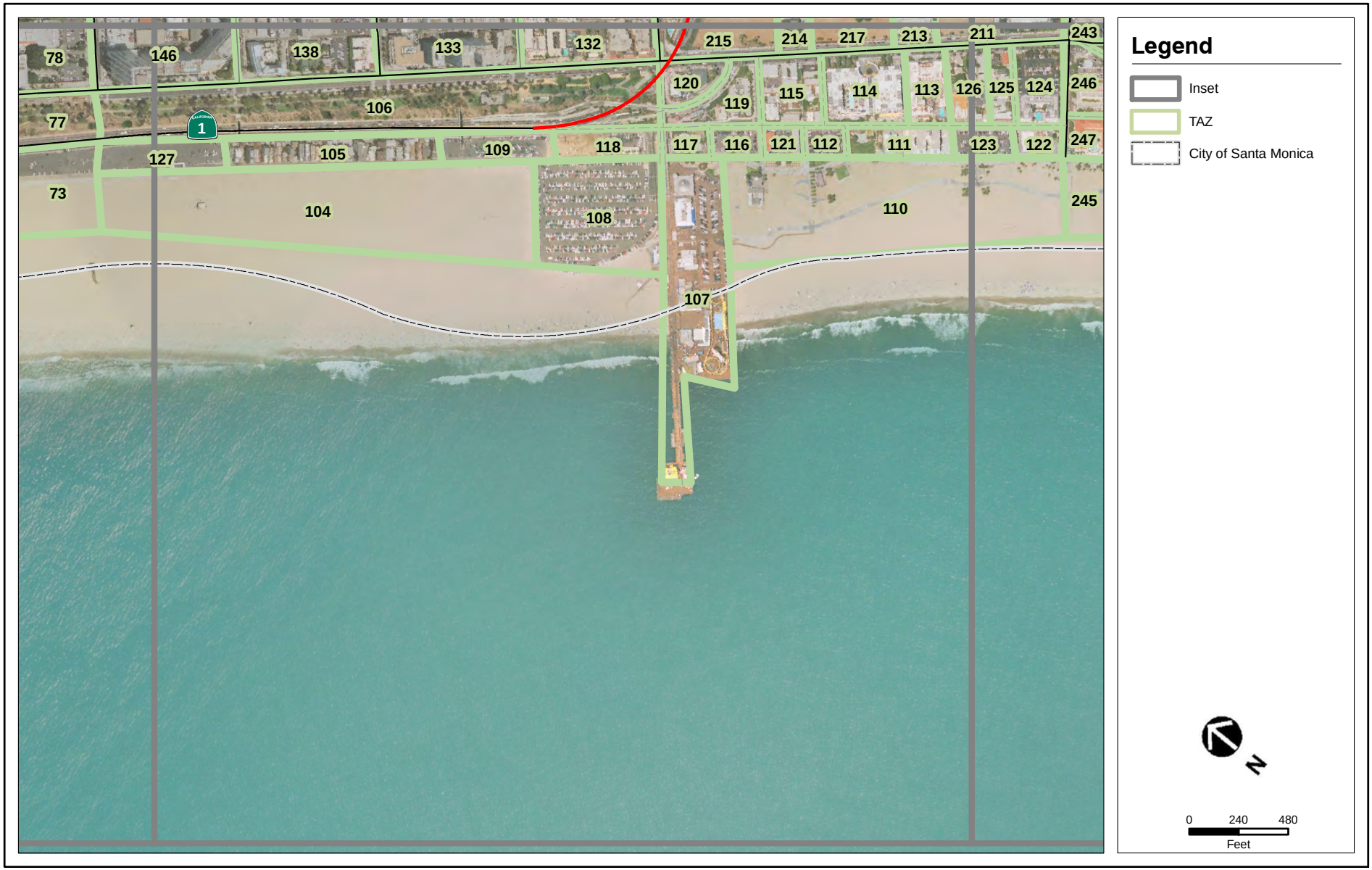

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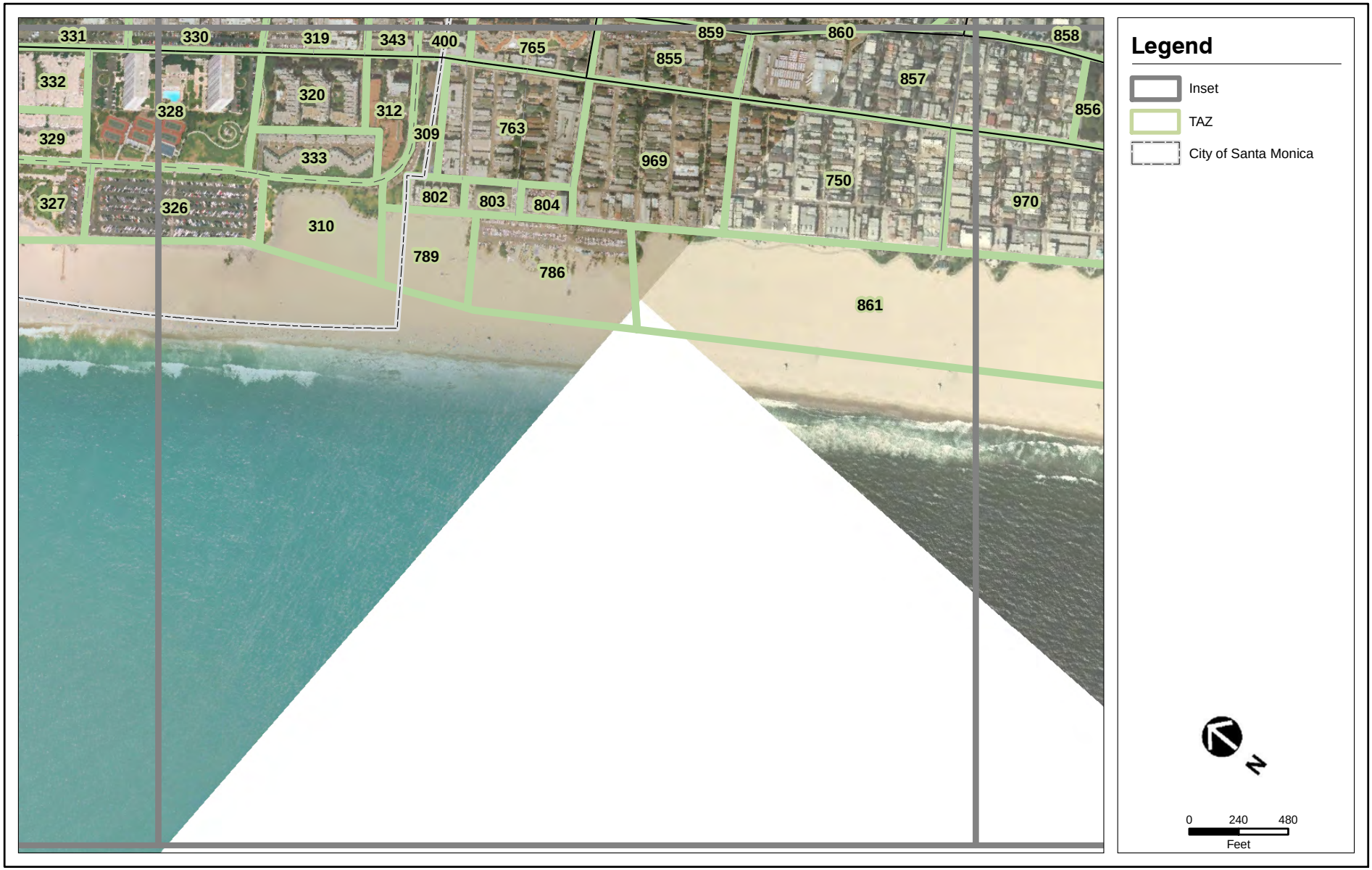

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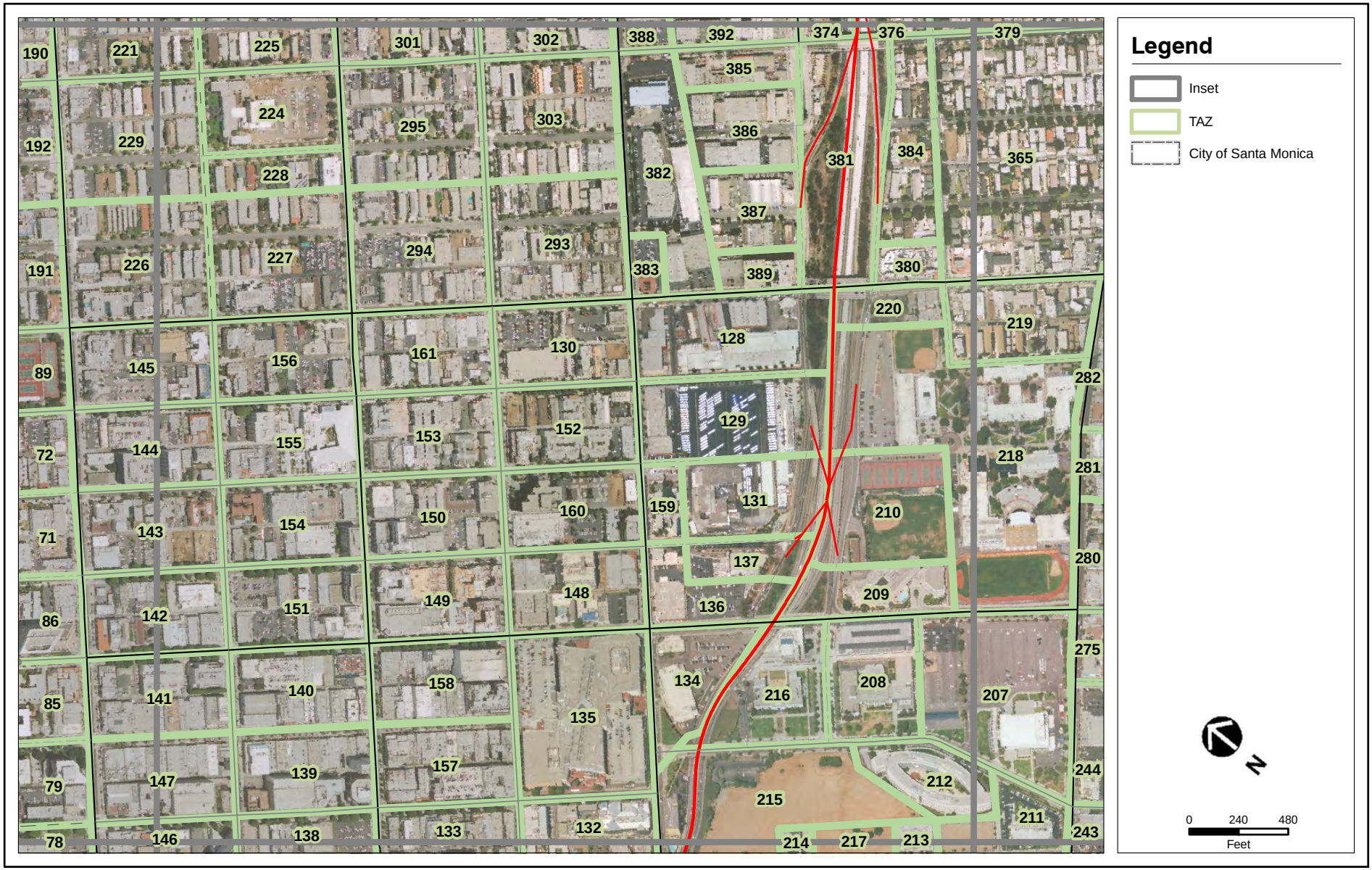

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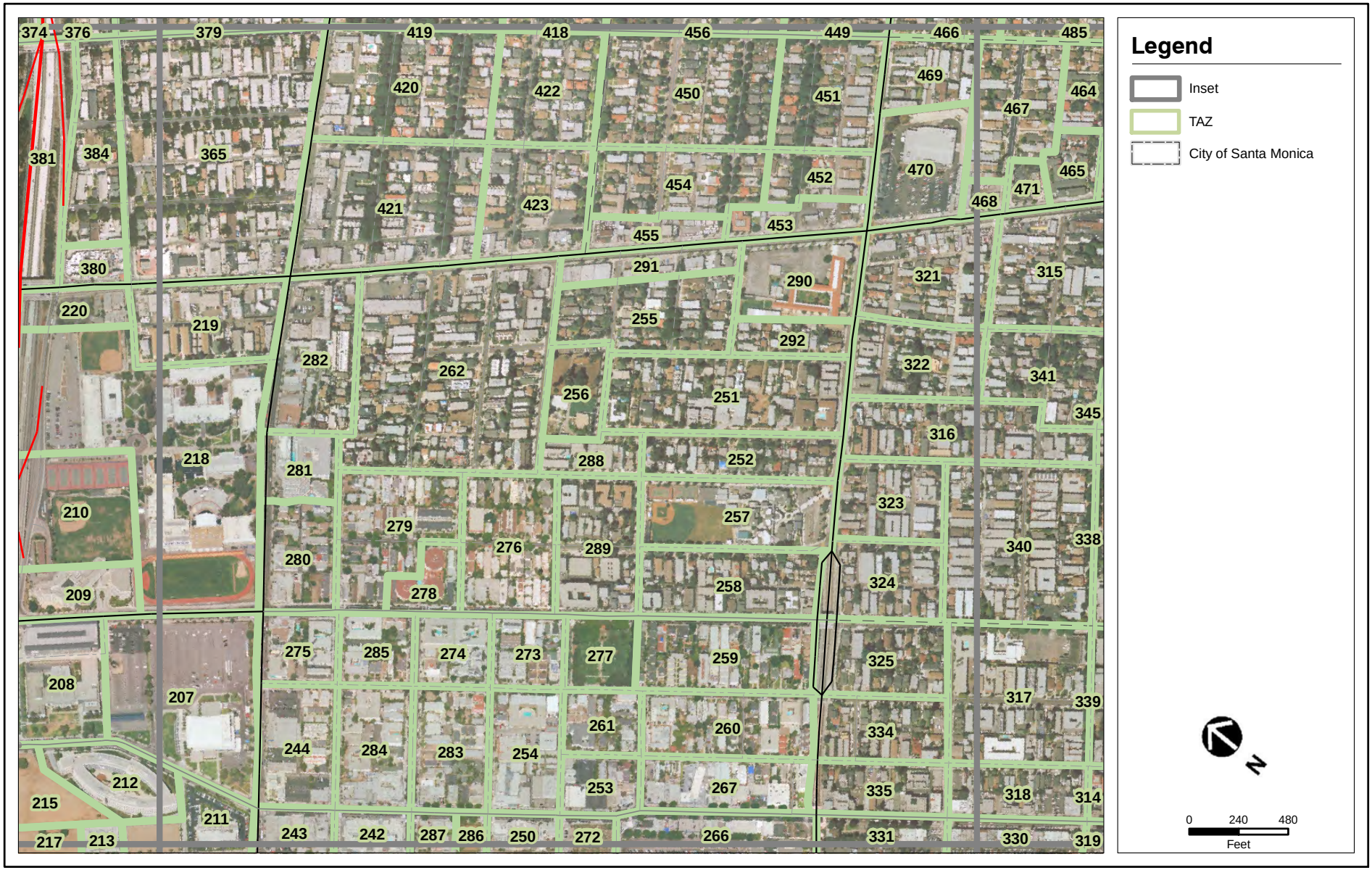

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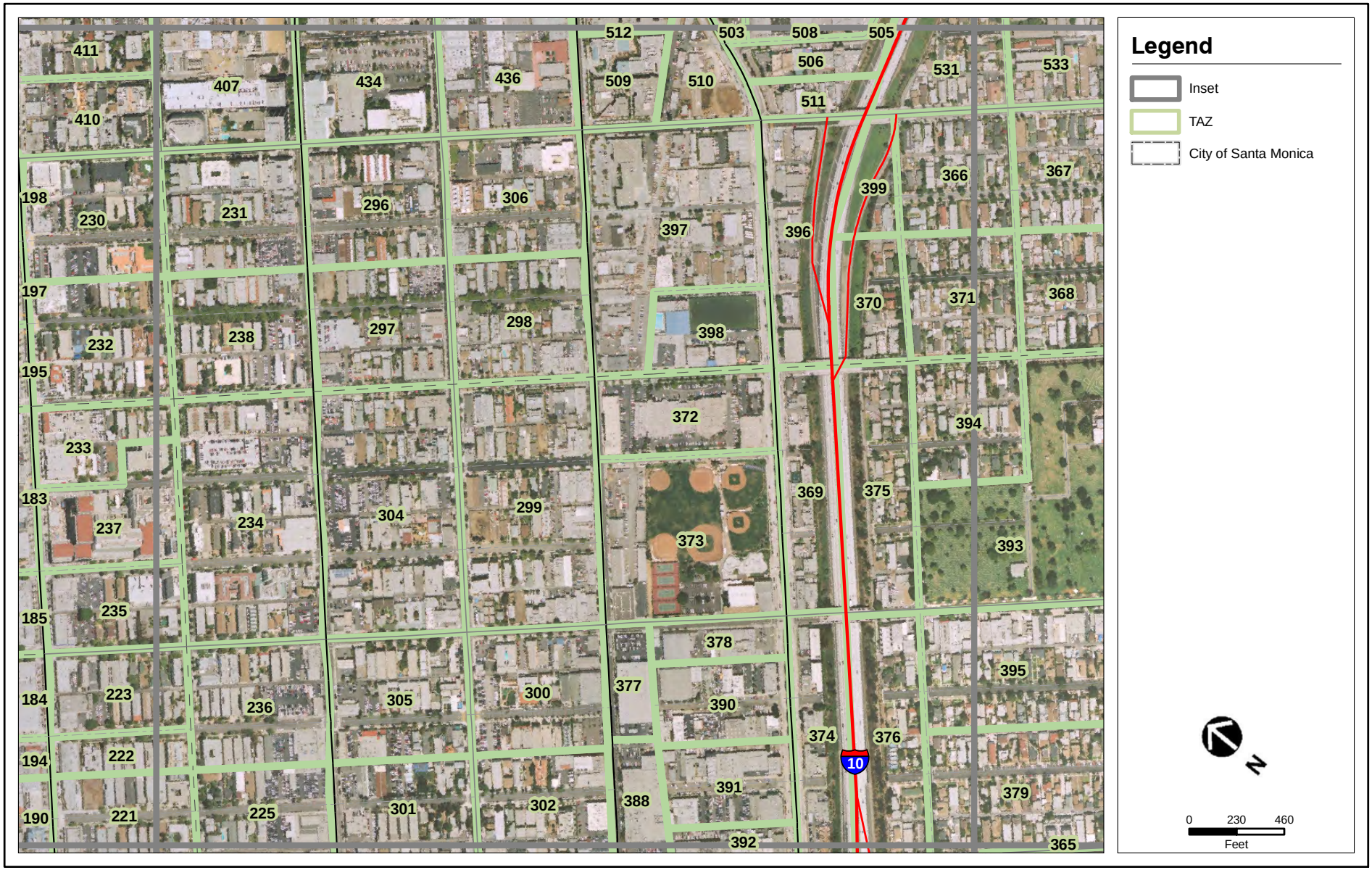

Legend

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- TAZ
- City of Santa Monica

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TRAFFIC ANALYSIS ZONES
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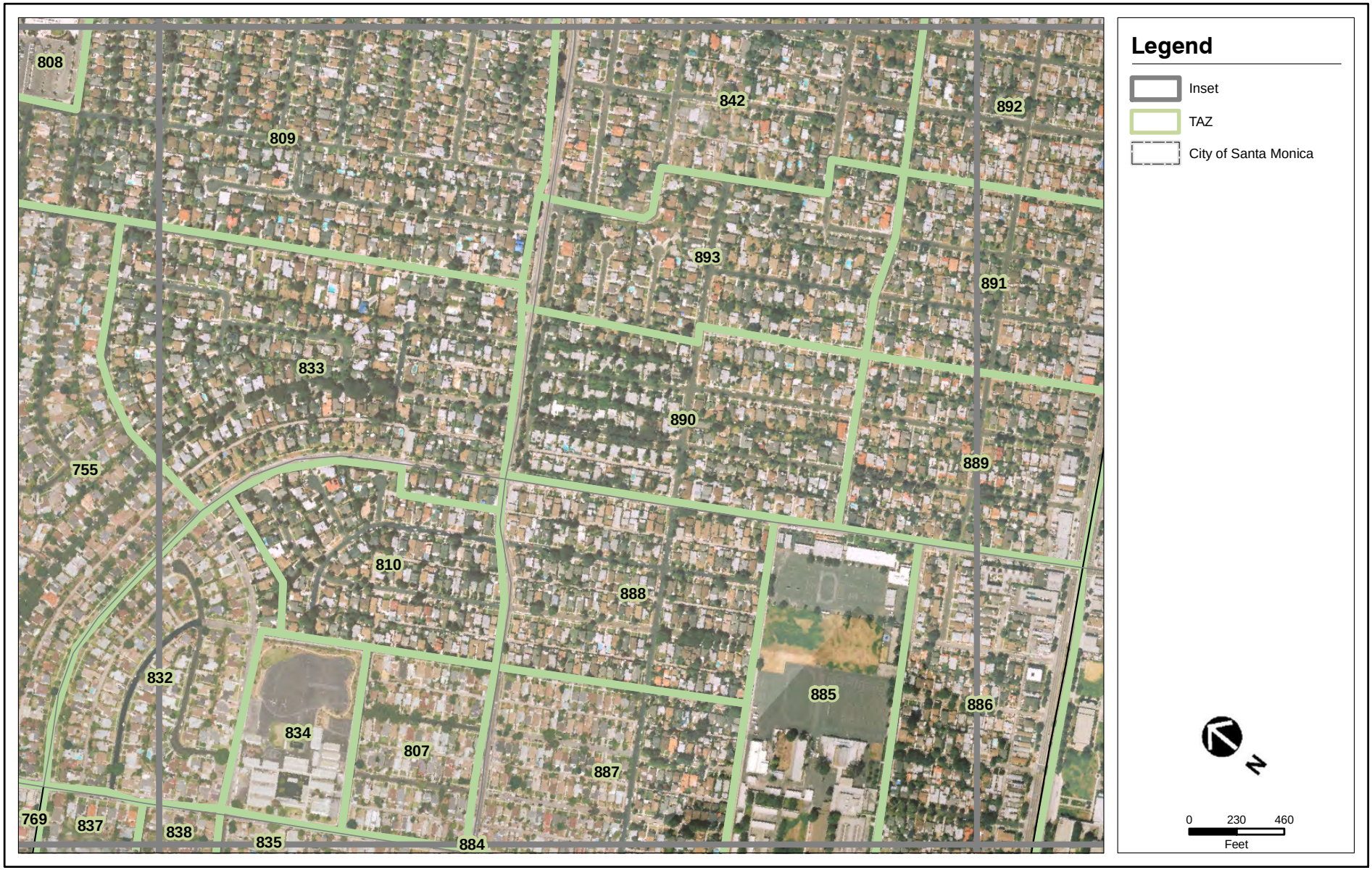

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TRAFFIC ANALYSIS ZONES
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TRAFFIC ANALYSIS ZONES
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- TAZ
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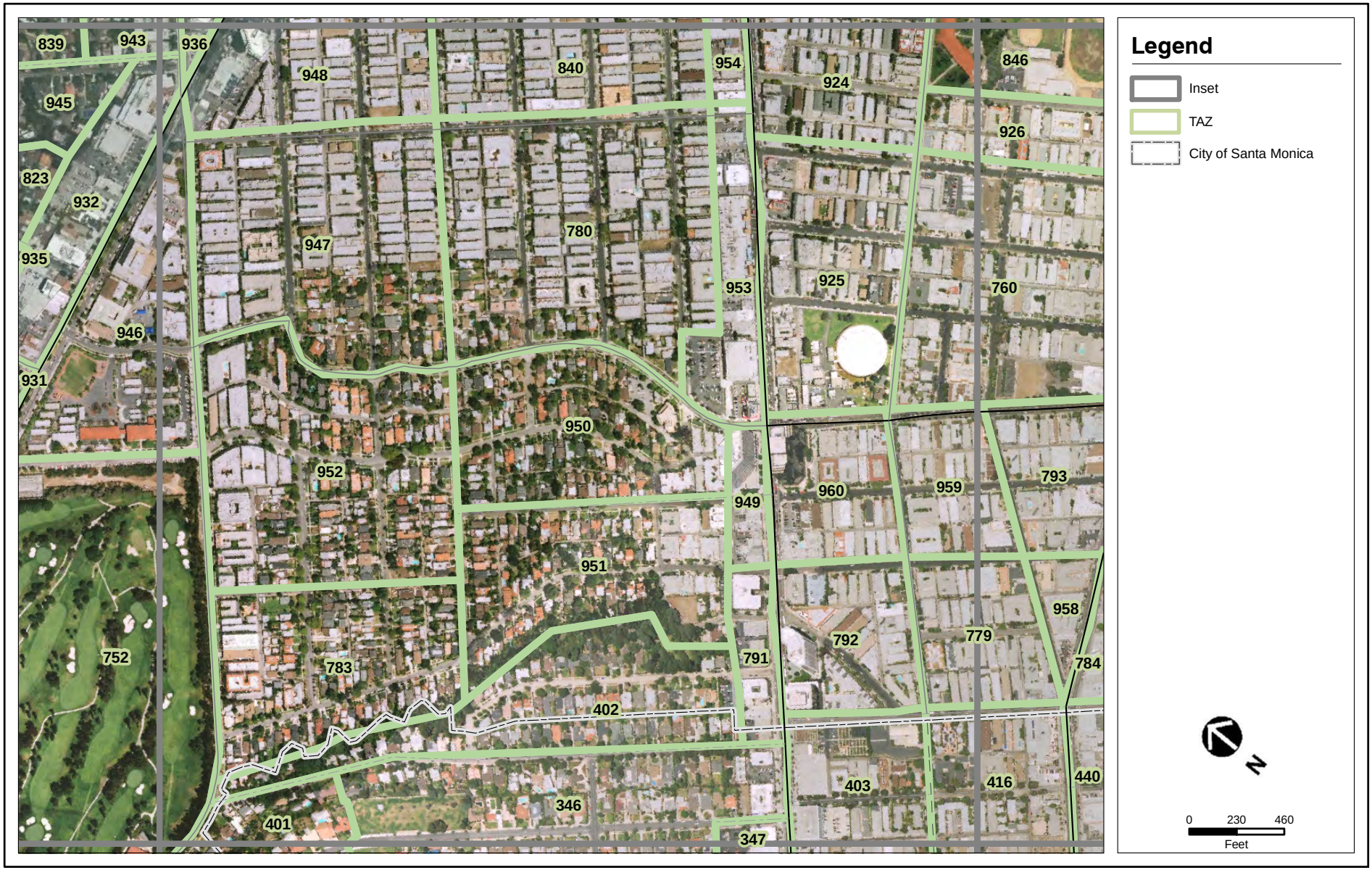

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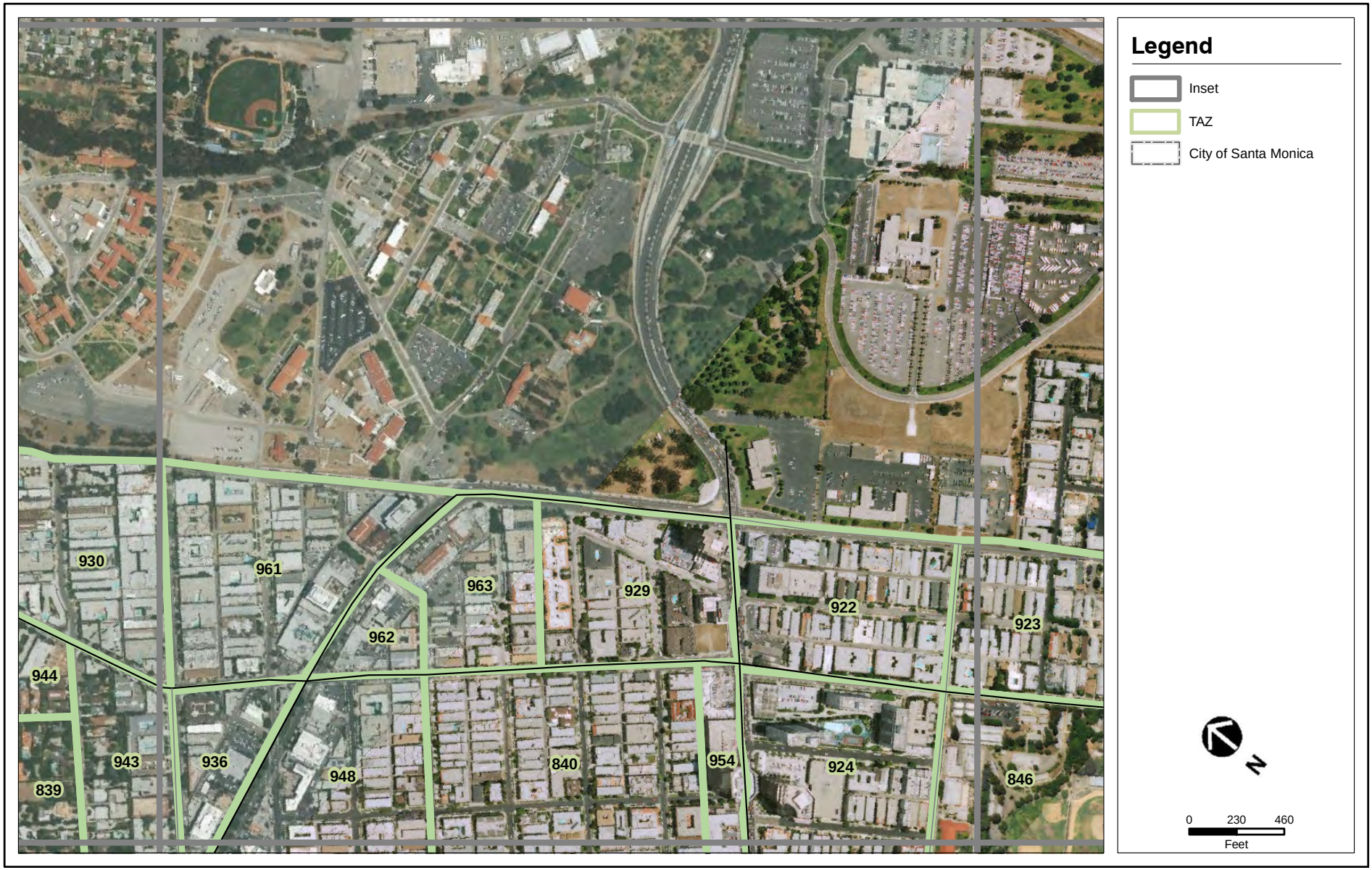

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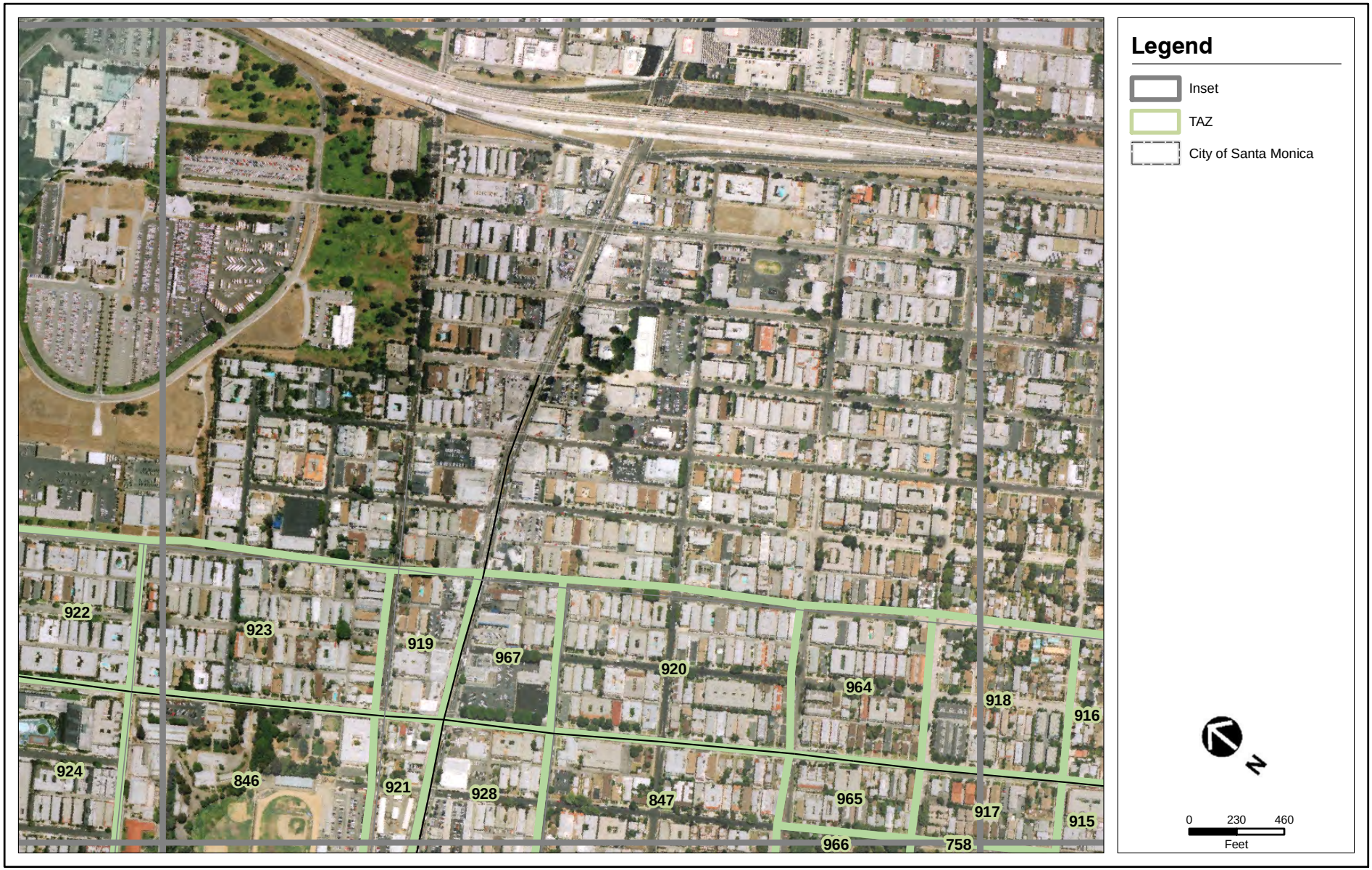

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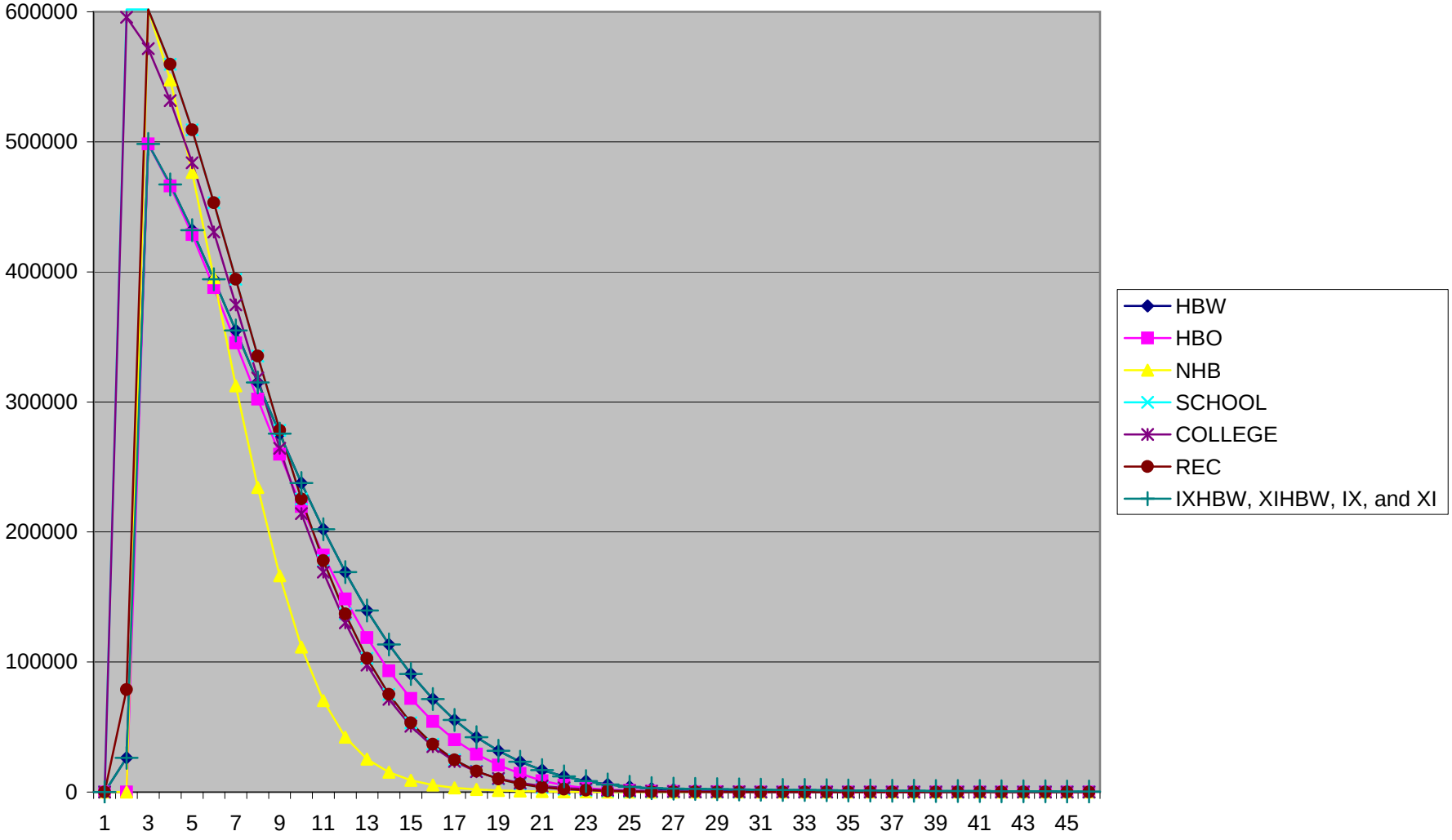
APPENDIX B:
SANTA MONICA MODEL FRICTION FACTOR CURVES

APPENDIX B
Friction Factors



FEHR PEERS

DRAFT MEMORANDUM

Date: April 10, 2015

To: Rachel Kwok, City of Santa Monica

From: Tom Gaul, Jeff Pierson, and Jill Liu, Fehr & Peers

Subject: ***City of Santa Monica Travel Demand Forecasting Model Update Report***

Ref: SM13-2611

Fehr & Peers has completed a comprehensive update of the City of Santa Monica's Travel Demand Forecasting Model (TDFM). The base year of the model was upgraded from 2008 to 2013 conditions using network and land use information collected during fall 2013. The TAZ system was also updated to be consistent with the previously expanded TAZ system for the Bergamot Area Plan analysis. New traffic volumes were collected during this period to calibrate and validate the base year model.

The model framework was rewritten to run in an updated version of TransCAD (version 5.0 R4, build 2025). The model structure was also updated to make it easier to manage different scenarios (weekday and weekend) and forecast years (2013, 2025, and 2030). Assignment options can now be selected from directly within the new model interface. In addition, several preparation procedures that were previously calculated outside of the model have been incorporated into the model framework to reduce the number of steps required to run the model.

As part of the model update, Fehr & Peers used the best available tools to prepare and analyze the results from the model. The Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan (RTP) model provided information about the land use and trips outside of the City of Santa Monica. The City's TRAFFIX database, which was used to analyze intersection level of service (LOS), has been upgraded to PTV's VISTRO platform to incorporate more robust signal timing information and to use the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2010) LOS methodology. Finally, the greenhouse gas (GHG) emissions calculations are now done in the latest version of the EMFAC software (EMFAC2011-SG) provided by California Environmental Protection Agency's Air Resources Board.

BACKGROUND

The City of Santa Monica Travel Demand Forecasting Model was originally developed in 2009 to analyze the potential impacts of the 2030 Land Use and Circulation Element (LUCE). The development of and calibration of this model was documented in *Santa Monica LUCE Model Development Report* (Fehr & Peers, December 2009). Since the development of the original 2008 and 2030 weekday models, weekend models as well as several interim year development review models were also developed. The 2030 planning scenario model has also been used to analyze the potential impacts of both the Bergamot Area Plan and the Downtown Specific Plan. Significant network enhancements were made for both of these projects to improve the quality of the model results.

The purposes of this model update were numerous:

- Update the base year of the model to 2013 conditions
- Merge all model years and scenarios into a consistent framework
- Incorporate the latest regional assumptions from the SCAG 2012 RTP
- Upgrade the model interface to run in a more recent version of TransCAD
- Combine all previous model improvements into the base year model
- Streamline the model preparation process to decrease model run time
- Use the latest tools to prepare model inputs and analyze results (TDM+ and EMFAC2011)

BASE YEAR MODEL INPUT DATA

The data that were used as inputs to the updated model were collected in September 2013. Traffic counts were collected during this time by both Fehr & Peers and the City of Santa Monica. The City also provided information on land use and street network changes that had occurred since the 2008 model was developed. Information on land use and street network changes outside the City of Santa Monica was collected from the 2012 SCAG RTP.

Land Use Data

The City of Santa Monica maintains a parcel database with information on existing land use quantities. Fehr & Peers was provided with the changes in land use since the 2008 survey was conducted. The changes include both demolition and construction of new projects. These changes by land use category are shown in Table 1.

In addition to land use within the City of Santa Monica, the model also includes land use information for the neighborhoods bordering the City, within one mile of the city limits. This data is compiled from the most recent version of the SCAG RTP model and was disaggregated to match the Traffic Analysis Zone (TAZ) system in the City's model. The land uses changes for these areas are also shown in Table 1.

TABLE 1. BASE YEAR MODEL LAND USE COMPARISON

Land Use Category	Units	2008	2013	Delta
City of Santa Monica				
Single-family	Dwelling Units	7,584	7,565	-19
Multi-family	Dwelling Units	41,086	41,625	539
Convalescent Care	Dwelling Units	366	366	0
Residential Subtotal	*Dwelling Units*	*49,036*	*49,556*	*520*
Office	Thousand Square Feet	10,271	10,281	10
Creative Office	Thousand Square Feet	3,483	3,877	394
Government Office	Thousand Square Feet	416	389	-27
Medical Office	Thousand Square Feet	2,058	2,052	-7
Hospital	Thousand Square Feet	958	1,185	226
Retail	Thousand Square Feet	3,485	3,715	230
Personal Services	Thousand Square Feet	2,110	1,939	-171
Cultural	Thousand Square Feet	494	541	48
Entertainment	Thousand Square Feet	765	780	14
Nightlife	Thousand Square Feet	72	53	-19
Restaurant	Thousand Square Feet	1,177	1,240	63
Automotive	Thousand Square Feet	57	55	-2
Lodging	Thousand Square Feet	1,157	1,196	39
Religious	Thousand Square Feet	219	220	1
Police and Fire	Thousand Square Feet	226	226	0
Light Industrial	Thousand Square Feet	1,553	1,547	-5
Heavy Industrial	Thousand Square Feet	142	127	-15
Employment Subtotal	*Thousand Square Feet*	*28,643*	*29,423*	*780*
K-8 School	Students	8,391	8,391	0
High School	Students	4,148	4,148	0
College	Students	30,000	30,000	0
Airport	Based Aircraft	500	500	0
Recreation	Acres	328	321	-7
Adjacent Neighborhoods				
Residential	Dwelling Units	40,738	40,669	-69
Office	Employees	32,733	30,440	-2,293
Retail	Employees	3,993	3,917	-76
Industrial	Employees	4,585	3,814	-771
Education	Employees	5,854	5,458	-396
Employment Subtotal	*Employees*	*47,165*	*43,629*	*-3,536*

The land use changes within the City of Santa Monica show a 1 percent increase in dwelling units and a 3 percent increase in employment between 2008 and 2013. For the model area outside of the City, the SCAG 2012 RTP data shows a decrease in the number of dwelling units by less than half a percent and a decrease in the number of employees by 7 percent. This change likely reflects a refinement in how SCAG estimates total employment rather than an indication that the actual number of employees has decreased. Another change not shown in the table is the classification of households in the SCAG model. The 2012 RTP separates single-family and multi-family households for the first time. This information allows a better estimate of the number of vehicle trips generated outside the City since single-family homes generate more vehicle trips than multi-family homes. Combined with the decrease in employment, the net impact of these two changes from the SCAG data is fewer vehicle trips generated in the portion of the model outside the City of Santa Monica.

Traffic Analysis Zone System

Travel demand models use TAZs to subdivide the study area to connect land uses to the street network. TAZs represent physical areas that contain land uses that produce or attract vehicle trips ends. The 2008 model included 599 TAZs in the City of Santa Monica and 225 TAZs for the areas outside of the City. The number of TAZs in Santa Monica was increased to 612 in the 2030 forecast model used to analyze the Bergamot Area Plan.

For this model update, those TAZ changes were replicated in the new 2013 model to provide consistency between the base and future scenarios. The boundaries of TAZs around Tongva Park were adjusted to better align with the development that has occurred since 2008. A single TAZ was also added in this area to separate the land uses north and south of the I-10 freeway. The final number of TAZs that represent the City of Santa Monica in the new 2013 model is 613. The number of TAZs outside the City was unchanged.

Street Network

The model street network includes all freeways, state highways, arterials, collectors, and local roads within the study area. Modifications to the street network were made to incorporate changes that occurred between 2008 and 2013. The final street network used in the model is consistent with the roadway network when traffic counts were collected in September 2013. Any lane reductions or turn restrictions associated with construction activities at that time were included in the model. The network was modified to reflect changes associated with the following projects:

- Construction of Metro Expo Light Rail Line extension along Colorado Avenue
- Median installation along Ocean Avenue between Olympic Boulevard and Pico Boulevard
- Removal of on-street parking to provide a second travel lane on westbound Santa Monica Boulevard between 2nd Street and 5th Street
- Santa Monica Place renovation

Each street in the model is coded with free flow speed, hourly capacity, and the number of lanes. While the land use data and TAZ system are consistent across all scenarios, the attributes of the street network can vary by time of day or day of the week across the five analysis periods in the model:

- Weekday: Daily, AM Peak Hour, and PM Peak Hour
- Saturday: Daily and Midday (MD) Peak Hour

Within the model area, there are only two locations where the number of travel lanes changes throughout the day. There are weekday peak hour parking restrictions on:

- Wilshire Boulevard between Centinela Avenue and Barrington Avenue
- Santa Monica Boulevard between Bundy Drive and Barrington Avenue

Other network attributes are adjusted during the calibration process for each time period to reflect actual conditions at specific locations.

BASE YEAR MODEL CALIBRATION

A travel model is calibrated by adjusting certain parameters to match travel estimates from the model with data from the actual area being modeled. Parameters from the 2008 calibrated model were used as starting points and only adjusted when necessary.

Trip Generation

Trip generation rates relate the number of vehicle trips going to and from a site to some measure of the intensity of use at the site. Each trip has two ends: a production and an attraction. By convention, trips with one end at a residence are defined as being produced by the residence and attracted to the other use (workplace, school, shopping, etc.) and are called home-based trips. Trips that do not have one end at a residence are called non-home-based trips. There are six trip purposes used in the model:

- Home-based work (HBW) trips are between a residence and a workplace
- Home-based other (HBO) trips are between a residence and any other destination
- Non-home-based (NHB) trips do not begin or end at a residence
- School (SCHOOL) trips are to or from a K-12 school
- College (COLLEGE) trips are to or from a college or university
- Recreational (REC) trips are to or from parks and beaches

School, college, and recreational trips are a type of home-based other trip and have been separated in the model to better calibrate those trip purposes. For each land use type, the total daily trips are divided among the six trip purposes. While the trip rates are consistent between the 2008 and 2013 models, the trip purpose percentages were slightly adjusted to balance the total production trip ends and attraction

trip ends for each purpose. Table 2 shows the percent of daily vehicle trips by purpose for both 2008 model and the 2013 model.

TABLE 2. BASE YEAR DAILY TRIP PURPOSE PERCENTAGES

Purpose	2008 Weekday	2013 Weekday	2008 Saturday	2013 Saturday
Home-based work	25%	26%	8%	8%
Home-based other	42%	41%	55%	53%
Non-home-based	27%	26%	28%	28%
School	3%	3%	0%	0%
College	3%	3%	0%	0%
Recreation	1%	1%	9%	10%

The table shows consistent results between the two models, which is expected since only minor changes in land use occurred between 2008 and 2013. In both models, the Saturday scenario has fewer home-based work, school, and college trips than the weekday scenario. There are corresponding increases in home-based other and recreation trips.

Trip generation rates are defined for daily total trips by land use type and then split among the various trip purposes and analysis periods. The model uses different trip rates for the weekday and weekend scenarios. The daily trip generation rates in the 2008 weekday model were developed from a variety of sources. These included residential trip generation surveys, the *Trip Generation, 8th Edition* (ITE, 2008) the 2008 SCAG RTP model, a San Diego Association of Governments (SANDAG) trip generation survey, and other calibrated models within Los Angeles County developed by Fehr & Peers. The daily trip generation rates in the 2008 Saturday model were primarily developed using information from *Trip Generation, 8th Edition*.

After reviewing the daily trip generation rates by land use type, it was determined that no substantial changes had occurred since the rates were initially developed that would justify changing the values for the 2013 model. Tables 3 and 4 show the trip generation rates for the weekday and Saturday scenarios. There are four area types in the model, which allows different trip rates to be assigned based on specific development patterns with different land use characteristics and trip making patterns. Area 1 is Downtown Santa Monica and the Special Office District. Area 2 is the remaining residential and commercial areas of Santa Monica. Area 3 is the coastal area and Area 4 is outside the City of Santa Monica.

TABLE 3. BASE YEAR WEEKDAY DAILY VEHICLE TRIP GENERATION RATES

Land Use Category	Units	Area 1	Area 2	Area 3	Area 4
City of Santa Monica					
Single-family	Dwelling Units	10.0			-
Multi-family, zero cars	Dwelling Units	1.6	2.2		-
Multi-family, one car	Dwelling Units	3.2	3.9		-
Multi-family, two or more cars	Dwelling Units	5.5	6.5		-
Convalescent Care	Dwelling Units	-	2.0		-
Office	Thousand Square Feet	10.0	10.5	-	
Creative Office	Thousand Square Feet	9.0		-	
Government Office	Thousand Square Feet	36.0	80.0	-	
Medical Office	Thousand Square Feet	30.0		-	
Hospital	Thousand Square Feet	-	16.5	-	
Retail	Thousand Square Feet	29.8	41.0	38.8	-
Personal Services	Thousand Square Feet	20.0	44.3		-
Cultural	Thousand Square Feet	29.8			-
Entertainment	Thousand Square Feet	36.0	40.0		-
Nightlife	Thousand Square Feet	21.8			-
Restaurant	Thousand Square Feet	80.0	82.0	80.0	-
Automotive	Thousand Square Feet	152.8		-	
Lodging	Thousand Square Feet	1.9			-
Religious	Thousand Square Feet	9.1		-	
Police and Fire	Thousand Square Feet	6.3			-
Light Industrial	Thousand Square Feet	1.5		-	
Heavy Industrial	Thousand Square Feet	-	1.5	-	
K-8 School	Students	1.3		-	
High School	Students	-	1.7	-	
College	Students	-	1.2	-	
Airport	Based Aircraft	-	5.0	-	
Recreation	Acres	27.5	28.0	52.5	-
Adjacent Neighborhoods					
Single-family	Dwelling Units	-		10.0	
Multi-family	Dwelling Units	-		3.9	
Office	Employees	-		2.9	
Retail	Employees	-		16.5	
Industrial	Employees	-		1.2	
Education	Employees	-		1.5	

TABLE 4. BASE YEAR SATURDAY DAILY VEHICLE TRIP GENERATION RATES

Land Use Category	Units	Area 1	Area 2	Area 3	Area 4
City of Santa Monica					
Single-family	Dwelling Units	9.3		9.8	-
Multi-family, zero cars	Dwelling Units	1.5	2.1	2.0	-
Multi-family, one car	Dwelling Units	3.1	3.6	3.4	-
Multi-family, two or more cars	Dwelling Units	5.2	6.0	5.7	-
Convalescent Care	Dwelling Units	-	1.7	1.4	-
Office	Thousand Square Feet	1.5	1.1	-	
Creative Office	Thousand Square Feet	4.5	1.4	-	
Government Office	Thousand Square Feet	7.2	16.0	-	
Medical Office	Thousand Square Feet	7.5		-	
Hospital	Thousand Square Feet	-	10.2	-	
Retail	Thousand Square Feet	40.2	45.1	45.0	-
Personal Services	Thousand Square Feet	27.0	44.3		-
Cultural	Thousand Square Feet	24.7	22.3	18.5	-
Entertainment	Thousand Square Feet	48.6	56.0	38.0	-
Nightlife	Thousand Square Feet	43.5		87.1	-
Restaurant	Thousand Square Feet	96.0	98.4	96.0	-
Automotive	Thousand Square Feet	152.8		-	
Lodging	Thousand Square Feet	1.9			-
Religious	Thousand Square Feet	10.4		-	
Police and Fire	Thousand Square Feet	6.3			-
Light Industrial	Thousand Square Feet	0.3		-	
Heavy Industrial	Thousand Square Feet	-	0.3	-	
K-8 School	Students	0.5		-	
High School	Students	-	0.6	-	
College	Students	-	0.4	-	
Airport	Based Aircraft	-	3.7	-	
Recreation	Acres	68.8		48.0	-
Adjacent Neighborhoods					
Single-family	Dwelling Units	-		9.8	9.3
Multi-family	Dwelling Units	-		3.4	3.6
Office	Employees	-		0.1	
Retail	Employees	-		20.1	19.0
Industrial	Employees	-		0.0	
Education	Employees	-		0.5	

Trip Distribution

Trip generation determines the number of trips that begin and end in each TAZ. Trip distribution determines the specific destination of each origin trip. The trip distribution model uses a gravity model equation to distribute trips to all zones. This equation estimates an accessibility index based on the travel time between zones and a friction factor to distribute trips. The friction factor relates the attractiveness between zones to the travel times. These are developed based on information from the SCAG regional model and research from the National Cooperation Highway Research Program (NCHRP).

The gravity model can only be applied to trips which begin and end within the model study area. These are referred to as internal-internal (I-I) trips. Trips which begin or end outside of the model area are referred to as internal-external (I-X) trips or external-internal (X-I) trips. Trips which pass through the model area without stopping are referred to external-external (X-X) trips.

Since the gravity model can only be applied to I-I trips, the number of I-X and X-I trips must be determined before the model can be run. These percentages are determined for each purpose and are based on information from the U.S. Census Bureau and the SCAG regional model. Information from the 2010 Census and the Longitudinal-Employer Household Dynamics (LEHD) Program shows that 20 percent of Santa Monica residents work within Santa Monica and only 14 percent of Santa Monica employees live within Santa Monica. Table 5 shows the final internal (I-I) and external (I-X and X-I) split for all six trip purposes for the 2008 and 2013 weekday and Saturday scenarios.

TABLE 5. BASE YEAR DAILY TRIP DISTRIBUTION PERCENTAGES (INTERNAL/EXTERNAL)

Purpose	2008 Weekday	2013 Weekday	2008 Saturday	2013 Saturday
Home-based work	17% / 83%	16% / 84%	12% / 88%	11% / 89%
Home-based other	31% / 69%	30% / 70%	26% / 74%	25% / 75%
Non-home-based	64% / 36%	62% / 38%	50% / 50%	46% / 54%
School	83% / 17%	81% / 19%	80% / 20%	85% / 15%
College	28% / 72%	28% / 72%	27% / 73%	34% / 66%
Recreation	18% / 82%	16% / 84%	20% / 80%	20% / 80%
All Trips	38% / 62%	37% / 63%	31% / 69%	29% / 71%

The distributions were determined based on several criteria. The initial estimates were based on information from NCHRP and the SCAG regional model. These estimates were further refined to ensure that the all production trip ends have an attraction trip end for internal-internal trips. For example, before balancing, the model area has over 2.5 times more HBW attraction trip ends than production trip ends. The final step in balancing the internal/external splits checks that the total volume at each of the external model gateways matches the observed count data. There are 22 gateways in the model, including the I-10 freeway. External-external trips are determined from the SCAG regional model and are adjusted to ensure consistency with observed count data and internal-external and external-internal trips.

Trip Assignment

The trip assignment process determines the routes that each vehicle trip takes from its origin to its destination. The model assignment algorithm determines paths based on the shortest travel time between two locations, while taking into account congested delays. The model uses an iterative procedure until a specified convergence criterion is met or the total iterations are completed.

Calibration of the street network included adjusting the locations where TAZs connect to the network to more accurately reflect travel behavior and vehicle access points. Free flow speeds and roadway capacities were adjusted to model the attractiveness of given facilities and the prevailing speed of traffic. The adjustments were also based on the presence of design characteristics that may reduce vehicle speeds or capacities such as lane widths, bike lanes, on-street parking, or mid-block crosswalks.

BASE YEAR MODEL VALIDATION

Model validation compares the model's estimated results to observed travel data. During the model development process, this data is used to further calibrate the model inputs. The extent to which model results match observed travel data validates the assumptions of the input parameters.

Static Validation

The most critical static measurement of the accuracy of any travel model is the degree to which it can approximate observed traffic counts during the base year. Caltrans has established certain trip assignment guidelines in *Travel Forecasting Guidelines* (Caltrans, 1992). These requirements are listed below:

- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from 15 percent to 60 percent (the larger the volume, the less deviation permitted)
- All of the roadway screenlines should be within the maximum desirable deviation, which ranges from 15 percent to 64 percent (the larger the volume, the less deviation permitted)
- The two-way sum of the volumes on all roadway links for which counts are available should be within 10 percent of the count volume
- The correlation coefficient between the volumes on all roadway links for which counts are available and the observed counts should be greater than 0.88

Although not stated in the Caltrans guidelines, an additional Fehr & Peers validation requirement is that the percent root mean square error (RMSE) should be less than 40 percent.

Screenlines are boundaries drawn across a street network to determine the total volume crossing the boundary. Screenline accuracy determines whether the volume moving across the model area is consistent with the observed volumes. The following screenlines were used for model validation:

- Marguerita Avenue
- Washington Avenue
- Wilshire Boulevard
- Arizona Avenue
- Santa Monica Boulevard
- Colorado Avenue
- Olympic Boulevard
- Pico Boulevard
- Pearl Street
- Ocean Park Boulevard
- 4th Street
- Lincoln Boulevard
- 14th Street
- Cloverfield Boulevard
- 26th Street
- Bundy Avenue & Centinela Avenue

Three weekday scenarios (daily, AM peak hour, and PM peak hour) and two Saturday scenarios (daily and midday [MD] peak hour) were statically validated. The validation results are shown in Tables 6 and 7. The number of observed count locations is also shown for each scenario.

TABLE 6. WEEKDAY SCENARIOS VALIDATION RESULTS

Metric	Criterion	Daily	AM Peak Hour	PM Peak Hour
Observed locations	-	217	217	217
Percent of links within max dev.	At least 75%	76%	75%	75%
Percent of screenlines within max dev.	100%	100%	100%	100%
Deviation of two-way sum of all links	Within 10%	5%	7%	9%
Correlation coefficient	Greater than 0.88	0.96	0.93	0.94
Percent RMSE	Less than 40%	22%	30%	32%

TABLE 7. SATURDAY SCENARIOS VALIDATION RESULTS

Metric	Criterion	Daily	MD Peak Hour
Observed locations	-	75	75
Percent of links within max dev.	At least 75%	75%	83%
Percent of screenlines within max dev.	100%	100%	100%
Deviation of two-way sum of all links	Within 10%	6%	1%
Correlation coefficient	Greater than 0.88	0.96	0.94
Percent RMSE	Less than 40%	19%	22%

The results from both tables show that all scenarios are statically validated.

Dynamic Validation

Static validation confirms the ability of a travel model to reasonably reproduce a static (singular) condition. Dynamic validation verifies the models applicability to changes in land use and the street network. The 2008 model was dynamically validated to changes in land use quantities. Since the development of the 2008 model, it has been routinely applied for project specific analyses. These projects have included both land use and network changes. Each of these applications has further proven the model to be dynamically valid for both types on input changes required of a travel model. For these reasons, no further dynamic testing was completed.

BASE YEAR MODEL RESULTS

The Land Use and Circulation Element (LUCE) that was adopted in 2010 established the following metrics to be analyzed for general plan consistency:

- Citywide PM peak hour vehicle trips
- Citywide vehicle miles travelled (VMT) per capita
- Citywide vehicle greenhouse gas (GHG) emissions
- AM and PM peak hour corridor travel times
- AM and PM peak hour intersection level of service (LOS)

The travel model produces the first four metrics and can be used to forecast turning movement volumes for future scenarios to calculate LOS. The results from the 2008 base year weekday model were used to establish baseline conditions for each of the metrics. These same metrics are reported from the new 2013 weekday scenarios.

Citywide PM Peak Hour Vehicle Trips

The 2008 base year weekday PM peak hour model produced 60,100 vehicle trips generated within the City of Santa Monica. These trips either originate from or are destined to a location within Santa Monica, or both. This total includes trips from outside the model area as well as the area outside the City but within the model that originate within or are destined to the City. The new 2013 base year weekday PM peak hour model produced 59,600 trips for the City of Santa Monica, a decline of 1 percent.

There are several factors that contribute to the 1 percent difference in PM peak hour trips generated within the City of Santa Monica. The increases in households and employment within the City generate more trip-ends. However, the decreases in employment in the model area outside the City reduce the number of trips generated in the portion of Los Angeles surrounding the City of Santa Monica. The net impact from these two changes is a slight decrease in trips entering Santa Monica from the model area outside the City. While minor, these differences contribute to the 1 percent difference. These results do

not necessarily indicate that the actual number of trips generated within the City of Santa Monica has decreased from 2008 to 2013.

Citywide Vehicles Miles Travelled

The model calculates daily vehicle miles travelled for all City of Santa Monica trips within the model area. The VMT per capita is calculated using total population and employment. Table 8 shows the VMT calculations for the 2008 and 2013 weekday daily scenarios.

TABLE 8. CITYWIDE VEHICLE MILES TRAVELLED

Scenario	VMT	Population	Employment	Total Service Population (Population + Employment)	VMT per Capita
2008 Weekday	2,038,000	95,247	94,206	189,453	10.8
2013 Weekday	1,970,000	92,484	98,280	190,764	10.3

The VMT estimates in the table above only calculate miles travelled within the model area. The mileage associated with trips after they leave the model is not accounted for in these estimates. As discussed, the estimate of total trips generated within the City decreased, which correlates with the decrease in vehicle miles travelled. VMT also decreases slightly because more trips are internalized within the City of Santa Monica compared with the 2008 weekday results. These trips stay within the model and have their destination within the City instead of the area outside the City.

Santa Monica staff provided an updated population estimate for 2013 that is less than the 2008 estimate. With an increase in employment between 2008 and 2013, the total service population (population and employment) increases by less than one percent. The decrease in VMT per capita (per service population) is thus primarily correlated with lower trip generation in areas outside the City. Again, these reductions do not necessarily indicate that VMT per capita has decreased within the City of Santa Monica between 2008 and 2013.

Citywide Vehicle Greenhouse Gas Emissions

EMFAC is a software tool developed by the California Air Resources Board (CARB) to estimate greenhouse gas emissions from VMT. Since the 2008 model was developed, CARB updated the software from EMFAC2007 to EMFAC2011. This comprehensive update dramatically streamlines the data input process and reduces the number of required inputs. The reported metrics also vary slightly between the two versions of the software.

EMFAC2011 requires total VMT and VMT by 5mph speed bin to estimate GHG emissions. The vehicle average fleet mix for Los Angeles County is included in the software and was used for this analysis. The average speed profile from the model was applied to all vehicles types. Table 9 shows the weekday daily

GHG estimates for the 2008 and 2013 models. 2008 results are calculated in EMFAC2007 and 2013 results are calculated in EMFAC2011.

TABLE 9. CITYWIDE VEHICLE GREENHOUSE GAS EMISSIONS

Scenario	**2008 Daily**	**2013 Daily**
EMFAC Vehicle Fleet Analysis Year	2008	2013
Carbon Dioxide (CO_2) (tons/day)	1,490	1,171
Carbon Dioxide (CO_2) (Pavley) (tons/day)	-	1,111
Carbon Monoxide (CO) (tons/day)	16.93	7.02
Nitrous Oxides (NO_x) (tons/day)	3.03	1.72
Sulphur Oxides (SO_x) (tons/day)	0.01	0.010
Total Organic Gases (TOG) (tons/day)	2.31	0.83
Reactive Organic Gases (ROG) (tons/day)		0.76
Particulate Matter (<10 microns) (tons/day)	0.13	0.14
Particulate Matter (<2.5 microns) (tons/day)	-	0.070
Gasoline Fuel Consumed (gallons/day)	-	102,239
Diesel Fuel Consumed (gallons/day)	-	15,200

While the total daily VMT estimated by the model decreased by 3 percent, this does not solely account for the magnitude of the differences in GHG results between 2008 and 2013. The reason for the discrepancies is more likely due to changes in the EMFAC software and assumptions internal to the program.

AM and PM Peak Hour Corridor Travel Times

Fifteen corridors throughout Santa Monica have been identified for calculation of travel time during the PM peak hour. The congested travel times from the model provide an estimate of overall corridor travel time; however, the model has not been calibrated or validated to these measurements. The model only calculates link level delay and does not include delay associated with signalized or unsignalized intersections. Table 10 shows the AM and PM peak hour travel times for the selected corridors. Separate travel times are provided for each direction of travel.

TABLE 10. WEEKDAY PEAK HOUR CORRIDOR TRAVEL TIMES (MINUTES)

Corridor	From	To	2008 Weekday		2013 Weekday	
			NB/EB	SB/WB	NB/EB	SB/WB
AM Peak Hour						
San Vicente Blvd	Ocean Ave	26th St	3:25	3:25	3:30	3:30
Montana Ave	Ocean Ave	Stanford Ave	4:40	4:40	4:25	4:30
Wilshire Blvd	Ocean Ave	Centinela Ave	5:30	5:40	5:10	5:20
Santa Monica Blvd	Ocean Ave	Centinela Ave	5:15	5:35	5:10	5:25
Olympic Blvd	Lincoln Blvd	Centinela Ave	3:40	4:25	3:45	4:20
I-10 / PCH	Chautauqua Blvd	Bundy Dr	6:35	6:10	6:25	6:20
Pico Blvd	Ocean Ave	Centinela Ave	4:40	5:15	4:50	5:10
Ocean Park Blvd	Neilson Way	Centinela Ave	5:05	5:05	5:15	5:20
Ocean Ave / Neilson Way	San Vicente Blvd	Rose Ave	8:05	6:30	7:25	6:20
Main St	Colorado Ave	Rose Ave	5:10	3:20	4:10	2:55
4th St	San Vicente Blvd	Rose Ave	9:00	7:20	8:25	7:20
Lincoln Blvd	San Vicente Blvd	Rose Ave	10:15	7:40	9:05	7:15
20th St	Montana Ave	Ocean Park Blvd	6:15	5:10	6:05	5:15
Cloverfield Blvd / 23rd St	Santa Monica Blvd	Rose Ave	10:45	5:30	9:20	5:20
26th St	San Vicente Blvd	Olympic Blvd	4:20	4:45	4:15	4:45
PM Peak Hour						
San Vicente Blvd	Ocean Ave	26th St	3:30	3:25	3:30	3:30
Montana Ave	Ocean Ave	Stanford Ave	4:50	4:50	4:35	4:30
Wilshire Blvd	Ocean Ave	Centinela Ave	5:55	5:40	5:25	5:15
Santa Monica Blvd	Ocean Ave	Centinela Ave	5:50	5:30	5:35	5:15
Olympic Blvd	Lincoln Blvd	Centinela Ave	4:15	4:20	4:00	4:10
I-10 / PCH	Chautauqua Blvd	Bundy Dr	6:15	6:50	6:40	6:25
Pico Blvd	Ocean Ave	Centinela Ave	5:10	4:55	5:10	4:55
Ocean Park Blvd	Neilson Way	Centinela Ave	5:15	5:15	5:20	5:20
Ocean Ave / Neilson Way	San Vicente Blvd	Rose Ave	6:55	8:30	6:30	7:50
Main St	Colorado Ave	Rose Ave	3:40	5:20	3:00	4:15
4th St	San Vicente Blvd	Rose Ave	7:40	9:10	7:25	8:35
Lincoln Blvd	San Vicente Blvd	Rose Ave	8:05	10:15	7:30	9:00
20th St	Montana Ave	Ocean Park Blvd	5:25	6:10	5:20	5:55
Cloverfield Blvd / 23rd St	Santa Monica Blvd	Rose Ave	5:55	10:10	5:25	8:50
26th St	San Vicente Blvd	Olympic Blvd	4:50	4:40	4:40	4:35

APPENDIX D1:
APPROVAL YEAR (2020) CUMULATIVE PROJECTS

APPENDIX D1
LIST OF RELATED PROJECTS FOR APPROVAL YEAR (2020)*

PROJECT	ADDRESS	USE	NET NEW SIZE	UNITS	STATUS
Conversion of residential to office, retail	1305 2nd St	residential	-48	DU	Under construction
		office	25.292	KSF	Under construction
Conversion of Shore hotel conference space to restaurant	1530 2nd St	restaurant	3	KSF	Under construction
conversion of restaurant to retail	1410 3rd St	restaurant	-6.225	KSF	Final
		retail	6.225	KSF	Final
conversion of restaurant to retail	1444 3rd St	restaurant	-2.996	KSF	Final
		retail	2.996	KSF	Final
Residential	954 5th St	residential	1	DU	Final
New Courtyard by Marriot DA	1554 5th St	hotel	74.25	KSF	Final
		restaurant	-17.6	KSF	Final
New Hampton Inn and Suites DA	501 Colorado Ave	hotel	76.25	KSF	Final
		retail/restaurant	-19.578	KSF	Final
5-Unit Condos	1211 9th St	residential	5	DU	Final
Residential	1827 9th St	residential	2	DU	Final
Residential	1750 10th St	residential	7	DU	Final
8-Unit Condominium	1444 11th St	residential	2	DU	Under construction
5-Unit Condos	1518 11th St	residential	5	DU	Under construction
5-Unit Condos	1533 11th St	residential	2	DU	Under construction
Residential	1433 14th St	residential	19	DU	Final
11-Unit Condominium	1803 16th St	residential	10	DU	Final
Residential (5 condos/1 low income)	1807 17th St	residential	4	DU	Under construction
3-Unit Condos	1136 18th St	residential	1	DU	Final
Residential	1433 18th St	residential	5	DU	Final
3-Unit Condos	1927 18th St	residential	2	DU	Under construction
Medical Office addition	1419 19th St	medical office	5.3	DU	Under construction
3-Unit Condos	1927 19th St	residential	0	DU	Under construction
		creative office	1.8	KSF	Final
Auto Shop addition	1718 20th St	autobody shop	0.443	KSF	Under construction
Residential	1236 25th St	residential	1	DU	Final
8-Unit Condominium	2323 28th St	residential	6	DU	Final
2-Unit Condos	1038 Bay St	residential	1	DU	Final
500 Broadway DA (Fred Segal) Site	500 Broadway	residential	249	DU	Under construction
		affordable housing	60	DU	Under construction
		retail	22.997	KSF	Under construction
4-Unit residential	3004 Broadway	residential	4	DU	Under construction
3-Unit Condos	1329 California Ave	residential	3	DU	Under construction
Adaptive Reuse of Sears	302 Colorado Ave	retail	7.365	KSF	Under construction
Creative Office/Post Production DA	2834 Colorado Ave	creative office	133	KSF	Under construction
		retail	9	KSF	Under construction
Village Trailer Park - mixed use	2930 Colorado Ave	residential	324	DU	Under construction
		affordable housing	-70	DU	Under construction
		retail	24.94	KSF	Under construction
		creative office	4.2	KSF	Under construction
Conversion of office to grocery store/restaurant	2121 Cloverfield	office	-53	KSF	Final
	2301 Pico Blvd	retail	53	KSF	Final
1550 Euclid Mixed Use retail/office	1550 Euclid St	office	33.946	KSF	Under construction
		restaurant	4.13	KSF	Under construction
6-Unit Condos	3214 Highland	residential	-2	DU	Final
Mixed Use DA (Denny's site)	1560 Lincoln Blvd	residential	80	DU	Under construction
		affordable housing	20	DU	Under construction
		retail/restaurant	9.402	KSF	Under construction
Mixed Use DA (Norm's site)	1601 Lincoln Blvd	residential	72	DU	Under construction
		affordable housing	18	DU	Under construction
		retail/restaurant	6.448	KSF	Under construction
Mixed Use DRP (Wertz Bros & Joanns Fabric site)	1613-1637 Lincoln Blvd	residential	184	DU	Under construction
		affordable housing	9	DU	Under construction
		retail	-8.784	KSF	Under construction
1626 Lincoln Boulevard Affordable Housing	1626 Lincoln Blvd	affordable housing	64	DU	Under construction
		autobody shop	-8.9	KSF	Under construction
Mixed Use DRP (Aarons brothers)	1641-1645 Lincoln Blvd	residential	68	DU	Under construction
		affordable housing	10	DU	Under construction
		retail	-0.11	KSF	Under construction

APPENDIX D1 LIST OF RELATED PROJECTS FOR APPROVAL YEAR (2020)*					
Conversion of medical office to restaurant	1670 Lincoln Blvd	medical office	-5.352	KSF	Final
		restaurant	5.352	KSF	Final
2919 Lincoln/802 Ashland	2919 Lincoln Blvd	residential	10	DU	Under construction
City Services Building	1685 Main St	government office	45	KSF	Under construction
3-Unit Condos	723 Pier Ave	residential	1	DU	Under construction
Residential	1112-1122 Pico Blvd	residential	28	DU	Under construction
		affordable housing	4	DU	Under construction
Office	3205 Pico Blvd	office	4.81	KSF	Under construction
conversion of office to medical office/café	1919 Santa Monica Blvd	office	-25.2	KSF	Final
		medical office	24.2	KSF	Final
		restaurant	1	KSF	Final
Mixed Use	3008 Santa Monica Blvd	residential	22	DU	Under construction
		affordable housing	4	DU	Under construction
		retail	-0.504	KSF	Under construction
Mixed Use DA (Mini)	1402 Santa Monica Blvd	auto dealership	33.75	KSF	Final
Santa Monica College AET Campus Expansion (SMC jurisdiction)	1660 Stewart St	School	20	KSF	Final
		creative office	28	KSF	Final
conversion of retail to restaurant	214 Wilshire Blvd	retail	-7.986	KSF	Final
		restaurant	7.986	KSF	Final
conversion of retail to restaurant	331 Wilshire Blvd	retail	-2.453	KSF	Final
		restaurant	2.453	KSF	Final
Mixed-Use Hotel (adaptive reuse of historic building)	710 Wilshire Blvd	hotel	150.148	KSF	Under construction
		office	-31.138	KSF	Under construction
		retail	-11.793	KSF	Under construction
		restaurant	9.11	KSF	Under construction
Mixed-Use Condos/Commercial	2300 Wilshire Blvd	residential	30	DU	Under construction
		retail	22.3	KSF	Under construction
		restaurant	2.7	KSF	Under construction
City of LA	1414 MAIN ST	Residential, Retail	26	DU	Under construction
City of LA	811 OCEAN FRONT WALK	Residential, Reataurant	2.7	KSF	Under construction
City of LA	12431 ROCHESTER AVE	Residential	50	DU	Under construction
City of LA	1035 SWARTHMORE AVE	Retail	58.3	KSF	Final
City of LA	1449 WELLESLEY AVE	Hotel	88	ROOMS	Under construction

APPENDIX D2:
FUTURE YEAR (2025) CUMULATIVE PROJECTS

APPENDIX D2
LIST OF RELATED PROJECTS FOR FUTURE YEAR (2025)
Assumes inclusion of all Approval Year (2020) projects in table D1

PROJECT	ADDRESS	USE	NET NEW SIZE	UNITS	STATUS
Commercial addition	1201 3rd St	retail	3.154	KSF	Approved
Commercial addition	1437 3rd St	retail	6	KSF	Approved
SM Post Office Adaptive Reuse	1248 5th St	creative office	46.82	KSF	Approved
Mixed Use DA	1415-1423 5th St	residential	50	DU	Approved
		affordable housing	14	DU	Approved
		retail	-5.304	KSF	Approved
100% affordable housing	1437 5th St	affordable housing	43	DU	Approved
		retail/restaurant	-6.499	KSF	Approved
3-Unit Condos	2102 5th St	residential	1	DU	Approved
2-Unit Condo	2215 5th St	residential	1	DU	Approved
Mixed Use DA	1313-1325 6th St	residential	56	DU	Approved
		affordable housing	5	DU	Approved
		retail	4.86	KSF	Approved
3-Unit Condos	2512 7th St	residential	3	DU	Approved
15-Unit Condominium (Turtle Villas)	1211 12th St	residential	13	DU	Approved
5-Unit Condos	1244 14th St	residential	4	DU	Approved
6-Unit Condos	1434 14th St	residential	5	DU	Approved
3-Unit Condos	817 16th St	residential	1	DU	Approved
100% Affordable Housing	1820-1826 14th St	residential	39	DU	Approved
		office	-5.3	KSF	Approved
5-Unit Condos	1949 17th St	residential	5	DU	Approved
5-Unit Condos	1840 17th St	residential	4	DU	Approved
Condos	1443 18th St	residential	10	DU	Approved
3-Unit Condos	1420 20th St	residential	-2	DU	Approved
3-Unit Condos	1422 20th St	residential	-2	DU	Approved
3-Unit Condos	1900 20th St	residential	3	DU	Approved
3-Unit Condos	1035 21st St	residential	2	DU	Approved
3-Unit Condos	1121 22nd St	residential	2	DU	Approved
2-Unit Condo	1216 Arizona Ave	residential	1	DU	Approved
3-Unit Condos	212 Bay St	residential	3	DU	Approved
3-Unit Condos	1014 Bay St	residential	2	DU	Approved
100% affordable housing	1342 Berkeley	affordable housing	8	DU	Approved
Mixed Use	2225 Broadway	residential	13	DU	Approved
	1452 23rd St	retail/restaurant	2.751	KSF	Approved
		office	-1.7	KSF	Approved
3-Unit Condos	1649 Centinela Ave	residential	2	DU	Approved
Creative office addition	2041 Colorado Ave	creative office	15	KSF	Approved
Mixed Use	1450 Cloverfield	residential	31	DU	Approved
		affordable housing	3	DU	Approved
		retail	7.384	KSF	Approved
Mixed Use	1707 Cloverfield	residential	58	DU	Approved
		affordable housing	5	DU	Approved
		retail	74.665	KSF	Approved
Mixed Use DA	1318 Lincoln Blvd	residential	39	DU	Approved
		affordable housing	4	DU	Approved
		retail	3.437	KSF	Approved
Mixed Use DA	1430-1444 Lincoln Blvd	residential	92	DU	Approved
		affordable housing	8	DU	Approved
		retail	5.878	KSF	Approved

APPENDIX D2

LIST OF RELATED PROJECTS FOR FUTURE YEAR (2025)

Assumes inclusion of all Approval Year (2020) projects in table D1

Mixed Use (Upscale furniture building)	1437-1443 Lincoln Blvd	residential	23	DU	Approved
		affordable housing	6	DU	Approved
		retail	-8.5	KSF	Approved
Commercial Building addition	1447 Lincoln Blvd	retail	4	KSF	Approved
		residential	1	DU	Approved
Mixed-Use DRP	1650-1660 Lincoln Blvd	residential	90	DU	Approved
		affordable housing	8	DU	Approved
		retail	-14.808	KSF	Approved
2903-2931 Lincoln Boulevard Mixed Use	2903 Lincoln Blvd	residential	43	DU	Approved
		affordable housing	4	DU	Approved
		retail	14.475	KSF	Approved
423 Ocean Avenue Adaptive Reuse	423 Ocean Ave	residential	4	DU	Approved
1828 Ocean Avenue	1828 Ocean Ave	residential	83	DU	Approved
conversion of retail to restaurant	1736 Ocean Front Walk	retail	-1.792	KSF	Approved
		restaurant	2.044	KSF	Approved
1921 Ocean Front Walk	1921 Ocean Front Walk	residential	23	DU	Approved
		retail	1.97	KSF	Approved
Mixed Use DA (bowling alley)	234 Pico Blvd	residential	97	DU	Approved
		affordable housing	8	DU	Approved
		retail	-13.041	KSF	Approved
Office	2929 Pico Blvd	office	12.066	KSF	Approved
		retail	6.284	KSF	Approved
		auto service	-1.224	KSF	Approved
2-Unit Condo	1514 Princeton	residential	2	DU	Approved
Auto Dealership	1802 Santa Monica Blvd	residential	-18	DU	Approved
		retail	1.39	KSF	Approved
		auto dealership	15.1	KSF	Approved
Mixed Use	2822 Santa Monica Blvd	residential	46	DU	Approved
		affordable housing	4	DU	Approved
		retail	-3.405	KSF	Approved
Mixed Use Apartment (addressed as 1349/1347 Yale St)	2901 Santa Monica Blvd	residential	49	DU	Approved
		affordable housing	3	DU	Approved
		retail	1.3	KSF	Approved
Mixed Use	1618 Stanford	residential	43	DU	Approved
		affordable housing	4	DU	Approved
		office	-11.055	KSF	Approved
		retail/restaurant	15.987	KSF	Approved
3-Unit Condos	122 Strand St	residential	-1	DU	Approved
Mixed Use DRP	601-611 Wilshire Blvd	residential	37	DU	Approved
		affordable housing	3	DU	Approved
		retail	-1.779	KSF	Approved
Retail	2919 Wilshire Blvd	retail	9.799	KSF	Approved
3-Unit Condos	2219 Virginia Ave	residential	2	DU	Approved
Airport Park Expansion	3201 Airport Avenue	park	12	acre	Approved
Cadillac Mixed Use Development (City of Los Angeles)	*12101 West Olympic Blvd*	*residential*	516	*DU*	*Approved*
		creative office	200	*KSF*	*Approved*
		retail	67	*KSF*	*Approved*
Residential, Restaurant (City of Los Angeles)	*825 HAMPTON DR*	*Residential, Restaurant*	6.5	*KSF*	*Approved*
Supportive Housing (City of Los Angeles)	*100 SUNSET AVE*	*Supportive Housing*	154	*BEDS*	*Approved*

APPENDIX D2
LIST OF RELATED PROJECTS FOR FUTURE YEAR (2025)
Assumes inclusion of all Approval Year (2020) projects in table D1

4th/Arizona - Plaza at Santa Monica Project	1301 4th St	affordable housing	48	DU	Pending
		office	209	KSF	Pending
		retail	21.03	KSF	Pending
		hotel	117	KSF	Pending
		museum	12	KSF	Pending
Mixed Use	1235 5th St	residential	18	DU	Pending
		affordable housing	5	DU	Pending
		retail	1.873	KSF	Pending
SRO Project with Commercial	1323 5th St	residential	32	DU	Pending
		affordable housing	2	DU	Pending
		retail	3.341	KSF	Pending
SRO Project with Commercial	1338-1342 5th St	residential	69	DU	Pending
		affordable housing	0	DU	Pending
		retail	7.025	KSF	Pending
Mixed Use	1425-1427 5th St	residential	92	DU	Pending
		affordable housing	0	DU	Pending
		retail	1.144	KSF	Pending
100% SRO Mixed Use with commercial	1437 6th St	residential	40	DU	Pending
		retail/restaurant	1.6	KSF	Pending
100% Affordable Housing with commercial	1238 7th St	affordable housing	37	DU	Pending
		retail	1.444	KSF	Pending
		office	-1.976	KSF	Pending
Mixed Use	1437 7th St	residential	65	DU	Pending
		affordable housing	0	DU	Pending
		retail	-14.86	KSF	Pending
Mixed Use	1543-1547 7th St	residential	100	DU	Pending
		affordable housing	0	DU	Pending
		retail	-11	KSF	Pending
100% Affordable Housing with commercial	1514 7th St	affordable housing	50	DU	Pending
		retail	1	KSF	Pending
SRO Project with Commercial	1557 7th St	residential	32	DU	Pending
		retail		KSF	Pending
Mixed Use	711 Colorado Ave	affordable housing	56	DU	Pending
		retail	2.8	KSF	Pending
		office	-3.9	KSF	Pending
100% Affordable senior housing	1445-1453 10th St	affordable housing	37	DU	Pending
1242 20th St Wellness Center	1242 20th St	R&D	65	KSF	Pending
	1925 Arizona Ave	medical office	16.5	KSF	Pending
		ancillary meeting	14	KSF	Pending
21-Unit Condominium/2020 Virginia	2002 21st St	residential	2	DU	Pending
		affordable housing	2	DU	Pending
3-Unit Condos	1665 Appian Way	residential	-1	DU	Pending
Mixed Use DA (63 hotel rooms)	603 Arizona Ave	hotel	27.5	KSF	Pending
		restaurant	-3.64	KSF	Pending
Mixed Use (Performance Bicycles)	501 Broadway	residential	94	DU	Pending
		affordable housing	0	DU	Pending
		retail	-3.58	KSF	Pending

APPENDIX D2

LIST OF RELATED PROJECTS FOR FUTURE YEAR (2025)

Assumes inclusion of all Approval Year (2020) projects in table D1

Wyndam Hotel (211 rooms)	120 Colorado Ave	residential	25	DU	Pending
		hotel	104190.65	KSF	Pending
		affordable housing	3	DU	Pending
		meeting space	5.47	KSF	Pending
		retail/restaurant	17.244	KSF	Pending
Mixed Use	525 Colorado Ave	residential	32	DU	Pending
		affordable housing	8	DU	Pending
		retail	1.919	KSF	Pending
Mixed Use	1431 Colorado Ave	residential	42	DU	Pending
		affordable housing	8	DU	Pending
		retail	-6.556	KSF	Pending
Mixed Use (Fritto misto)	601-609 Colorado Ave	residential	140	DU	Pending
		affordable housing	0	DU	Pending
		retail	5	KSF	Pending
Affordable Housing	711 Colorado Ave	residential	56	DU	Pending
		retail	2	KSF	Pending
Creative office	1645 Euclid St	creative office	23	KSF	Pending
Mixed Use	1427 Lincoln Blvd	residential	15	DU	Pending
		retail	-3.746	KSF	Pending
100% Affordable Housing	2120 Lincoln Blvd	affordable housing	37	DU	Pending
		retail	0.5	KSF	Pending
		gas station	0.5	KSF	Pending
Commercial building	3280 Lincoln Blvd	retail	4	KSF	Pending
			0		Pending
Retail	2740-2750 Main St	retail	4.8	KSF	Pending
Mixed Use DRP	3030 Nebraska Ave	residential	164	DU	Pending
		affordable housing	13	DU	Pending
		creative office	66.1	KSF	Pending
Miramar Hotel Revitilization Plan DA	1133 Ocean Ave	residential	120	DU	Pending
	1127/1129 2nd St	affordable housing	40	DU	Pending
		hotel	35.056	KSF	Pending
		retail/spa	16.69	KSF	Pending
		restaurant	8.704	KSF	Pending
		meeting space	-7.125	KSF	Pending
3-Unit Condos	436 Pier Ave	residential	2	DU	Pending
Hotel/Mixed Use DA (Ocean Avenue)	101-129 Santa Monica Blvd	residential	100	DU	Pending
	1327-1333-1337 Ocean Ave	affordable housing	5	DU	Pending
		hotel	165	KSF	Pending
		museum/retail	71	ksf	Pending
St Johns Campus Master Plan Phase II	2121 Santa Monica Blvd	hospital and health care	339	KSF	Pending
		medical research	59	KSF	Pending
		health wellness center	41	KSF	Pending
		education/conference center	55	KSF	Pending
		child & family development center	25.5	KSF	Pending
		health related services	17	KSF	Pending
		day care	9	KSF	Pending
		restaurants	10	KSF	Pending
		neighborhood commercial	5	KSF	Pending
		visitor housing	40	DU	Pending
		multifamily replacement housing	10	DU	Pending
Mixed Use	2906-2918 Santa Monica Bl	residential	40	DU	Pending
		affordable housing	4	DU	Pending
		restaurant	11.002	KSF	Pending
SRO Project with Commercial	2729 Wilshire Blvd	residential	9	DU	Pending
		retail	-2.4	KSF	Pending
Mixed Use	3223 Wilshire Blvd	residential	49	DU	Pending
		affordable housing	4	DU	Pending
		retail/restaurant	-6.169	KSF	Pending

APPENDIX E:
PROJECT APPLICANT PARKING AND TRIP GENERATION STUDY

MEMORANDUM

To:	Dustin Peterson The Athens Group	Date:	February 7, 2019
From:	David S. Shender, P.E. Linscott, Law & Greenspan, Engineers	LLG Ref:	5-15-0178-1
Subject:	**Parking Analysis of the Proposed Miramar Hotel Redevelopment** City of Santa Monica, California		

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As requested, Linscott, Law & Greenspan, Engineers (LLG) has prepared this parking analysis for the proposed Miramar Hotel Redevelopment project (the "Project") located in the City of Santa Monica. The Project site consists of two parcels: The Main Parcel located on the block bounded by Wilshire Boulevard to the south, California Avenue to the north, Ocean Avenue to the west, and 2nd Street to the east; and the Second Street Parcel located across Second Street from the Main Parcel.

Specific uses for the Miramar Hotel Redevelopment project are as follows:

- 312 hotel guestrooms;
- Up to 60 residential units[1];
- 6,600 square feet of retail;
- 12,500 square feet of spa;
- 13,000 square feet of meeting room/function space; and
- 19,728 square feet of indoor and outdoor restaurant/lounge space
    - 11,355 square feet of indoor customer serving restaurant/lounge space
    - 8,373 square feet of outdoor customer serving restaurant/lounge space.

In considering the appropriate amount of on-site parking for the Project, LLG has considered (i) the rates set forth in the Zoning Ordinance updates as part of the Downtown Community Plan, (ii) Coastal Commission parking requirements for residential projects in the Coastal Zone, (iii) a shared parking demand assessment performed in a manner consistent with the Urban Land Institutes' *Shared Parking* manual, (iv) parking demand information about two comparable luxury hotel projects in the region, and (v) parking supply information about comparable luxury residential projects in the region.

The goal is for the Project's proposed parking supply to be appropriately sized so as not to encourage unnecessary travel by private automobile, but also adequately accommodate surges in parking demand related to special events, and therefore not adversely affect existing on-street and off-street public parking in the local area.

[1] All residential units assumed to contain two or more bedrooms.

In total, the Applicant has proposed that 477 parked vehicles be accommodated on-site. If necessary, to accommodate peak parking demand, an additional 60 vehicles can be accommodated through use of parking spaces across from the Project site at 120 Wilshire Boulevard. Parking for the Project would be provided as follows:

- 428 striped parking spaces on-site;
- 49 additional vehicles accommodated on-site in drive aisles by valet parking attendants; and
- 60 parking spaces available at 120 Wilshire Boulevard during weekday evenings and on weekends.

The Second Street Parcel (currently used for hotel parking) will be developed with an affordable housing project with its own on-site and below-grade parking.

Downtown Community Plan

In 2017, the City of Santa Monica adopted the Downtown Community Plan. As part of this process, the City amended the Zoning Ordinance to create parking rates for the Downtown (the "Downtown Rates"). The off-street parking rates for development projects in the Downtown differ from the previous Code parking in three important aspects:

- Overall parking rates are generally reduced for individual land uses, recognizing that more trips in Downtown Santa Monica are made by the non-private automobile such as by walking, biking, taxi/limousine, shared ride services (e.g., Uber/Lyft), etc.

- The Zoning Ordinance further reduces the parking rates for ancillary uses within Downtown hotels (e.g., retail, restaurants, spa services), recognizing that many patrons of these services are hotel guests. A 50% reduction in parking rates for ancillary uses within hotels is required under the provision.

- Within the Downtown Community Plan area, there is no minimum parking requirement; instead a maximum number of allowable parking spaces is provided per the Santa Monica Zoning Ordinance.

The City of Santa Monica Municipal Code (Table 9.28.060) provides the off-street parking requirements for development projects. ***Table 1*** below provides the calculation of parking for the Project based on the off-street parking rates provided in the Zoning Ordinance for the Downtown.

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Table 1
Downtown Parking Calculation
Miramar Hotel Redevelopment

Use	Size	Downtown Rate	No. of Spaces	Proposed Supply
Retail	6,600 s.f.	1 sp./300 s.f. x 50%	11	11
Spa	12,500 s.f.	1 sp./300 s.f. x 50%	21	21
Meeting Room	13,000 s.f.	1 sp./250 s.f.	52	52
Restaurant/Lounge (indoor)	11,355 s.f.	1 sp./300 s.f. x 50%	19	19
Restaurant/Lounge (outdoor)	8,373 s.f.	1 sp./300 s.f. x 50%	14	14
Hotel	312 rooms	1 sp./2 rooms	156	156
Subtotal Hotel Only			273	273
Residential	60 units	1 sp./unit (residents)	60	***120***
		1 sp./15 units (guests)	4	***15***
Subtotal Residential Only			64	***135***
Subtotal (Before Buffer)			337	408
5% Buffer			17	20
Total Permitted Maximum			**354**	***428***

As shown on *Table 1*, the total parking spaces for the Project based on the Downtown Rates would be 354 spaces (including a Citywide standard 5% buffer, which LLG also recommends). However, the Project's location adjacent to residential uses and in the Coastal Zone compel a site-specific assessment to ensure the Project will not adversely affect existing on-street and off-street public parking in the local area. Thus, the proposed supply of 428 striped parking spaces on-site exceeds the Downtown Rates by an additional 74 spaces.

Per the City code, the Downtown Rates for Multiple-Unit Dwelling Unit with 2 or more bedrooms are 1 space/unit for residents and 1 space/15 units for their guests. However, the Project anticipates the parking demand for each unit will exceed the

code parking rate based on the mix of the residential units and the Project's location on the periphery of the Downtown in the Coastal Zone. Moreover, LLG understands area residents have commented that it is critical for the Project to accommodate all of its parking on-site and not to generate spill-over parking impacts in the area.

In lieu of the Downtown Rates, the Project proposes to provide 2 spaces/unit for residents, and 1 space/4 units for residential guests, plus a 5% "buffer" factor. The ratio of 2 spaces/unit for residents is consistent with the City's parking requirements for residential projects located in the "Citywide" district per the City code and with the Coastal Commission's *Regional Interpretive Guidelines, South Coast Region Los Angeles County*. The proposed rate of 1 space/4 units for residential guest parking is also consistent with the Coastal Commission's *Regional Interpretive Guidelines, South Coast Region Los Angeles County* and similar to the Citywide rate of 1 space/5 units for residential guest parking.

Although the Project site is located in the Downtown Community Plan Area, use of the Citywide parking rates for the residential component is more appropriate for the Project given the Project's location and anticipated unit mix. The Citywide parking rates were adopted by the City Council in July 2015 as part of a comprehensive Zoning Ordinance Update. In conjunction with the Zoning Ordinance Update, the City conducted extensive review and research with respect to appropriate parking rates to apply to new development projects. Part of this effort included retention of the planning firm Nelson Nygaard to provide recommendations to the City with respect to parking demand rates.

Nelson Nygaard issued a draft report in January 2013[2] (the "Nelson Nygaard report") containing the following:

- A literature review of parking ordinances in other areas similar to the City of Santa Monica, including within the Coastal Zone;
- Analysis of census tract data with respect to vehicle ownership within the City of Santa Monica, including census tracts within the Coastal Zone;
- A review of empirical parking demand data that had been recently collected in the City of Santa Monica; and
- Recommendations for updated parking rates for development projects based on their study of this information.

[2] *Parking Zoning Ordinance Update – Draft Report*, Nelson Nygaard, January 2013.

On page 3-9 of the Nelson Nygaard report, it states: "Residential parking requirements have been recommended to reflect actual parking demand… As Census data shows in Chapter 1, household vehicle ownership rates can vary considerably from 0.86 to 2.68 vehicles per household… Given this wide variety in demands, residential developers should be able to construct the amount necessary to meet the anticipated parking demand." Accordingly, the Project proposes to provide 2 spaces/unit for residents (and 1 space/4 units for guests) in order to ensure the Project provides adequate parking for its residential uses, which is both important to avoid parking impacts in the nearby residential areas and to ensure the Coastal Commission is able to find that the Project does not interfere with public access to the coast.

In reviewing Santa Monica projects in the Coastal Zone, the Coastal Commission has emphasized the need for projects to "maintain and enhance public access to the coast by providing adequate parking facilities."[3] For the condominiums located in Santa Monica's Coastal Zone at the Village at the Civic Center project (CDP #5-08-159), the Coastal Commission required 2 spaces/unit plus guest parking in accordance with its *Regional Interpretive Guidelines, South Coast Region Los Angeles County*.

Moreover, parking supply at other existing luxury residential developments in the vicinity of the Project were reviewed in conjunction with the proposal to provide 2 spaces/unit. Specifically, the following sites provide parking at or in excess of 2 spaces/unit:

- 603 Ocean Avenue – 2.45 spaces/unit (54 spaces for 22 units)
- 1755 Ocean Avenue – 2.08 spaces/unit (193 spaces for 93 units)
- 1705 Ocean Avenue – 2.4 spaces/unit (156 spaces for 65 units)
- 101 Ocean Avenue – 1.9 space/unit (114 spaces for 59 units)

If the added parking supply is not provided at the Project, future residents would likely be forced to rent parking spaces at nearby facilities, potentially adversely impacting available parking supply at nearby locations.

The proposed on-site parking supply for the Project is forecast to adequately accommodate regular day-to-day parking demand. The ability to accommodate 109 additional parked vehicles (49 on-site through the use of valet parking attendants, as well as 60 at 120 Wilshire Boulevard on weeknights and weekends) allows for more than a sufficient "buffer" of parking for the Project that may be associated with peak demand for larger events.

[3] Coastal Commission Staff Report for Village at the Civic Center (CDP #5-08-159), p. 10.

Shared Parking Demand Assessment

The Urban Land Institute (ULI) shared parking methodology recognizes that different land uses have varying demands for parking throughout the day. For example, parking demand related to hotel guestrooms peaks in the late night and early morning hours when most hotel guests are in their rooms for the evening. By contrast, retail and spa services have their peak parking demand during daytime hours. Thus, under the shared parking methodology, a parking space that is used in the daytime by a retail or spa patron can be used again in the evening by a hotel guest. The sharing of parking spaces by multiple land uses reduces the overall amount of parking required for a mixed-use development.

Given the unique nature of this Project, the parking supply issues associated with the current hotel operations, and its location adjacent to residential uses in the Coastal zone, a shared parking demand analysis has been prepared for the proposed Project as a supplement to the Downtown Rates. This analysis is based on the shared parking methodology utilized by the City of Santa Monica at other approved hotel projects in Downtown Santa Monica, such as the 710 Wilshire project[4] and the Courtyard/Hampton Inn projects.

The ULI's *Shared Parking* manual provides recommended hourly parking percentages or indices for individual land uses (hotels, retail, restaurants, etc.) based on parking demand studies conducted at existing developments. The parking demand data is submitted to and compiled by ULI and is the basis for the hour-by-hour parking demand factors published in the *Shared Parking* manual.

In utilizing the shared parking methodology, a peak parking demand factor must be identified for purposes of estimating the highest number of parking spaces generated by each individual land use component. For example, for the 710 Wilshire hotel project, the City's parking shared parking study prepared in 2011 utilized the City code parking rates in effect at that time as the peak parking demand factors, except for hotel guestrooms where a peak demand factor of 0.59 spaces per guestroom was used rather than the City code rate of one space per guestroom.

For the shared parking analysis prepared for the Project, updated peak parking demand factors were selected for use, in consideration of the prior hotel parking studies conducted by the City, as well as the more recent Downtown Rates. ***Table 2*** below provides a summary of the peak parking demand factors selected for use in the shared parking demand study.

[4] *Traffic and Parking Study for 710 Wilshire Boulevard Hotel and Mixed-Use Project*, Fehr & Peers, May 2011

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Table 2
Peak Parking Demand Factors for Shared Parking Analysis
Miramar Hotel Redevelopment

Use	Peak Parking Demand Rate	Comments
Hotel	0.5 spaces/guestroom	Same as Downtown Rates
Residential	2 spaces/unit (residents)	Same as Citywide code parking rates (exceeds Downtown Rates)
	1 space/4 units (guests)	Exceeds Downtown Rates
Retail	1 space/300 s.f.	Same as Downtown Rates, without 50% adjustment for hotel internal capture
Spa	1 space/300 s.f.	Same as Downtown Rates, without 50% adjustment for hotel internal capture
Restaurant	1 space/200 s.f.	Same as Downtown Rates, without 50% adjustment for hotel internal capture
Meeting Rooms	1 space/250 s.f.	Same as Downtown Rates

As noted in *Table 2* above, the peak parking demand factors selected for use are generally conservative (i.e., "worst case") as many of the rates used are consistent or exceed the Downtown Rates. Briefly, the following is noted regarding the recommended peak parking demand factors:

- The recommended hotel peak parking rate (0.5 spaces/guestroom) is equal to the Downtown Rates, and similar to the parking rate used by the City in the parking study prepared for the 710 Wilshire hotel project (0.59 spaces/guestroom).

- The recommended peak parking rates for the residential components (residents and guests) are based on the discussion provided in the prior section regarding the need for adequate parking to serve residents and their guests.

- The recommended parking rates for the retail, spa, and restaurant components delete the 50% adjustment factor for hotel internal capture as provided in the Downtown Rates because these adjustments are already accounted for in the time-of-day parking demand analyses embedded in the ULI shared parking calculation.

Table 3 attached to this memorandum provides the parking demand analysis for the Project using the ULI shared parking methodology. The parking demand analysis provided in *Table 3* adds a 5% "buffer" to the total forecast demand to ensure that even during periods of peak demand that adequate parking is provided for all users of the Project and motorists will not need to search for the last remaining available parking space.

As shown in *Table 3*, a peak parking demand for 460 parking spaces is forecast for the Project based on the shared parking methodology used by the City in evaluating parking demand at other hotel projects. This peak demand is forecast to occur on a Saturday evening at 8:00 p.m. During most hours of the day, the 428 striped parking spaces on-site at the Project will adequately accommodate the forecast parking demand. In the late afternoon and early evening on weekends, parking attendants will utilize as-needed the additional 49 aisle spaces on-site and/or the 60 parking spaces at 120 Wilshire Boulevard. In general, the total available parking capacity for the Project of 537 vehicles can easily accommodate the forecast peak demand and ensure there is no parking impacts on the surrounding area.

It is noted that the shared parking forecast is highly conservative ("worst case"). For example, it assumes 100% utilization of all of the meeting room/function space at the Project. This is highly unlikely to occur because some of the function space will be configured as "board rooms" which are more likely to be utilized in the daytime for meetings, rather than on a Saturday night.

Also, as previously noted, the Project proposes that residential parking for residents and guests be reserved on a full-time basis, and therefore not "shared" with the other Project components. This further ensures that parking demand for the residential component, as well as for the rest of the Project, will be accommodated on-site throughout the day.

The parking demand analysis is intended to account for parking generated by all users: hotel guests, visitors/patrons, employees, residents, etc. With respect to employees, the existing hotel does not provide parking for employees. Thus, parking demand data related to current hotel employees is not available. Further, the existing hotel valet operation aggregates its parking data related to guests/visitors by area of the hotel (e.g., hotel guests, spa visitors, restaurant patrons, etc.) and is summarized on a monthly basis, and not on an hourly basis similar to the shared parking demand analysis.

Despite the limitation of the available data related to current parking demand at the existing hotel, the data was reviewed and analyzed and found to be consistent with the shared parking analysis prepared for the Project in this report.

Parking Analysis at Comparable Luxury Hotel Projects

To further demonstrate the adequacy and conservative nature of the shared parking demand study prepared for the proposed Project as described in the prior section, a parking analysis was conducted at two luxury hotel sites in the Los Angeles area that are deemed to be similar to the proposed Project. The sites studied were The Ritz-Carlton and JW Marriott at L.A. Live in Downtown Los Angeles, and The Ritz-Carlton in Marina del Rey. It is noted that while the Ritz-Carlton and J.W. Marriott are two separate hotels within the L.A. Live site, they utilize some common facilities (including driveway access and parking) and therefore are analyzed herein as one project. The L.A. Live and Marina del Rey hotel properties are considered appropriate for analysis for purposes of evaluating the adequacy of parking for the Project based on the following:

- Location: All three properties (L.A. Live, Marina del Rey and proposed Project) are in the urban portion of the Los Angeles area.

- Nearby Attractions: All three properties are located near uses that would generate walking trips. For example, the L.A. Live property is near L.A. Live and Staples Center, the Marina del Rey property is on the waterfront and the Project is adjacent to coastal attractions and Downtown Santa Monica.

- Similar Amenities: All three properties have similar ancillary uses including restaurant, lounge/bar space, spa/fitness center, meeting rooms, etc.

The components of the L.A. Live and Marina del Rey properties are as follows:

- <u>L.A. Live Ritz-Carlton and JW Marriott</u>
  - Guestrooms: 1,001 guestrooms
  - Meeting Rooms: 75,610 square feet
  - Spa/Fitness Center: 8,000 square feet
  - Retail: 530 square feet
  - Restaurants: 14,500 square feet
  - Bar/Lounges: 10,100 square feet
  - Residential: 55 occupied units

- <u>Marina del Rey Ritz-Carlton</u>
  - Guestrooms: 304 guestrooms
  - Meeting Rooms: 35,000 square feet
  - Spa/Fitness Center: 3,500 square feet
  - Retail: 1,260 square feet
  - Restaurant: 4,290 square feet
  - Bar/Lounges: 2,500 square feet

The parking analysis of the two existing hotels consisted of the following two steps:

1) Forecast the peak Saturday parking demand at the two existing hotels following methodology used in preparing the shared parking demand analysis for the proposed Project; and

2) Conduct parking utilization counts at the two existing hotels on a Saturday and compare the actual parking demand to the forecast prepared as part of task 1).

Parking demand forecasts were prepared for the L.A. Live and Marina del Rey properties utilizing the same parking demand forecast methodology used for the Project as provided in the prior section. That is, it is based on the peak parking demand rates listed in *Table 2* above and incorporates the time-of-day parking indices recommended in the ULI's *Shared Parking* manual.

Parking counts were conducted at the L.A. Live and Marina del Rey properties on Saturday, March 24, 2012 from 6:00 a.m. to 12:00 a.m. midnight to document existing utilization, which was then compared to the hourly forecasts.

Table 4 provides the parking demand forecasts for the L.A. Live property for a Saturday condition. *Table 4* also provides a comparison of the forecast hourly parking demand to the actual parking counts observed. Similarly, ***Table 5*** provides the parking demand forecasts and actual observed hourly parking counts for the Marina del Rey property for a Saturday condition.

A summary of this comparison is provided below in ***Table 6***. Specifically provided is the following parking data based on the Saturday forecast and observed counts. As seen in *Table 6*, the forecast peak hour parking demand at the L.A. Live and Marina del Rey properties – utilizing the same methodology as was used in the shared parking demand analysis provided for the Project – overstates the actual parking demand counted at the two sites. Therefore, it is reasonable to conclude that the shared parking demand analysis prepared for the Project provides a conservative "worst case" assessment of the potential parking demand related to the proposed Project.

Table 6
L.A. Live and Marina del Rey Parking Demand Comparison

Time Period	L.A. Live Ritz-Carlton/JW Marriott (*Table 4*)		Marina del Rey Ritz-Carlton (*Table 5*)	
	Forecast Parking Demand	Actual Parking Demand	Forecast Parking Demand	Actual Parking Demand
Weekend Peak of Forecast Peak of Actual	891 (9 pm) 818 (7 pm)	355 (9 pm) 388 (7 pm)	319 (9 pm) 311 (8 pm)	215 (9 pm) 223 (8 pm)

Review of Potential Findings for Excess Parking

In order to avoid parking impacts in the adjacent neighborhood and to ensure the Project does not interfere with public access to the coast, the Project proposes to provide 428 parking spaces rather than the 354 parking spaces provided under the City code. LLG understands the Project will be approved through a development agreement process and therefore provides the City with flexibility on the appropriate parking rates and requirements for the Project. However, Subsection 5(b) of Section 9.28.040(A) of the City Code requires the Planning Commission to make five findings related to permitting additional parking. While not required for this Project, these findings are relevant to this parking analysis and therefore discussed below.

i. *Parking provided in excess improves the pedestrian, transit, and bicycle network.*

   Response: The additional parking will ensure that residents and their guests will have adequate parking on-site. A shortage of on-site parking may result in motorists driving through the local neighborhood, searching for street parking, potentially causing adverse interface with pedestrian, transit, and bicycle services.

ii. *Vehicle movement on or around the project site associated with the excess parking does not unduly impact pedestrian spaces or movement, transit service, bicycle movement, or overall traffic movement in the district.*

Response: The residential project driveway is proposed on Ocean Avenue. The residential component is not a high generator of vehicle traffic. Therefore, the number of inbound and outbound vehicle trips is expected to be nominal, resulting in minimal interface with pedestrian, transit or bicycle services. The excess parking is intended to provide on-site vehicle storage in lieu of utilizing off-site parking resources.

iii. *Accommodating excess parking does not degrade the overall urban design quality of the project proposal*.

Response: The excess parking, being all below-grade, does not result in any changes to the urban design of the Project. No additional or widened driveways are required to accommodate the additional on-site parking spaces.

iv. *All above-grade parking is architecturally screened, and the excess parking does not diminish the quality and viability of existing or planned landscaped enhancements*.

Response: All Project parking is located in the below-grade structure. Further, the provision for the excess parking supply does not require revisions to the Project's proposed landscape design.

v. *Where off-street parking is proposed that exceeds the maximum quantities specified, such parking shall not be the principal use of the property*.

Response: The Project is a mixed-use hotel and residential development and the additional parking is proposed for use by the Project's residential component, which is not the principal use of the Project.

Conclusion

In conclusion, the Project's proposed parking supply will accommodate the Project's peak parking demand but not encourage unnecessary travel by private automobile, avoiding impacts to the adjacent neighborhood and maintaining appropriate public access to the coast.

cc: File

Table 3
WEEKEND SHARED PARKING DEMAND ANALYSIS [1]
MIRAMAR HOTEL REDEVELOPMENT

Land Use	**Retail**	**Spa**	**Hotel**	**Restaurant /Lounge**	**Function Space**	**Residential [4]**		
Size	**6.6 KSF**	**12.5 KSF**	**312 Rms**	**19.728 KSF**	**13.0 KSF**	**60 DU**		
Parking Rate[2]	**3.33 /KSF**	**3.33 /KSF**	**0.50 /Rm**	**5.00 /KSF**	**4.00 /KSF**	**2.25 /DU**		
Gross Spaces	**22 Spc.**	**42 Spc.**	**156 Spc.**	**99 Spc.**	**52 Spc.**	**135 Spc.**	**Shared Parking Demand**	**Recommended Supply (5% buffer)**
Time of Day [3]	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**		
6:00 AM	0	0	148	0	0	135	284	298
7:00 AM	1	2	148	10	0	135	296	311
8:00 AM	2	4	140	30	16	135	327	343
9:00 AM	7	12	125	10	31	135	320	336
10:00 AM	11	21	109	10	31	135	317	333
11:00 AM	14	27	109	5	31	135	322	338
12:00 PM	18	33	101	99	34	135	420	441
1:00 PM	20	37	101	99	34	135	426	447
2:00 PM	22	42	109	33	34	135	374	393
3:00 PM	22	42	109	10	34	135	351	369
4:00 PM	21	40	117	10	34	135	356	374
5:00 PM	20	37	125	30	52	135	399	419
6:00 PM	18	33	133	54	52	135	425	446
7:00 PM	16	31	133	59	52	135	426	448
8:00 PM	14	27	140	69	52	135	438	**460**
9:00 PM	11	21	148	66	52	135	433	455
10:00 PM	8	15	148	59	26	135	391	410
11:00 PM	3	6	156	39	0	135	340	357
12:00 AM	0	0	156	30	0	135	321	337

Notes:

[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.

[2] See Table 2 of parking study for a discussion of parking rates selected for use.

[3] Time of day parking rates based on the weekend parking demand ratios (for customers), as summarized in Table 2-6 of the "Shared Parking" manual.

[4] Parking allocated for residential use is assumed to be separate and secured; thus, it is not available for sharing with other project components.

Table 4
WEEKEND SHARED PARKING DEMAND ANALYSIS [1]
Ritz Carlton and J.W. Marriott at LA Live

Land Use	**Retail**	**Spa / Personal Service**	**Leisure Hotel**	**Restaurant + Outdoor Dining**	**Meeting Rooms**	**Bar Space**	**Residential [5]**		
Size	**0.53 KSF**	**8.00 KSF**	**1,001 Rms**	**14.50 KSF**	**75.61 KSF**	**10.1 KSF**	**55 DU**		
Parking Rate[2]	**3.33 /KSF**	**3.33 /KSF**	**0.50 /Rm**	**5.00 /KSF**	**4.00 /KSF**	**5.00 /KSF**	**2.25 /DU**		**Actual Counted**
Gross Spaces	**2 Spc.**	**27 Spc.**	**501 Spc.**	**73 Spc.**	**302 Spc.**	**51 Spc.**	**124 Spc.**	**Shared**	**Parking Demand [4]**
Time of Day [3]	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Parking Demand**	**Number of Spaces**
6:00 AM	0	0	475	0	0	0	124	600	218
7:00 AM	0	1	475	7	0	0	124	484	224
8:00 AM	0	3	450	22	91	0	124	566	240
9:00 AM	1	8	400	7	181	0	124	598	249
10:00 AM	1	13	350	7	181	0	124	553	280
11:00 AM	1	17	350	4	181	0	124	554	353
12:00 PM	1	21	325	73	197	0	124	617	338
1:00 PM	2	24	325	73	197	0	124	620	351
2:00 PM	2	27	350	24	197	0	124	599	379
3:00 PM	2	27	350	7	197	0	124	583	321
4:00 PM	2	25	375	7	197	0	124	606	349
5:00 PM	2	24	400	22	302	0	124	750	355
6:00 PM	1	21	425	40	302	13	124	803	368
7:00 PM	1	20	425	44	302	25	124	818	**388**
8:00 PM	1	17	450	51	302	38	124	860	382
9:00 PM	1	13	475	49	302	51	124	**891**	355
10:00 PM	1	9	475	44	151	51	124	731	338
11:00 PM	0	4	501	29	0	51	124	584	333
12:00 AM	0	0	501	22	0	51	124	573	312

Notes:
[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.
[2] See Table 2 of parking study for a discussion of parking rates selected for use.
[3] Time of day parking rates based on the weekend parking demand ratios (for customers), as summarized in Table 2-6 of the "Shared Parking" manual.
[4] Parking utilization counts conducted by City Traffic Counters on Saturday, March 24, 2012 at the on-site parking garage shared by the Ritz Carlton and J.W. Marriott hotels.
[5] Parking allocated for residential use is assumed to be separate and secured; thus is is not available for sharing with other proejct components.

Table 5
WEEKEND SHARED PARKING DEMAND ANALYSIS [1]
Ritz Carlton at Marina del Rey

Land Use	Retail	Spa / Personal Service	Leisure Hotel	Restaurant + Outdoor Dining	Meeting Rooms	Bar Space		
Size	**1.26 KSF**	**3.50 KSF**	**304 Rms**	**4.29 KSF**	**35.00 KSF**	**2.5 KSF**		
Parking Rate[2]	**3.33 /KSF**	**3.33 /KSF**	**0.50 /Rm**	**5.00 /KSF**	**4.00 /KSF**	**5.00 /KSF**		**Actual Counted**
Gross Spaces	**4 Spc.**	**12 Spc.**	**152 Spc.**	**21 Spc.**	**140 Spc.**	**13 Spc.**	**Shared**	**Parking Demand [4]**
Time of Day [3]	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Number of Spaces**	**Parking Demand**	**Number of Spaces**
6:00 AM	0	0	144	0	0	0	145	167
7:00 AM	0	1	144	2	0	0	147	178
8:00 AM	0	1	137	6	42	0	187	172
9:00 AM	1	3	122	2	84	0	213	173
10:00 AM	2	6	106	2	84	0	200	178
11:00 AM	3	8	106	1	84	0	202	162
12:00 PM	3	9	99	21	91	0	224	153
1:00 PM	4	10	99	21	91	0	226	144
2:00 PM	4	12	106	7	91	0	220	149
3:00 PM	4	12	106	2	91	0	215	150
4:00 PM	4	11	114	2	91	0	222	169
5:00 PM	4	10	122	6	140	0	282	183
6:00 PM	3	9	129	12	140	3	297	200
7:00 PM	3	9	129	13	140	6	300	**223**
8:00 PM	3	8	137	15	140	9	311	**223**
9:00 PM	2	6	144	14	140	13	**319**	215
10:00 PM	1	4	144	13	70	13	245	208
11:00 PM	1	2	152	9	0	13	175	190
12:00 AM	0	0	152	6	0	13	171	187

Notes:
[1] Source: ULI - Urban Land Institute "Shared Parking," Second Edition, 2005.
[2] See Table 2 of parking study for a discussion of parking rates selected for use.
[3] Time of day parking rates based on the weekend parking demand ratios (for customers), as summarized in Table 2-6 of the "Shared Parking" manual.
[4] Parking utilization counts conducted by City Traffic Counters on Saturday, March 24, 2012 at the on-site parking facility for the Ritz Carlton.

Ocean Avenue LLC
c/o MSD Capital, L.P.
100 Wilshire Boulevard, Suite 1700
Santa Monica, California 90401

Transmittal

DATE: 7-29-19

TO: Rachel Kwok

FROM: Dustin Peterson, Owner's Representative

CC: Roxanne Tanemori
Luci Hise-Fisher
Jay Ziff

RE: Miramar Redevelopment Project (the "Project")
Addendum Trip Generation Study

Dear Rachel,

As a follow up to the City's request for an additional on-site trip generation survey focused on the bungalow, traffic engineering firm Linscott Law & Greenspan ("LLG") has modified the previously submitted trip generation report dated March 19, 2019 ("Initial Trip Generation Report") to conservatively account for TNC (transportation network company) trips and utilization of the City's TDFM rates for retail, market rate housing and affordable housing. This Addendum Trip Generation Study dated July 27, 2019 ("Updated Trip Generation Report") is attached.

This additional analysis and addendum was completed at the request of the City to further address anticipated trip generation impacts of the Project, in relation to both current trips from existing hotel operations as well as to the changes in vehicular trips anticipated in the Downtown Community Plan ("DCP") Environmental Impact Report. Because the Project is both consistent with, and smaller than, the buildout of the project site anticipated in the DCP, Project-related trips are within the trip counts anticipated by the DCP.

The results of both the previous and new empirical trip studies discussed in the attached report were applied to calculate trips for the Project. Using the conservative assumptions as directed by the City and F&P, the Updated Trip Generation Report concludes that the Project would generate a small incremental increase of some types of trips above existing hotel operations. Though not addressed in the Updated Trip Generation Report, we note that this incremental increase is in turn a very small fraction of the incremental increase anticipated for the overall DCP area.

The empirical study methodology for both the Initial Trip Generation Report and the Updated Trip Generation Report did not include any reduction in trips based on the Project's mandatory compliance with the Transportation Demand Management Ordinance, or from implementation of any additional TDM

measures that may be included in the Development Agreement or that the DCP requires for the Project. Because these TDM measures were not factored into the studies, the study methodology overstates total trip generation for the Project. We anticipate that factoring in such TDM measures would show that the Project will cause a net decrease in trips – even utilizing the conservative assumptions described in the Updated Trip Generation Report. We would however request that the incremental trips, as reduced by TDM measures, be incorporated into any analysis evaluating the DCP increment.

Please feel free to call me at 310-899-4184 or e-mail me at dpeterson@athensdevco.com with any questions on the attached.

P.S. We will also be providing via email (separately) the spreadsheets with the bungalow survey detail for Wednesday June 19, 2019 and Saturday June 22, 2019 for the City and F&P's use and review.

MEMORANDUM

To:	Dustin Peterson The Athens Group Ocean Avenue, LLC Owner's Representative	Date:	July 29, 2019
From:	David S. Shender, P.E. Linscott, Law & Greenspan, Engineers	LLG Ref:	5-15-0178-1
Subject:	**Addendum Trip Generation Study Conducted in Conjunction with the Proposed Miramar Hotel Redevelopment City of Santa Monica, California**		

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Executive Summary

Linscott, Law & Greenspan, Engineers ("LLG") previously prepared a trip generation study[1] (the "Trip Generation Study") for the proposed Miramar Hotel Redevelopment project (the "Project") located in the City of Santa Monica ("City"). The purpose of the Trip Generation Study was to compare weekday daily, weekday morning (AM) and afternoon (PM) peak hour, Saturday daily and Saturday mid-day (MD) peak hour trip generation from existing operations on the Project site with future Project trips using applicable site-specific and comparable development empirical data. This analysis was based on recently-conducted trip generation surveys as requested by the City as part of the Environmental Impact Report process. The Trip Generation Study was submitted to the City of Santa Monica for review and comment.

In response to comments and feedback from the City and F&P, this Addendum Trip Generation Study has been prepared to address the following:

(1) Transportation Network Company (TNC) Trips. The surveys conducted at the existing hotel for the Trip Generation Study document trips to and from the site by various modes of travel, including TNC trips (e.g., Uber and Lyft, as well as taxis). In the initial Trip Generation Study dated March 19, 2019, each TNC trip is counted as one vehicle trip generated by the use (e.g., hotel guestrooms, restaurants, spa and fitness facilities) based on the understanding that the TNC driver would have generated a preceding or subsequent fare at or in close proximity to the hotel. The City and F&P directed use of a more conservative approach assuming that each arrival or departure via a TNC vehicle would actually generate two trips (e.g., the TNC arriving to drop-off a hotel guest would then immediately generate a departure trip assuming the TNC vehicle leaves without a new fare). Accordingly, the trip generation rates derived in this Addendum Trip Generation Study have been adjusted to assume two vehicle trips per arriving or departing TNC trip.

[1] *Trip Generation Study Conducted in Conjunction with the Proposed Miramar Hotel Development*, Linscott, Law & Greenspan, Engineers, March 19, 2019.

(2) Retail Trip Rates. The initial Trip Generation Study dated March 19, 2019 provided derived trip rates for the retail component at the existing hotel based on the actual trip generation survey data. It is noted that the retail component is located within the existing hotel and is used primarily by hotel guests (i.e., the retail use does not face out to the street and nor does it have a separate walk-in entrance from the streets adjacent to the existing hotel). Therefore, the trip generation rates for the existing hotel are significant below the rates established in the City's Travel Demand Forecasting Model[2] (TDFM). The City and F&P noted some of the Project retail components will be different (i.e., will primarily face onto Wilshire Boulevard, and will have separate walk-in entrances from the street. Because of its greater visibility and accessibility, the City and F&P noted that the retail component at the Project may generate more external vehicle trips per square foot of floor area than the retail component at the existing hotel. Accordingly, the City and F&P directed use of the retail trip rates provided in the City's TDFM for purposes of forecasting vehicle trips associated with the retail component at the Project, which are more conservative (i.e., generate more vehicle trips) than the retail trips rates derived from the trip generation survey data.

(3) Residential Trip Rates. The initial Trip Generation Study dated March 19, 2019 provided derived trip rates for market-rate and affordable residential uses based on driveway counts conducted at three existing nearby market-rate and three affordable residential projects. These actual trip rates were lower than the trip rates provided for residential uses in the TDFM. The City and F&P directed use of the market-rate and affordable trip rates provided in the City's TDFM, which is more conservative (i.e., generate more vehicle trips) than the residential trip rates derived from the nearby residential project survey data. Accordingly, the trip generation forecasts provided in the in the Addendum Trip Generation Study for the market-rate and affordable residential elements of the Project utilize the trip rates provided in the City's TDFM document.

[2] *Santa Monica Travel Demand Forecasting Model Trip Generation Rates*, Fehr & Peers, October 2011.

(4) Bungalow Trip Rates. The initial Trip Generation Study dated March 19, 2019 provided derived trip rates for the Bungalow component at the existing hotel. As explained in the Trip Generation Study, the Bungalow will be replicated in the Project in terms of floor area and use. Further, as documented in the Trip Generation Study, the Bungalow trip generation characteristics are unique to this use (i.e., not the same as the other food and beverage uses within the existing hotel) and it is reasonable to assume that the Bungalow's current vehicle trip generation will remain the same as part of the Project.

After reviewing the initial Trip Generation Study, the City and F&P directed completion of a supplemental survey of trip generation at the existing Bungalow whereby: a) arriving patrons be surveyed to determine total count and travel mode (similar to the prior surveys); b) departing patrons be counted (without conducting verbal surveys of travel mode); and c) the travel mode splits determined for the arriving patrons be applied to the counted departing patrons. It was determined by the City and F&P that the supplemental transportation surveys focus to the weekday PM peak hour and Saturday MD peak hour (i.e., in lieu of conducting surveys over a 24-hour period as was conducted with the Trip Generation Study) because the focus of the transportation analysis are the weekday and Saturday peak hours.[3] The supplemental transportation surveys conducted at the Bungalow for this Addendum Trip Generation Study are detailed in a following section.

A. Supplemental Bungalow Trip Generation Study

The Traffic Solution was retained to conduct the supplemental transportation survey at the Bungalow for the three hour weekday PM peak period starting at 4:30 PM and ending at 7:30 PM on Wednesday June 19, 2019, as well as a four hour weekend peak period starting at 1:00 PM and ending at 5:00 PM, the Saturday MD peak period on Saturday June 22, 2019. All of the trip generation surveyor technicians engaged by the Traffic Solution were deployed at the single point of entry and exit for customers at the Bungalow. Three technicians were stationed at the entry/exit location to engage arriving guests to Bungalow during the peak period surveys and one technician was stationed at the entry/exit location to count departing guests from Bungalow for the peak period surveys.

[3] As noted in the Trip Generation Study, the Bungalow is closed during the weekday morning (AM) peak hour and thus, no surveys are required during this period.

All guests arriving to the Bungalow were interviewed and respondents stated that they were arriving by either: (a) driving and parking with the on-site valet; (b) driving and parking at an off-site location; (c) using a TNC; (d) using a third-party private car and were counted as vehicular trips; or (e) arriving by transit. The Traffic Solution technicians also documented non-vehicular travel, such as by bike, scooter or walking (except to an off-site vehicle). Additionally, the Traffic Solution also requested information from the arriving guests regarding their City of origin for their trip to the Bungalow. Finally, all departing Bungalow guests were counted during the peak period surveys, but not separately interviewed as previous attempts to interview departing guests from this use had been deemed unreliable.

Results from the surveys were collected in 15-minute increments over the three-hour peak period on Wednesday, June 19, 2019 and the four-hour peak period on Saturday, June 22, 2019. Results were then consolidated into a spreadsheet and allocated among six classifications: onsite car; off-site car; TNC; transit; walk; other. The survey data has been transmitted to the City and F&P for their review and use.

B. Supplemental Bungalow Trip Generation Study Results

This section summarizes the results of the supplemental on-site Bungalow trip generation surveys conducted on Wednesday June 19, 2019 and Saturday June 22, 2019. As a point of information, the supplemental trip generation surveys by Traffic Solution occurred during the summer month of June, with the hotel guestroom occupancy at 88% on Wednesday June 19, 2019 and 97% on Saturday June 22, 2019 – both higher than the hotel's average occupancy rate of about 87%.

Table A and ***Table B*** provide a summary of the peak hour data for the supplemental trip generation surveys conducted at the Bungalow during Wednesday, June 19, 2019 and Saturday, June 22, 2019, respectively. It is noted that the peak hour trip generation data for the Bungalow was derived for 6:30 – 7:30 PM during the weekday and 2:00 – 3:00 PM on a weekend to correspond with the peak hours of the existing hotel as documented in the initial Trip Generation Study dated March 19, 2019. As shown in *Table A* and *Table B*, the travel modes derived from the surveys of arriving patrons were applied to the count of departing patrons for the purpose of determining outbound vehicle trips generated. As previously stated, patrons arriving or departing via a TNC resulted in two vehicle trips generated in this study (e.g., a patron arriving at the Bungalow via a TNC was counted as two vehicle trips).

TABLE A
ON-SITE SURVEYS
MIRAMAR HOTEL - THE BUNGALOW
WEDNESDAY, JUNE 19, 2019 [1]

19-Jul-19

Mode of Transportaion	Inbound				Outbound	
	Number of People	Number of Vehicles	AVR	Mode Split	Number of People	Number of Vehicles
On-Site Vehicle	13	5	2.60	16.46%	8	3
Off-Site Vehicle	16	8	2.00	20.25%	9	5
Uber, Etc. [2]	21	22	1.91	26.58%	12	13
Transit	1	--	--	1.27%	1	--
Walk, Etc.	28	--	--	35.44%	16	--
Total	**79**	**35**	**--**	**--**	**46**	**21**

[1] Hotel peak hour occurred from 6:30 PM to 7:30 PM.

[2] Vehicles doubled to account for Uber, Etc. trips arriving and/or leaving after dropping off/picking up patrons.

TABLE B
ON-SITE SURVEYS
MIRAMAR HOTEL - THE BUNGALOW
SATURDAY, JUNE 22, 2019 [1]

19-Jul-19

Mode of Transportaion	Inbound				Outbound	
	Number of People	Number of Vehicles	AVR	Mode Split	Number of People	Number of Vehicles
On-Site Vehicle	4	3	1.33	1.31%	1	1
Off-Site Vehicle	53	20	2.65	17.38%	12	5
Uber, Etc. [2]	196	132	2.97	64.26%	46	32
Transit	0	--	--	0%	0	--
Walk, Etc.	52	--	--	17.05%	12	--
Total	**305**	**155**	**--**	**--**	**71**	**38**

[1] Hotel peak hour occurred from 2:00 PM to 3:00 PM.

[2] Vehicles doubled to account for Uber, Etc. trips arriving and/or leaving after dropping off/picking up patrons.

LINSCOTT LAW & GREENSPAN engineers

C. Updated Trip Generation Analysis

Table C[4] has been prepared to provide an updated analysis of vehicle trips generated by the components of the existing hotel during the weekday AM and PM peak hours, as well as the Saturday MD peak hour based on: i) the updated trip generation data for the Bungalow based on the supplemental transportation surveys as described above; and ii) counting each arrival or departing patron or employee using the TNC travel mode as two vehicle trips. In addition, as indicated above, *Table C* utilizes the City's TDFM rates for the Project's retail and residential components (instead of being based on the prior empirical data utilized in the initial Trip Generation Study dated March 19, 2019) as the City and F&P have indicated that they feel that both of these components of the Project are not unique compared with other retail and residential uses in the City, and therefore, should not have separate, project-specific trip generation rates. As shown in *Table C*, the components of the existing hotel generate 171 vehicle trips during the weekday AM peak hour, 141 vehicle trips during the weekday PM peak hour, and 321 vehicle trips during the Saturday MD peak hour.

Table D[5] provides the updated derivation of the peak hour trip generation rates for the components of the existing hotel based on the supplemental Bungalow transportation data and the doubling of the TNC vehicle traffic counts as previously described.

The updated trip generation forecast for the Project during the weekday AM and PM peak hours, as well as the Saturday MD peak hour, is provided in ***Table E***.[6] The peak hour trip rates provided in *Table E* have been updated from the Trip Generation Study based on the following: i) the City's TDFM trip rates are utilized for the retail component of the hotel, as well as for the market-rate and affordable residential elements of the Project; ii) use of the updated trip rates for the hotel components provided in *Table D* (except for the retail use). *Table E* also reflects the updated calculation of peak hour vehicle trips generated by the existing hotel as summarized in *Table C*.

As shown in *Table E*, the Project is forecast to generate 250 vehicle trips during the weekday AM peak hour, 219 vehicle trips during the weekday PM peak hour, and 413 vehicle trips during the Saturday MD peak hour. When compared to the calculated vehicle trips generated by the existing hotel, the Project is forecast to result in 79 net new vehicle trips during the weekday AM peak hour, 78 net new vehicle trips during the weekday PM peak hour, and 92 net new vehicle trips during the Saturday MD peak hour.

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[4] The trip counts in *Table C* replace the corresponding peak hour data provided in Table 2 of the Trip Generation Study.
[5] The trip rates in *Table D* replace the corresponding peak hour data provided in Table 3 of the Trip Generation Study.
[6] The trip forecasts for the Project in *Table E* replace the corresponding peak hour data provided in Table 5 of the Trip Generation Study.

Table C
THIRD PARTY VEHICLE COUNTS [1], [2]
MIRAMAR HOTEL

19-Jul-19

EXISTING LAND USE	WEEKDAY		SATURDAY
	AM PEAK HOUR [3]	PM PEAK HOUR [3]	MD PEAK HOUR [3]
Hotel			
Hotel Guest	71	16	48
Meeting Room	24	17	4
Loading Dock	32	0 [4]	0 [4]
Subtotal	127	33	52
Restaurant			
The FIG / Pool Café	13	5	9
The Bungalow	0 [4]	56	193
Lobby Lounge	5	5	5
Subtotal	18	66	207
Spa	3	5	4
Retail	0 [4]	0 [4]	2
Employee	23	37	56
TOTAL	**171**	**141**	**321**

[1] On-site vehicle counts derived from surveys conducted by The Traffic Solution on Saturday, September 22, 2018 and Thursday, September 27, 2018, supplemented with surveys of The Bungalow conducted during the weekday PM peak period and Saturday MD peak period on Wednesday, June 19, 2019 and Saturday, June 22, 2019, respectively.
[2] AM, PM, and MD peak hours determined to be 9:00 - 10:00 AM, 6:30 - 7:30 PM, and 2:00 - 3:00 PM, respectively.
[3] The Bungalow and Retail are closed during the AM peak hour.
[4] '0' value indicates no vehicle trips counted during this peak hour.

Table D
DERIVATION OF VEHICLE TRIP RATES [1]
MIRAMAR HOTEL

19-Jul-19

EXISTING LAND USE	EXISTING SIZE	WEEKDAY				SATURDAY	
		AM PEAK HOUR		PM PEAK HOUR		MD PEAK HOUR	
		TRIPS	RATE	TRIPS	RATE	TRIPS	RATE
Hotel	301 Keys	127	0.42 / Key	33	0.11 / Key	52	0.17 / Key
Restaurant							
The FIG / Pool Café	3,338 GSF	13	3.89 / KSF	5	1.50 / KSF	9	2.70 / KSF
The Bungalow	7,005 GSF	0 [2]	0.00 / KSF	56	7.99 / KSF	193	27.55 / KSF
Lobby Lounge	3,256 GSF	5	1.54 / KSF	5	1.54 / KSF	5	1.54 / KSF
Spa	5,569 GSF	3	0.54 / KSF	5	0.90 / KSF	4	0.72 / KSF
Retail	1,235 GSF	0 [2]	0.00 / KSF	0	1.23 / KSF [3]	2	1.62 / KSF
Employee	282 Emp.	23	0.08 /Emp.	37	0.13 /Emp.	56	0.20 / Emp.

[1] Vehicle trip generation for the existing components of the Miramar Hotel derived based on Third Party Vehicle Counts provided in Table C.
[2] The Bungalow and Retail are closed during the AM peak hour.
[3] While no trips were counted for existing Retail use in PM peak hour (See Table C), PM peak hour trip rate conservatively estimated based on derived MD peak hour rate hereon (1.62) and adjusted using proportion of PM to MD Retail trip rates provided in City's TDFM, Table 14 (2.01/2.64).

Table E
VEHICLE TRIP GENERATION FORECAST
MIRAMAR HOTEL REDEVELOPMENT

25-Jul-19

PROPOSED LAND USE	PROPOSED SIZE		WEEKDAY				SATURDAY	
			AM PEAK HOUR		PM PEAK HOUR		MD PEAK HOUR	
			RATE	TRIPS	RATE	TRIPS	RATE	TRIPS
Hotel [1]	312	Keys	0.42 / Key	131	0.11 / Key	34	0.17 / Key	53
Restaurant								
Restaurant [1]	8,504	GSF	3.89 / KSF	33	1.50 / KSF	13	2.70 / KSF	23
The Bungalow [1]	7,005	GSF	0.00 / KSF	0	7.99 / KSF	56	27.55 / KSF	193
Lobby Lounge [1]	4,199	GSF	1.54 / KSF	7	1.54 / KSF	7	1.54 / KSF	7
Spa [1]	12,500	GSF	0.54 / KSF	7	0.90 / KSF	11	0.72 / KSF	9
Retail [2]	6,600	GSF	1.38 / KSF	9	2.06 / KSF	14	2.65 / KSF	18
Employee [1]	387	Emp.	0.08 / Emp.	31	0.13 / Emp.	50	0.20 / Emp.	77
Market-Rate Residential [2]	60	Units	0.36 / Unit	22	0.39 / Unit	23	0.37 / Unit	22
Affordable Residential [2]	48	Units	0.21 / Unit	10	0.23 / Unit	11	0.22 / Unit	11
PROPOSED PROJECT TRIPS				**250**		**219**		**413**
EXISTING SITE TRIPS				**(171)**		**(141)**		**(321)**
NET NEW TRIPS				**79**		**78**		**92**

[1] See Table D for trip rates derived for ancillary uses at existing Miramar Hotel.
[2] Trip generation rates for retail and residential uses derived by the City of Santa Monica based on the City of Santa Monica Travel Demand Forecasting Model.

Appendix M

Native American Consultation Documentation

ESA

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Andrew Salas
Gabrieleno Band of Mission Indians- Kizh Nation
PO Box 393
Covina, CA 91723

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Chairperson Salas,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

Project Location
The project site encompasses two parcels in the Downtown district of the City of Santa Monica, County of Los Angeles (see Figure 1 – Project Location).

The main parcel, occupied by the Miramar Hotel, is approximately 4.5 acres in size and is located at 1133 Ocean Avenue (Main Parcel). The Main Parcel is currently improved with 301 hotel rooms and related hotel programming space located within a number of buildings. There are two city-designated landmarks located on the Main Parcel – the Moreton Bay Fig Tree and the six-story Palisades Building.

The other parcel is located directly across the street to the east at 1127 2nd Street (Second Street Parcel). The Second Street Parcel is currently improved with a surface parking lot. The Santa Monica Freeway (I-10) is located less than one mile to the south of the site and provides regional access. Pacific Coast Highway to the west of the project site also provides regional access. Local access is provided via Wilshire Boulevard, Ocean Avenue, and Second Street.

Project Description

The proposed project would involve redevelopment of the Main Parcel and Second Street Parcel. The Main Parcel would include a new mixed-use hotel and residential project with ground level open space, food and beverage facilities, meeting space, and ground floor retail uses along Wilshire Boulevard. The two City-designated landmarks would be retained. The Second Street Parcel would include a new 100% affordable housing development. The table below provides the conceptual land use program for the proposed project:

Land Use	**Proposed SF/DU**
Guestrooms	312 rooms (11 net new)
Food and Beverage Space	11,500 sf (4,418 net new)
Meeting Space	13,000 sf (net reduction of 5,525)

Retail	6,600 sf (5,365 net new)
Spa/Fitness Facility	12,500 sf (6,931 net new)
Market Rate Residential Units[1]	Up to 60 DU
Affordable Residential Units[2]	Up to 48 DU

[1]Actual number of units has not been determined, but will not exceed 60.
[2]Actual number of affordable housing units on the Second Street parcel has not been determined, but will not be less than 30.

The proposed total above grade floor area would be approximately 502,157 sf; the current hotel on the main parcel consists of approximately 262,284 sf of floor area.

In addition to retaining the two City-designated landmarks, the Main Parcel is proposed to be redeveloped with two new buildings, the California Building and the Ocean Building (Figure 2 – Conceptual Site Plan and Figure 3 – Project Rendering). The California building would be seven stories (~79 feet tall) and would include hotel guestrooms and amenities. The Ocean Building would range in height between two-stories (29 feet) at Wilshire Boulevard, seven stories along Second Street, and ten stories (a maximum of 130 feet) in the center of the Main Parcel. It would include hotel guestrooms and other hotel programming (spa, meeting space, and food and beverage), residential units, and ground floor retail along Wilshire Boulevard. The existing Landmark Palisades Building would be rehabilitated for continued use as hotel guestrooms. In addition, the existing Landmark Moreton Bay Fig Tree on the project site would be preserved and featured. The Main Parcel would also include ground level open space that would consist of an approximately 14,000 sf publicly accessible open space at the corner of Wilshire Boulevard and Ocean Avenue and approximately 36,000 sf of open space around the Moreton Bay Fig Tree. These open space areas would be activated with food and beverage uses. A three level subterranean garage below the Main Parcel would provide for up to 428 striped parking spaces. Vehicular access is proposed on Second Street (main hotel entrance), Ocean Avenue (residents only), and California Avenue (employees only).

The Second Street Parcel would be redeveloped with up to 48 affordable housing units and subterranean parking.

AB52 Consultation

State law under Assembly Bill 52 (Public Resources Code Section 21080.3.1(d)) provides California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the Project may have on tribal cultural resources. The request must be in writing to the City of Santa Monica and must identify a lead contact person. The City of Santa Monica will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the environmental review necessary for the Project, the significance of tribal cultural resources discovered, the significance of the Project's impacts on tribal cultural resources, and, if necessary, Project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend. The consultation does not limit the ability of the tribe to submit information to the City of Santa Monica regarding the significance of the tribal cultural resources, the significance of the Project's impact on tribal cultural resources, or any measure the tribe feels are appropriate to mitigate the potential impacts. If you wish to informally submit information, written comments may be sent to:

Rachel Kwok, Environmental Planner
City Planning, City of Santa Monica
1685 Main Street, Room 212
Santa Monica, CA 90407
e-mail at rachel.kwok@smgov.net,

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

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Your tribe's input is important to the City's planning process. We request that you advise us as early as possible if you wish to consult on the Project. If you require any additional information or have any questions, please contact me at (310) 458-8341 or via e-mail at rachel.kwok@smgov.net. Thank you for your assistance.

Sincerely,

Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Anthony Morales
Gabrieleno/Tongva San Gabriel Band of Mission Indians
PO Box 693
San Gabriel, CA 91778

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Chairperson Morales,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

Project Location
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The main parcel, occupied by the Miramar Hotel, is approximately 4.5 acres in size and is located at 1133 Ocean Avenue (Main Parcel). The Main Parcel is currently improved with 301 hotel rooms and related hotel programming space located within a number of buildings. There are two city-designated landmarks located on the Main Parcel – the Moreton Bay Fig Tree and the six-story Palisades Building.

The other parcel is located directly across the street to the east at 1127 2nd Street (Second Street Parcel). The Second Street Parcel is currently improved with a surface parking lot. The Santa Monica Freeway (I-10) is located less than one mile to the south of the site and provides regional access. Pacific Coast Highway to the west of the project site also provides regional access. Local access is provided via Wilshire Boulevard, Ocean Avenue, and Second Street.

Project Description

The proposed project would involve redevelopment of the Main Parcel and Second Street Parcel. The Main Parcel would include a new mixed-use hotel and residential project with ground level open space, food and beverage facilities, meeting space, and ground floor retail uses along Wilshire Boulevard. The two City-designated landmarks would be retained. The Second Street Parcel would include a new 100% affordable housing development. The table below provides the conceptual land use program for the proposed project:

Land Use	**Proposed SF/DU**
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Spa/Fitness Facility	12,500 sf (6,931 net new)
Market Rate Residential Units[1]	Up to 60 DU
Affordable Residential Units[2]	Up to 48 DU

[1]Actual number of units has not been determined, but will not exceed 60.
[2]Actual number of affordable housing units on the Second Street parcel has not been determined, but will not be less than 30.

The proposed total above grade floor area would be approximately 502,157 sf; the current hotel on the main parcel consists of approximately 262,284 sf of floor area.

In addition to retaining the two City-designated landmarks, the Main Parcel is proposed to be redeveloped with two new buildings, the California Building and the Ocean Building (Figure 2 – Conceptual Site Plan and Figure 3 – Project Rendering). The California building would be seven stories (~79 feet tall) and would include hotel guestrooms and amenities. The Ocean Building would range in height between two-stories (29 feet) at Wilshire Boulevard, seven stories along Second Street, and ten stories (a maximum of 130 feet) in the center of the Main Parcel. It would include hotel guestrooms and other hotel programming (spa, meeting space, and food and beverage), residential units, and ground floor retail along Wilshire Boulevard. The existing Landmark Palisades Building would be rehabilitated for continued use as hotel guestrooms. In addition, the existing Landmark Moreton Bay Fig Tree on the project site would be preserved and featured. The Main Parcel would also include ground level open space that would consist of an approximately 14,000 sf publicly accessible open space at the corner of Wilshire Boulevard and Ocean Avenue and approximately 36,000 sf of open space around the Moreton Bay Fig Tree. These open space areas would be activated with food and beverage uses. A three level subterranean garage below the Main Parcel would provide for up to 428 striped parking spaces. Vehicular access is proposed on Second Street (main hotel entrance), Ocean Avenue (residents only), and California Avenue (employees only).

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AB52 Consultation

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1685 Main Street, Room 212
Santa Monica, CA 90407
e-mail at rachel.kwok@smgov.net,

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
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Sincerely,

Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Sandonne Goad
Gabrielino/Tongva Nation
106 1/2 Judge John Aiso Street, #231
Los Angeles, CA 90012

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Chairperson Goad,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

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The proposed total above grade floor area would be approximately 502,157 sf; the current hotel on the main parcel consists of approximately 262,284 sf of floor area.

In addition to retaining the two City-designated landmarks, the Main Parcel is proposed to be redeveloped with two new buildings, the California Building and the Ocean Building (Figure 2 – Conceptual Site Plan and Figure 3 – Project Rendering). The California building would be seven stories (~79 feet tall) and would include hotel guestrooms and amenities. The Ocean Building would range in height between two-stories (29 feet) at Wilshire Boulevard, seven stories along Second Street, and ten stories (a maximum of 130 feet) in the center of the Main Parcel. It would include hotel guestrooms and other hotel programming (spa, meeting space, and food and beverage), residential units, and ground floor retail along Wilshire Boulevard. The existing Landmark Palisades Building would be rehabilitated for continued use as hotel guestrooms. In addition, the existing Landmark Moreton Bay Fig Tree on the project site would be preserved and featured. The Main Parcel would also include ground level open space that would consist of an approximately 14,000 sf publicly accessible open space at the corner of Wilshire Boulevard and Ocean Avenue and approximately 36,000 sf of open space around the Moreton Bay Fig Tree. These open space areas would be activated with food and beverage uses. A three level subterranean garage below the Main Parcel would provide for up to 428 striped parking spaces. Vehicular access is proposed on Second Street (main hotel entrance), Ocean Avenue (residents only), and California Avenue (employees only).

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1685 Main Street, Room 212
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e-mail at rachel.kwok@smgov.net,

Planning and Community Development
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Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Robert Dorame
Gabrielino Tongva Indians of California Tribal Council
PO Box 490
Bellflower, CA 90707

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Chairperson Dorame,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

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Rachel Kwok, Environmental Planner
City Planning, City of Santa Monica
1685 Main Street, Room 212
Santa Monica, CA 90407
e-mail at rachel.kwok@smgov.net,

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

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Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Rudy Ortega
Fernandeno Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, CA 91340

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Tribal President Ortega,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

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Land Use	**Proposed SF/DU**
Guestrooms	312 rooms (11 net new)
Food and Beverage Space	11,500 sf (4,418 net new)
Meeting Space	13,000 sf (net reduction of 5,525)

Retail	6,600 sf (5,365 net new)
Spa/Fitness Facility	12,500 sf (6,931 net new)
Market Rate Residential Units[1]	Up to 60 DU
Affordable Residential Units[2]	Up to 48 DU

[1]Actual number of units has not been determined, but will not exceed 60.
[2]Actual number of affordable housing units on the Second Street parcel has not been determined, but will not be less than 30.

The proposed total above grade floor area would be approximately 502,157 sf; the current hotel on the main parcel consists of approximately 262,284 sf of floor area.

In addition to retaining the two City-designated landmarks, the Main Parcel is proposed to be redeveloped with two new buildings, the California Building and the Ocean Building (Figure 2 – Conceptual Site Plan and Figure 3 – Project Rendering). The California building would be seven stories (~79 feet tall) and would include hotel guestrooms and amenities. The Ocean Building would range in height between two-stories (29 feet) at Wilshire Boulevard, seven stories along Second Street, and ten stories (a maximum of 130 feet) in the center of the Main Parcel. It would include hotel guestrooms and other hotel programming (spa, meeting space, and food and beverage), residential units, and ground floor retail along Wilshire Boulevard. The existing Landmark Palisades Building would be rehabilitated for continued use as hotel guestrooms. In addition, the existing Landmark Moreton Bay Fig Tree on the project site would be preserved and featured. The Main Parcel would also include ground level open space that would consist of an approximately 14,000 sf publicly accessible open space at the corner of Wilshire Boulevard and Ocean Avenue and approximately 36,000 sf of open space around the Moreton Bay Fig Tree. These open space areas would be activated with food and beverage uses. A three level subterranean garage below the Main Parcel would provide for up to 428 striped parking spaces. Vehicular access is proposed on Second Street (main hotel entrance), Ocean Avenue (residents only), and California Avenue (employees only).

The Second Street Parcel would be redeveloped with up to 48 affordable housing units and subterranean parking.

AB52 Consultation

State law under Assembly Bill 52 (Public Resources Code Section 21080.3.1(d)) provides California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the Project may have on tribal cultural resources. The request must be in writing to the City of Santa Monica and must identify a lead contact person. The City of Santa Monica will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the environmental review necessary for the Project, the significance of tribal cultural resources discovered, the significance of the Project's impacts on tribal cultural resources, and, if necessary, Project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend. The consultation does not limit the ability of the tribe to submit information to the City of Santa Monica regarding the significance of the tribal cultural resources, the significance of the Project's impact on tribal cultural resources, or any measure the tribe feels are appropriate to mitigate the potential impacts. If you wish to informally submit information, written comments may be sent to:

Rachel Kwok, Environmental Planner
City Planning, City of Santa Monica
1685 Main Street, Room 212
Santa Monica, CA 90407
e-mail at rachel.kwok@smgov.net,

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

Note that transmittal of confidential information, such as the specific location of a cultural resource, is not recommended. In such instances, you should notify the City of Santa Monica via formal letter, in person, or over the phone as the confidentiality of information transmitted via email cannot be ensured.

Your tribe's input is important to the City's planning process. We request that you advise us as early as possible if you wish to consult on the Project. If you require any additional information or have any questions, please contact me at (310) 458-8341 or via e-mail at rachel.kwok@smgov.net. Thank you for your assistance.

Sincerely,

Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Charles Alvarez
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, CA 91307

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Mr. Alvarez,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

Project Location
The project site encompasses two parcels in the Downtown district of the City of Santa Monica, County of Los Angeles (see Figure 1 – Project Location).

The main parcel, occupied by the Miramar Hotel, is approximately 4.5 acres in size and is located at 1133 Ocean Avenue (Main Parcel). The Main Parcel is currently improved with 301 hotel rooms and related hotel programming space located within a number of buildings. There are two city-designated landmarks located on the Main Parcel – the Moreton Bay Fig Tree and the six-story Palisades Building.

The other parcel is located directly across the street to the east at 1127 2nd Street (Second Street Parcel). The Second Street Parcel is currently improved with a surface parking lot. The Santa Monica Freeway (I-10) is located less than one mile to the south of the site and provides regional access. Pacific Coast Highway to the west of the project site also provides regional access. Local access is provided via Wilshire Boulevard, Ocean Avenue, and Second Street.

Project Description

The proposed project would involve redevelopment of the Main Parcel and Second Street Parcel. The Main Parcel would include a new mixed-use hotel and residential project with ground level open space, food and beverage facilities, meeting space, and ground floor retail uses along Wilshire Boulevard. The two City-designated landmarks would be retained. The Second Street Parcel would include a new 100% affordable housing development. The table below provides the conceptual land use program for the proposed project:

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[1]Actual number of units has not been determined, but will not exceed 60.
[2]Actual number of affordable housing units on the Second Street parcel has not been determined, but will not be less than 30.

The proposed total above grade floor area would be approximately 502,157 sf; the current hotel on the main parcel consists of approximately 262,284 sf of floor area.

In addition to retaining the two City-designated landmarks, the Main Parcel is proposed to be redeveloped with two new buildings, the California Building and the Ocean Building (Figure 2 – Conceptual Site Plan and Figure 3 – Project Rendering). The California building would be seven stories (~79 feet tall) and would include hotel guestrooms and amenities. The Ocean Building would range in height between two-stories (29 feet) at Wilshire Boulevard, seven stories along Second Street, and ten stories (a maximum of 130 feet) in the center of the Main Parcel. It would include hotel guestrooms and other hotel programming (spa, meeting space, and food and beverage), residential units, and ground floor retail along Wilshire Boulevard. The existing Landmark Palisades Building would be rehabilitated for continued use as hotel guestrooms. In addition, the existing Landmark Moreton Bay Fig Tree on the project site would be preserved and featured. The Main Parcel would also include ground level open space that would consist of an approximately 14,000 sf publicly accessible open space at the corner of Wilshire Boulevard and Ocean Avenue and approximately 36,000 sf of open space around the Moreton Bay Fig Tree. These open space areas would be activated with food and beverage uses. A three level subterranean garage below the Main Parcel would provide for up to 428 striped parking spaces. Vehicular access is proposed on Second Street (main hotel entrance), Ocean Avenue (residents only), and California Avenue (employees only).

The Second Street Parcel would be redeveloped with up to 48 affordable housing units and subterranean parking.

AB52 Consultation

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Rachel Kwok, Environmental Planner
City Planning, City of Santa Monica
1685 Main Street, Room 212
Santa Monica, CA 90407
e-mail at rachel.kwok@smgov.net,

Planning and Community Development
City Planning Division
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Your tribe's input is important to the City's planning process. We request that you advise us as early as possible if you wish to consult on the Project. If you require any additional information or have any questions, please contact me at (310) 458-8341 or via e-mail at rachel.kwok@smgov.net. Thank you for your assistance.

Sincerely,

Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Jairo Avila
Fernandeno Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, CA 91340

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Tribal Officer Avila,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

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The proposed total above grade floor area would be approximately 502,157 sf; the current hotel on the main parcel consists of approximately 262,284 sf of floor area.

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AB52 Consultation

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Sincerely,

Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

Planning and Community Development
City Planning Division
1685 Main Street, Room 212
Santa Monica, CA 90401

April 16, 2019

Donna Yocum
San Fernando Band of Mission Indians
PO Box 221838
Newhall, CA 91322

RE: 30-Day Notice: Tribal Consultation per AB 52
Miramar Hotel Project, Environmental Impact Report

Dear Chairperson Yocum,

The City of Santa Monica is preparing an Environmental Impact Report (EIR) for the proposed Miramar Hotel Project (proposed project). The City invites your participation and consultation regarding any concerns related to Tribal Cultural Resources pursuant to Assembly Bill (AB) 52 and Public Resources Code (PRC) §21080.3.1, Formal Notification of Decision to Undertake a Project, and Notification of Consultation Opportunity. Below is a description of the project location and summary of the proposed project:

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Sincerely,

Rachel Kwok, Environmental Planner
City Planning
City of Santa Monica

Enclosures:

Project Location Map
Conceptual Plan Layout – Miramar Hotel Project

From: Jairo Avila <jairo.avila@tataviam-nsn.us>
Sent: Friday, April 19, 2019 12:11 PM
To: Rachel Kwok
Subject: FTBMI AB52 Miramar Hotel Project

Tribal Historic & Cultural Preservation Department

Project: Miramar Hotel Project
Address: 1133 Ocean Avenue and 1127 2nd Street

Hello Rachel,

On behalf of the Tribal Historic and Cultural Preservation Department of the Fernandeño Tataviam Band of Mission Indians (FTBMI), thank you for the formal notification letter and opportunity to comment on the proposed project referenced above. This project is situated outside the FTBMI's ancestral Tribal boundaries. The FTBMI would like to defer consultation for this project to members of the Gabrielino Indian Tribe.

Best,
--
Jairo F. Avila, M.A., RPA.
Tribal Historic and Cultural Preservation Officer

Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340
Office: (818) 837-0794
Website: http://www.tataviam-nsn.us

GABRIELEÑO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians /Gabrielino Tribal Council
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

City of Santa Monica
1685 Main Street, Room 212
Santa Monica, CA 90401

April 22, 2019

Re: AB52 Consultation request for the Miramar Hotel Project

Dear Rachel Kwok,

Please find this letter as a written request for consultation regarding the above-mentioned project pursuant to Public Resources Code § 21080.3.1, subd. (d). Your project lies within our ancestral tribal territory, meaning belonging to or inherited from, which is a higher degree of kinship than traditional or cultural affiliation. Your project is located within a sensitive area and may cause a substantial adverse change in the significance of our tribal cultural resources. Most often, a records search for our tribal cultural resources will result in a "no records found" for the project area. The Native American Heritage Commission (NAHC), ethnographers, historians, and professional archaeologists can only provide limited information that has been previously documented about California Native Tribes. For this reason, the NAHC will always refer the lead agency to the respective Native American Tribe of the area. The NAHC is only aware of general information and are not the experts on each California Tribe. Our Elder Committee & tribal historians are the experts for our Tribe and can provide a more complete history (both written and oral) regarding the location of historic villages, trade routes, cemeteries and sacred/religious sites in the project area.

Additionally, CEQA now defines Tribal Cultural Resources (TCRs) as their own independent element separate from archaeological resources. Environmental documents shall now address a separate Tribal Cultural Resource section which includes a thorough analysis of the impacts to only Tribal Cultural Resources (TCRs) and includes independent mitigation measures created with Tribal input during AB-52 consultations. As a result, all mitigation measures, conditions of approval and agreements regarding TCRs (i.e. prehistoric resources) shall be handled solely with the Tribal Government and not through an Environmental/Archaeological firm.

In effort to avoid adverse effects to our tribal cultural resources, we would like to consult with you and your staff to provide you with a more complete understanding of the prehistoric use(s) of the project area and the potential risks for causing a substantial adverse change to the significance of our tribal cultural resources.

Consultation appointments are available on Wednesdays and Thursdays at our offices at 910 N. Citrus Ave. Covina, CA 91722 or over the phone. Please call toll free 1-844-390-0787 or email admin@gabrielenoindians.org to schedule an appointment.

*** Prior to the first consultation with our Tribe, we ask all those individuals participating in the consultation to view a video produced and provided by CalEPA and the NAHC for sensitivity and understanding of AB52. You can view their videos at: http://calepa.ca.gov/Tribal/Training/ or http://nahc.ca.gov/2015/12/ab-52-tribal-training/*

With Respect,

Andrew Salas, Chairman

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Christina Swindall Martinez, secretary
Albert Perez, treasurer I | Martha Gonzalez Lemos, treasurer II | Richard Gradias, Chairman of the Council of Elders
PO Box 393, Covina, CA 91723 | www.gabrielenoindians.org | gabrielenoindians@yahoo.com

Rachel Kwok

From: Administration Gabrieleno <admin@gabrielenoindians.org>
Sent: Wednesday, May 22, 2019 2:19 PM
To: Rachel Kwok
Subject: Re: AB52 Consultation request for the Miramar Hotel Project

Hello Rachel, I spoke with Mr. Salas and he said that it is fine to do both of those projects on the same phone call. Here is our Dial In number (605) 475-4038 Access Code 422267

Thank You

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org

Attachments area

On Wed, May 22, 2019 at 2:13 PM Rachel Kwok <Rachel.Kwok@smgov.net> wrote:

> Phone is fine. Since you are all booked up, can we do consultation on the Ocean Avenue Project as well? They are both located in proximity to each other. See the two maps. Thanks
>
> **From:** Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
> **Sent:** Wednesday, May 22, 2019 2:09 PM
> **To:** Rachel Kwok <Rachel.Kwok@SMGOV.NET>
> **Subject:** Re: AB52 Consultation request for the Miramar Hotel Project
>
> Sounds good! Would you like for it to be an in-person or phone consultation? Also, can you please prvide a map for the project location?
>
> Thank You

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org

Attachments area

On Wed, May 22, 2019 at 1:44 PM Rachel Kwok <Rachel.Kwok@smgov.net> wrote:

7/18 at 3 pm is fine. Thank you

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Wednesday, May 22, 2019 1:33 PM
To: Rachel Kwok <Rachel.Kwok@SMGOV.NET>
Subject: Re: AB52 Consultation request for the Miramar Hotel Project

Hello Rachel, unfortunately we are all booked for the rest of this month and next month. The next available times and dates we have is 7/18 at 3pm, or 7/25 at 11am, 1,pm, or 3pm. Plase let me know if any these times/dates work for you.

Thank You

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation

PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org

Attachments area

On Wed, May 22, 2019 at 11:15 AM Rachel Kwok <Rachel.Kwok@smgov.net> wrote:

Hello,

Just checking in on this. Please let me know availability for next week for tribal consultation for the above reference project.

Thank you.

Rachel

From: Rachel Kwok
Sent: Tuesday, April 30, 2019 11:30 AM
To: Administration Gabrieleno <admin@gabrielenoindians.org>
Subject: RE: AB52 Consultation request for the Miramar Hotel Project

Hello,

Per your request for tribal consultation, I would like to make an appointment. Please email me available times for this week and early next week. I am out of the office May 8 through 14 but otherwise available.

Thank you.

Rachel

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Monday, April 22, 2019 3:17 PM
To: Rachel Kwok <Rachel.Kwok@SMGOV.NET>
Subject: AB52 Consultation request for the Miramar Hotel Project

Please see attachment

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org

Attachments area

Kyle Garcia

From: Rachel Kwok <Rachel.Kwok@SMGOV.NET>
Sent: Wednesday, September 11, 2019 2:01 PM
To: Luci Hise-Fisher; Kyle Garcia
Subject: FW: AB52 Consultation 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica

Hello,

Please see the below emails. The Gabrieleno accept the mitigation measure as written.

Thanks.

Rachel

From: Rachel Kwok
Sent: Wednesday, September 11, 2019 2:00 PM
To: Administration Gabrieleno <admin@gabrielenoindians.org>
Cc: Andy Salas <chairman@gabrielenoindians.org>; Matthew Teutimez <Matthew.Teutimez@gabrielenoindians.org>; gabrielenoindians@yahoo.com
Subject: RE: AB52 Consultation 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica

Thank you very much. We appreciate your response.

Regards,

Rachel

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Wednesday, September 11, 2019 1:58 PM
To: Rachel Kwok <Rachel.Kwok@SMGOV.NET>
Cc: Andy Salas <chairman@gabrielenoindians.org>; Matthew Teutimez <Matthew.Teutimez@gabrielenoindians.org>; gabrielenoindians@yahoo.com
Subject: Re: AB52 Consultation 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica

Thank you Rachel for your patience in receiving our response. Chairman Salas and Matthew have been in Northern California attending a CalEPA meeting this week and are returning today. Chairman Salas was able to review the mitigation language today and is in agreement with the language as you have written below. Once this language is incorporated into the project's environmental document, AB52 consultation will be complete. Thank you for your time and consideration in this matter.

On Wed, Sep 11, 2019 at 11:09 AM Rachel Kwok <Rachel.Kwok@smgov.net> wrote:

> Hi Matthew and Andy,
>
> Just following up on this again. Please let us know if you approve below. We will need to wrap up the tribal consultation process. Thanks!

Rachel

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Thursday, September 05, 2019 12:47 AM
To: Matthew Teutimez <Matthew.Teutimez@gabrielenoindians.org>; Rachel Kwok <Rachel.Kwok@SMGOV.NET>
Subject: Re: AB52 Consultation 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica

Hello Rachel

I'll take a look Thank you

On Wed, Sep 4, 2019 at 9:59 AM Rachel Kwok <Rachel.Kwok@smgov.net> wrote:

Hi Matthew and Andy,

I am writing to see if you accept the below mitigation measure. If you do, we can include it in the EIRs. Please let me know if you have further concerns and if not, we can conclude tribal consultation.

Thanks.

Rachel

From: Rachel Kwok
Sent: Wednesday, August 14, 2019 9:21 AM
To: Administration Gabrieleno <admin@gabrielenoindians.org>
Cc: Matthew Teutimez <Matthew.Teutimez@gabrielenoindians.org>; Andy Salas <chairman@gabrielenoindians.org>
Subject: RE: AB52 Consultation 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica

Thank you Matthew and Andy,

We've reviewed all the materials internally here and we suggest that the following mitigation measure be included in the EIR for both projects:

"Prior to issuance of demolition permit, the Applicant shall retain a Native American tribal monitor from the Gabrieleno Tribe. The appropriate Native American monitor shall be selected based on ongoing consultation under AB 52 and shall be identified on the most recent contact list provided by the Native American Heritage Commission. The Native American Monitor shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The frequency of monitoring shall take into account the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (younger alluvium vs. older alluvium), and the depth of excavation, and if found, the abundance and type of prehistoric archaeological resources encountered. Full-time field observation can be reduced to part-time inspections or ceased entirely if determined appropriate by the Gabrielino Tribe."

Please let me know if you have approve of the above mitigation measure. If so, we will include in the EIRs and conclude AB52 consultation.

Thanks again.

Rachel Kwok

Environmental Planner

City Planning

1685 Main Street, Room 212

PO Box 2200

Santa Monica, CA 90407

rachel.kwok@smgov.net

tel: 310 458-8341

From: Administration Gabrieleno [mailto:admin@gabrielenoindians.org]
Sent: Wednesday, July 24, 2019 3:13 PM
To: Rachel Kwok <Rachel.Kwok@SMGOV.NET>
Cc: Matthew Teutimez <Matthew.Teutimez@gabrielenoindians.org>; Andy Salas <chairman@gabrielenoindians.org>; Administration Gabrieleno Indians <admin@gabrielenoindians.org>
Subject: AB52 Consultation 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica

Thank you for your time during the AB52 consultation for the project at 1133 Ocean Ave and 101 Santa Monica Blvd in the City of Santa Monica.

As stated in the Public Resource Code section 21080.3.1. (a) The Legislature finds and declares that California Native American tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources and an area that has cultural value. According to section 21074. (a) "Tribal cultural resources" can be sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

Therefore, to explain our concerns for impacts to tribal cultural resources (TCR's) and how this project location may impact TCR's due to the location and the proposed ground disturbing activities, attached are screenshots, additional passages, and some explanatory text that was also verbally explained in the phone consultation for your project location.

The 101 Santa Monica Blvd_1938 map indicates the project location within the Village of Suangna and Comicrabit. All of our mainland villages (sans our island villages) overlapped each other to help facilitate the movement of tribal cultural resources throughout the landscape and also to our sister tribes outside of our traditional ancestral territory. Village use areas were usually shared between village areas and were commonly used by two or more adjoining villages depending on the type, quantity, quality, and availability of natural resources in the area. Therefore, human activity can be pronounced within the shared use areas due to the combined use by multiple villages and TCR's may be present in the soil layers from the thousands of years of human activity within that landscape.

The 1133 Ocean Ave_1938 and the 101 Santa Monica Blvd_1938 maps show the many trade routes around the project area. Trade routes were heavily used by our Tribe for movement of trade items, visiting of family, going to ceremony, accessing recreation areas, and accessing foraging areas. Within and around these routes contained seasonal or permanent ramadas or trade depots, seasonal and permanent habitation areas, and often still contain isolated burials and cremations from folks who died along the trail. These isolated burials are not associated with a village community burial site or ceremonial burial site, rather the location is simply where the person died and was buried where they died. Therefore, isolated burials are more concentrated and likely to occur in proximity to our trade routes, especially the major trade routes. Trade routes are considered "cultural landscapes", as stated in section 21074. (a) because the landscapes will house the objects, therefore, both cultural landscapes and cultural objects are protected under AB52 as a tribal cultural resource.

The 1133 Ocean Ave_1938 and 101 Santa Monica Blvd_1938 maps indicate the hydrography or waterways that existed around the project area. All water sources were used by our Tribe for life sustenance. Along these watercourses and water bodies occurred seasonal or permanent hamlets, seasonal or permanent trade depots, ceremonial and religious prayer sites, and burials and cremation sites of our ancestors. These activities occurred around water, both inland and coastal, because these water areas create unique habitats and riparian corridors that provide an abundance of food and medicine resources along with aesthetically peaceful areas with running water,

shade trees, and shelter. Larger water bodies were high attractants for human activity and the banks and shores of these water bodies have a higher than average potential for encountering Tribal Cultural Resources of artifacts and human remains during ground disturbing activities. Waterways are a “cultural landscape”, as stated in section 21074. (a) and are protected under AB52 as a tribal cultural resource.

Our ancient belief was that your soul travels towards the direction of the setting sun when you die because that is where the Creator is located. Thus, locations that have this viewscape and can see where the sun sets, especially at the ocean, were coveted or preferred locations for ceremonies by our spiritual leaders. Viewscapes showing the westerly skies with Catalina in the distance were coveted as well. Catalina was a very ceremonial and sacred island because it was one of the closest land masses to the setting sun (i.e. the place of the Creator). Therefore, all the powerful Spiritual Leaders inhabited the islands and viewscapes to the island from the mainland were important during ceremony on the mainland. Locations with this viewscape were chosen more than locations without this viewscape because of the spiritual significance of the island and the shamans who inhabited the island.

Due to the project site being located within and around a sacred village Suangna and Comicrabit , adjacent to sacred water courses, a major traditional trade route (Wilshire Blvd), there is a high potential to impact Tribal Cultural Resources still present within the soil from the thousands of years of prehistoric activities that occurred within and around these Tribal Cultural landscapes. Therefore, to avoid impacting or destroying Tribal Cultural Resources that may be inadvertently unearthed during the project's ground disturbing activities, attached is the mitigation language approved by our Tribal Government for use with this project.

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

Office: 844-390-0787

website: www.gabrielenoindians.org

Attachments area

--

Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
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Covina, CA 91723

Office: 844-390-0787

Appendix N

Fire and Domestic Water & Sewer Capacity Study, Fuscoe Engineering, Inc., June 2019

ESA

FIRE AND DOMESTIC WATER & SEWER CAPACITY STUDY

MIRAMAR HOTEL REDEVELOPMENT PROJECT

Santa Monica, California

Prepared for:

Ocean Avenue, LLC
101 Wilshire Boulevard
Santa Monica, CA 90104

Prepared by:

Fuscoe Engineering, Inc.
16795 Von Karman, Suite 100
Irvine, California 92606
949.474.1960
www.fuscoe.com

Project Manager:
Oriana Slasor, P.E.

Date Prepared: February 2019
Date Revised: June 2019

Job Number: 886-003-01

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1.0 INTRODUCTION

1.1 LOCATION

The Miramar Hotel Redevelopment site is located in the City of Santa Monica and consists of two parcels totaling an area of 4.75 acres. The first parcel "Hotel Parcel" is a full city block, and is bounded to the east by 2nd Street, to the west by Ocean Avenue, to the north by California Ave and to the south by Wilshire Blvd. The Main Project area is 4.41 acres. The second parcel "Second Street Parcel" is located to the east across Second Street from the Hotel Parcel totaling 0.34 acres and is an existing parking lot. The acreages were obtained from the ALTA Land Title Survey, dated 5/11/2016, which has been prepared by Fuscoe Engineering. The ALTA also includes legal descriptions of the parcels.

The Hotel Parcel currently consists of a 301-room hotel with approximately 262,284 square feet of floor area, and is comprised of the following:

- A six-story building called the Palisades Building, built in 1924, which is located a lot the southwest corner of Second Street and California Avenue intersection;
- A ten-story Ocean Building in the middle portion of the Hotel Parcel.
- A two-story meeting and back of the house building along Second Street.
- Several single-story and two-story buildings along Ocean Avenue and California Avenue.

A Vicinity Map is included below as Figure 1.

Figure 1 – Vicinity Map

1.2 PROJECT DESCRIPTION

Hotel Parcel

The proposed new *Miramar Hotel* will consist of a mixed-use luxury hotel, retail, and residential project, which is anticipated to contribute in a meaningful way to the pedestrian experience in Downtown Santa Monica. The redevelopment project will create new open spaces to encourage pedestrian activity to and through the site. More than 50% of the site is proposed as open space at ground level.

Project components on the Hotel Parcel consist of (i) the rehabilitation and ongoing hotel use of the historic Palisades Building (a City-designated landmark); (ii) the preservation and protection of the Moreton Bay Fig Tree (a City-designated landmark) as a focal point of the Project; (iii) the relocation of the main entry drive from Wilshire Boulevard to Second Street; (iv) the removal of the existing surface parking lots; (v) the demolition of all non-landmarked buildings; (vi) the construction of two new buildings (referred to herein as the Ocean Building and the California Building); (vii) the expansion of public and guest open space areas on the ground level and in building terraces and rooftops; and (viii) the construction of a subterranean parking garage beneath the newly constructed buildings and open space. Uses proposed on the Hotel Parcel include 312 hotel guest rooms, 60 market-rate condominium units, new retail spaces, new food and beverage spaces, a reduction in meeting/banquet space, and new spa and fitness center spaces. All parking for the aforementioned uses will be accommodated in the new subterranean garage with 428 striped spaces and an additional 49 aisle spaces for use by the hotel valet operations. Approximately 52% of the ground floor area on the Hotel Parcel will remain open space, including significantly wider sidewalks as well as new publicly-accessible open space and amenities along Ocean Avenue and Wilshire Boulevard. All new buildings and parking garage are assumed to be Type I construction.

Aerial View from Wilshire Boulevard and Second Street

Second Street Parcel

The proposed Second Street Parcel development consists of up to 48 affordable housing apartment units in a maximum six-story building above underground parking. The project will have a community space for its residents. The 100% affordable housing apartment building is assumed to be 5 stories of Type IIIB over one-story of Type I and a Type 1 subterranean parking garage.

Project information is included in Appendix 1 of this report.

1.3 PURPOSE OF THIS REPORT

The purpose of this report is to present the results of the fire and domestic water study, along with providing documentation of sewer capacity, for the proposed Miramar Hotel Redevelopment and the associated proposed 100% affordable housing building on Second Street. The report analyzes the adequacy of the existing City of Santa Monica water system to provide domestic and fire flows to the proposed redevelopment. In addition, the capacities of the City's existing sanitary sewer systems are evaluated.

The report will present calculations to confirm that the proposed project is projected to result in a net reduction of water usage when compared to the existing conditions. Furthermore, since sewer demand is approximately equivalent to the water usage (1:1 ratio per City of Santa Monica criteria as confirmed with Robert Banuelos, Department of Public Works), the reduction in water usage would result in an associated reduction in estimated sewer demand for proposed conditions, as compared to existing conditions.

Because the Project is projected to result in a net decrease in water demand in relation to existing conditions, the Project is not anticipated to require any incremental increase in water supply. The Downtown Community Plan ("DCP") Program Environmental Impact Report ("PEIR") confirmed that sustainable water supplies are adequate for buildout of the DCP (PEIR, p. 3.17-28). The Project is not projected to use any of the projected water supply increase needed for DCP implementation.

Because the Project is projected to result in a net decrease in sewage flows in relation to existing conditions, the Project is not anticipated to require any incremental increase in sewage conveyance or treatment capacity. The Project is not anticipated to require sewer system conveyance improvements needed for DCP implementation and thus is not projected to use any of the projected wastewater conveyance capacity increase needed for DCP implementation. The DCP PEIR also concluded that sewer treatment capacity was sufficient for DCP implementation without the need for additional treatment capacity mitigation. (PEIR Section 3.17)

The report also estimates water quantities required for fire suppression emergency response. The DCP PEIR concluded that DCP implementation would not require the need for new or physically altered fire protection systems that could result in significant environmental impacts. (PEIR p. 3.16-17) As required by PEIR MM PS-1, applicants for new buildings of seven stories or more must prepare a high-rise pre-fire plan to address "the type and capabilities of fire protection systems, the layout of the building, locations of stairwells and elevators, and how the evaluation will be handled." The fire water quantitative calculations included in this report will be used in the required pre-fire plan

for Project buildings that exceed seven stories that will be submitted for the Miramar Hotel Redevelopment during the permitting process.

2.0 METHODOLOGY

Fire hydrant flow tests were conducted by the City of Santa Monica to determine the available flow and pressures in the public water lines servicing the property. The fire hydrant locations were suggested by City staff in order to account for the entire project area for both the Hotel Parcel and Second Street Parcel. The locations and results of the fire flow tests are included in Appendix 2 of this report.

The net water usage for the two projects was evaluated by comparing the five-year baseline (existing) water usage for the existing hotel site with the proposed new water demand. The baseline usage for the Second Street Parcel is zero, since it is a vacant site. The baseline water usage was received from Savewater at City of Santa Monica and compared to the proposed water demand calculations for the Hotel Parcel and the Second Street Parcel, which were prepared by Zinner Consultants-GB Works in conjunction with Syksa Hennessy and were reviewed with the City's Department of Public Works, Water Resources Division, Office of Sustainability and the Environment staff.

The water usage calculations show that the proposed Miramar Hotel Redevelopment project's water demand is estimated to be reduced from existing conditions. Furthermore, since the sewer demand is approximately equivalent to the water demand, the project is estimated to result in a reduction of wastewater to the existing sewer system. The water usage baseline and proposed redevelopment calculations are included in Appendix 3 of this report.

Appendix B of the 2016 California Fire Code (CFC), which has been adopted by the City of Santa Monica Municipal Code per Section 8.40.010, was used to determine fire flow requirements for the project. Fire sprinklers are proposed throughout the buildings, which will result in reductions to the original tabulated fire flows. Since the hotel buildings will be connected without the use of exterior firewalls, the hotel was analyzed as one building for the purposes of the fire flow evaluation.

Appendix C of the CFC was used to analyze the adequacy of the existing fire hydrants.

Copies of each of Appendix B and Appendix C of the CFC are included in Appendix 4 of this report.

3.0 EXISTING WATER FACILITIES

Based on our review of the City of Santa Monica Water Atlas Map (Appendix 5), there are existing public water lines adjacent to the projects that will provide domestic and fire service. Domestic and fire services will be sourced from the same water mains.

There are three public water lines adjacent to the Hotel Parcel, as follows:

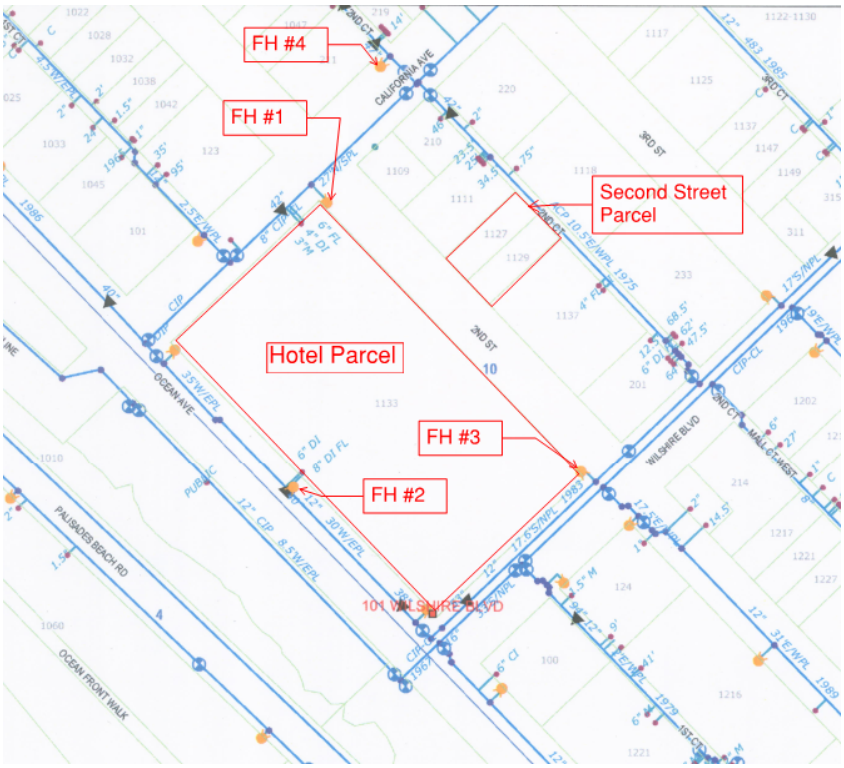
- 8″ CIP in California Avenue
- 12″ DIP in Ocean Avenue
- 12″ ACP in Wilshire Boulevard

It is assumed that new service laterals will be installed for the proposed connections for the Hotel Parcel.

The City's Water Atlas Map shows that the Hotel Parcel is currently being serviced by the waterlines in California Avenue and Ocean Avenue. The proposed project on the Hotel Parcel may utilize the existing lines in California Avenue, Ocean Avenue, and Wilshire Boulevard. However, the specific mains to be utilized have not yet been determined. It is assumed that new laterals will be installed.

The Second Street Parcel will be serviced by the existing 8″ ACP in Second Court. There is no existing water line in Second Street. It is assumed that a new service lateral will be installed for the proposed connection in Second Court.

The distance from the Second Street Project to the nearest hydrant is 270 feet to hydrant #4, as will be discussed in the next section. Hydrants #1, #2 and #3 are along the Hotel frontage, adjacent to the Hotel Parcel. The spacing between the hydrants in the vicinity of the projects does not exceed 350 feet. A snapshot of the City's waterlines and fire hydrant locations is shown below.



4.0 FIRE FLOW TEST RESULTS

The City of Santa Monica conducted fire flow tests using four hydrants located in the vicinity of the Hotel Parcel and the Second Street Parcel. As mentioned previously, the fire hydrant locations were suggested by City staff in order to account for the entire project area for both the Hotel Parcel and Second Street Parcel. The fire hydrant locations, as well as the results of the flow tests, are included in Appendix 2. Detailed calculations of the total available flow are included in Appendix 7.

4.1 FIRE HYDRANT #1 (62) CALIFORNIA AVENUE TEST RESULTS

The fire flow test results show that the total available flow for FH #1 is 1,921 gpm at 42 psi, or 2,285 gpm at 20 psi.

4.2 FIRE HYDRANT #2 (1298) OCEAN AVENUE TEST RESULTS

The fire flow test results show that the total available flow for FH #2 is 2,784 gpm at 42 psi, or 3226 gpm at 20 psi.

4.3 FIRE HYDRANT #3 (69) WILSHIRE BOULEVARD TEST RESULTS

The fire flow test results show that the total available flow for FH #3 is 2,505 gpm at 42 psi, or 2,914 gpm at 20 psi.

4.4 FIRE HYDRANT #4 (63) SECOND COURT TEST RESULTS

The fire flow test results show that the total available flow for FH #4 is 1,664 gpm at 42 psi, or 1,979 gpm at 20 psi.

5.0 FIRE FLOW & HYDRANT REQUIREMENTS

The required fire flow is based on the proposed construction type and proposed building floor area, in accordance with the 2016 California Fire Code (CFC).

The new hotel buildings are proposed to be Type I construction. The Second Street affordable housing project is proposed to be five stories of Type IIIB over one-story of Type I and a Type 1 underground parking garage. The buildings will be fully sprinklered. Therefore, the CFC allows 25% of the values obtained in Table B105.1 (2) to be used as the required fire flow, with a required minimum of 1000 gpm.

In accordance with CFC B104.3, the fire flow calculation area for Type I shall be the area of the three largest successive floors. While the above-grade floors have reduced floor areas, the subterranean parking levels, which occupy a greater area, will require fire protection, and will therefore govern for fire flow calculation area.

The areas of the three parking levels for the hotel are as follows (Appendix 1):

- LL1: 63,132 square feet
- LL2: 117,443 square feet
- LL3: 117,443 square feet

The total area of the largest three successive floors for the hotel is 298,018 square feet. Per the table in Appendix B105.1 included on the following page, the required fire flow for the hotel is 1,500 gpm at 2 hours.

Hotel Building (Including Subterranean Parking Structure)

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[b]	FLOW DURATION (hours)
Type IA and IB[a]	Type IIA and IIIA[a]	Type IV and V-A[a]	Type IIB and IIIB[a]	Type V-B[a]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	2
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	3
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,300	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	4
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
a. Types of construction are based on the *California Building Code*.
b. Measured at 20 psi residual pressure.

Reduced to:
1,500 gpm @ 2 hours

6,000 x 25% = 1,500 gpm

The proposed Second Street affordable housing project is proposed to be a maximum of six floors over a subterranean parking structure. The parking structure and 1st floor are proposed to be Type I construction, while the 2nd through 6th floors are proposed to be Type IIIB construction. The underground parking garage is estimated to be 15,000 square feet. The six stories of the building are estimated to be 6,800 square feet per floor. Per the table in Appendix B105.1 included on the following page, the required fire flow for the affordable housing project is 1,375 gpm for 2 hours.

2nd Street Parcel

1,500 x 25% = 375 gpm

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[b]	FLOW DURATION (hours)
Type IA and IB[a]	Type IIA and IIIA[a]	Type IV and V-A[a]	Type IIB and IIIB[a]	Type V-B[a]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	2
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	Reduced to 1,375 gpm @ 2 hours
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	3
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	4
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

4,000 x 25% = 1,000 gpm

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
a. Types of construction are based on the *California Building Code*.
b. Measured at 20 psi residual pressure.

Based on Appendix B of the CFC, the fire calculations show that the required fire flows for the project, using the 25% factor are as follows:

- Second Street Parcel: 1,375 gpm @ 2 hours
- Hotel Parcel including subterranean parking: 1,500 gpm @ 2 hours

Based on Appendix C of the CFC, for fire flow demand less than 1,750 gpm, one hydrant is required to service each project site. In addition, footnote "f" allow increases to the average hydrant spacing and maximum distance between hydrant and road frontage by 50-percent, which would allow (500 x 1.5 =) 750 feet spacing, and (250 x 1.5 =) 375 feet distance from road frontage to hydrant.

The spacing of the hydrants surrounding both projects is 350 feet. The spacing and distances are in conformance with the maximum spacing and distance requirements of Table C102.1 of Appendix C of the CFC.

6.0 DOMESTIC WATER & FIRE DEMAND

The detailed water usage calculations for the baseline (existing) and proposed redevelopment project are included in Appendix 3 of this report. The summary of results of the projected annual potable water use reduction is shown on the following table.

MIRAMAR REDEVELOPMENT
PROJECTED ANNUAL POTABLE WATER USE REDUCTION
February 19, 2019

	Gallons Per Year
Hotel Guestroom Water Use	4,252,213.5
Other Nonresidential Water Use (Retail, Restaurants, Event Space, Spa/Fitness, Hotel Back of House)	8,211,879.5
Residential Water Use	1,936,580.5
Landscape Irrigation	1,655,275.0
Water Feature Evaporation Makeup	222,431.0
Projected Water Use	**16,278,379.5**
+ 20% Contingency	3,255,675.9
- Water Reuse	1,655,275.0
NEW MIRAMAR PROJECTED WATER USE	**17,878,769.5**
- Current Miramar Potable Water Use per City of Santa Monica	**28,742,349.0**
NEW MIRAMAR POTABLE WATER USE REDUCTION	**-10,863,579.6**
NEW MIRAMAR PERCENT POTABLE WATER USE REDUCTION	**-0.38**
Projected 1127/1129 2nd St. Affordable Housing Potable Water Use	1,255,273
New Miramar + Affordable Housing Potable Water Use Reduction	-9,608,306.6
Miramar + Affordable Housing Percent Potable Water Reduction	**-0.334**

Based on the table above, the required domestic water for each project is as follows:

- New Miramar Hotel Project on the Hotel Parcel: 34 gpm; (based on 17,878,770 gallons/year)
- New Second Street Affordable Housing Project on the Second Street Parcel: 3 gpm (based on 1,255,273 gallons/year)

The total available flow is as follows (*Appendix 7*):

- FH #1 (California Avenue): 2,285 gpm
- FH #2 (Ocean Avenue): 3,226 gpm
- FH #3 (Wilshire Boulevard): 2,914 gpm
- FH #4 (Second Street Project): 1,979 gpm

The required fire flow demand for each project are as follows (*Appendix 8):*

- Second Street Project: 1,375 gpm for 2 hours
- Hotel: 1,500 gpm for 2 hours

The calculations of total available flow are included as Appendix 7, and the fire flow requirement calculations are included in Appendix 8. The calculations show that the existing public water system is adequate to provide domestic and fire service to the proposed project. No improvements to the existing public water systems are anticipated to be required, including upsizing of public water mains.

Since there will be an estimated reduction in water usage, the sewer demand is also anticipated to be reduced, and the existing sewer system is projected to have capacity to convey the wastewater associated with the proposed redevelopment project.

7.0 SEWER CAPACITY

The calculations in this report show that the proposed water usage is projected to be less than the existing usage. Since the City of Santa Monica allows determination of wastewater usage to be approximately equivalent to the domestic water usage (1:1 ratio), the project is projected to result in a net reduction of sewer/wastewater demand to the City of Santa Monica's sanitary sewer system. Therefore, no improvements or upsizing to the existing public sewer system are anticipated to be required.

There is existing sewer infrastructure in the vicinity of the project site, as follows:

- 12-inch sewer in Second Street
- 18-inch sewer in California Avenue
- 18-inch sewer in Ocean Avenue

Based on our review, the Hotel Parcel currently connects to the existing public sewer at the following locations:

- One lateral in California Avenue
- Four laterals in Ocean Avenue
- One lateral in Second Street

The Second Street Parcel is not currently discharging into the public sewer system.

Sewer manhole flow monitoring was performed for a 2-week period in September 2018 to establish the status of the wastewater flows in the City's existing sewer system. The results of the monitoring are as follows:

- Manhole #1 in Second Street: 12-inch sewer; depth = 4.07" (d/D = 0.34; <0.5 ok) (flow = 0.683 cfs)
- Manhole #2 in California Avenue at Ocean Avenue: 18-inch sewer; depth = 2.96" (d/D = 0.17; <0.5 ok) (flow = 0.686 cfs)
- Manhole #3 in Ocean Avenue at Wilshire Boulevard: 18-inch sewer; depth = 2.82" (d/D = 0.16 < 0.5 ok) (flow = 0.877 cfs)

Based on the City of Santa Monica's criteria of depth/diameter (d/D) is less than 0.5, the results of the sewer manhole monitoring show that the existing sewer system has capacity to convey the wastewater associated with the existing development. Furthermore, since the sewer demand is expected to be reduced, as compared to the existing condition, the existing City's sewer system has adequate capacity to accept the projected flows from the proposed redevelopment projects.

Based on the results of the water demand analysis, and using the 1:1 (sewer/water) ratio, approved by the City of Santa Monica, the following are the wastewater flows that are projected to be generated by the proposed project (total is less than existing condition):

- Hotel Parcel: 34 gpm (= 0.08 cfs)
- Second Street Parcel: 3 gpm (= 0.007 cfs)
- Total Proposed Demand: 34 gpm + 3 gpm = 37 gpm (0.087 cfs)

Although the specific lateral connections have not been determined, the proposed depths in the sewer have been prepared for estimating purposes. The preliminary results are shown below:

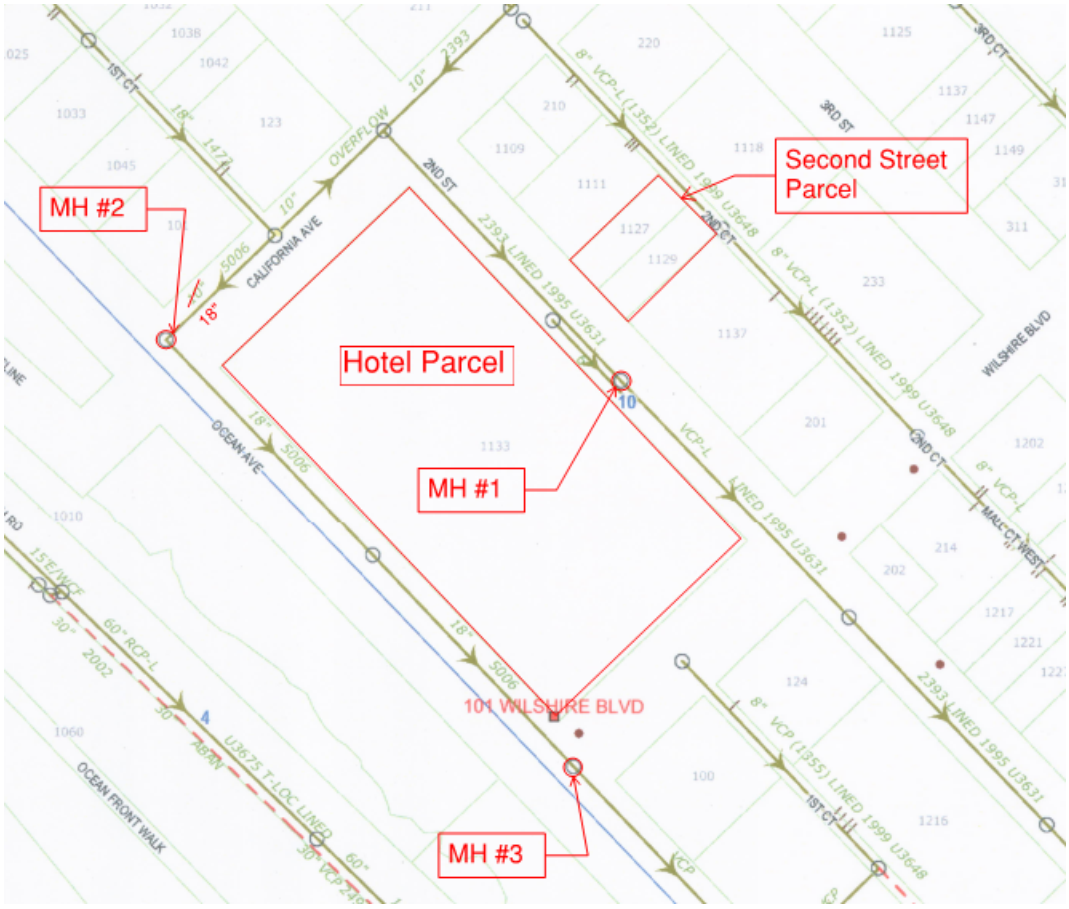
- Manhole #1 in Second Street: 12-inch sewer; depth = 4.01″ (d/D = 0.34; <0.5 ok) (reduced flow = 0.663 cfs)
- Manhole #2 in California Avenue at Ocean Avenue: 18-inch sewer; depth = 2.92″ (d/D = 0.17; <0.5 ok) (reduced flow = 0.666 cfs)
- Manhole #3 in Ocean Avenue at Wilshire Boulevard: 18-inch sewer; depth = 2.79″ (d/D = 0.16 < 0.5 ok) (reduced flow = 0.857 cfs)

Since the values listed above are for estimating purposes only, they are subject to revision based on locations of proposed sewer laterals, which will be determined during final design. The existing and proposed values are summarized in the following sewer comparison table:

MIRAMAR HOTEL REDEVELOPMENT PROJECT – SEWER COMPARISON TABLE

Sewer MH #	Location	Existing Pipe Diameter	Existing Wastewater Flow	Proposed Wastewater Flow	Flow Difference (Proposed – Existing)	Existing Condition Flow Depth	Proposed Condition Flow Depth
#1	Second Street	12″	0.683 cfs	0.663 cfs	-0.02 cfs	4.07″ (d/D=0.34)	4.01″ (d/D=0.34)
#2	California Avenue	18″	0.686 cfs	0.666 cfs	-0.02 cfs	2.96″ (d/D=0.17)	2.92″ (d/D=0.17)
#3	Ocean Avenue	18″	0.877 cfs	0.857 cfs	-0.02 cfs	2.82″ (d/D=0.16)	2.79″ (d/D=0.16)

A snapshot of the City's sewer manholes is shown below.



Based on the available capacities in the existing public sewer lines, it may be an option to discharge the wastewater from each project to a single public sewer line. Alternatively, several discharge locations may be utilized. Specific discharge locations will be determined during design phase of the projects. New sewer laterals are anticipated to be required. As requested by the City of Santa Monica, an exhibit has been prepared which shows the proposed locations of the sewer lateral connections, along with the estimated associated wastewater discharges. The proposed sewer exhibit is included in this report as Appendix 9, and the estimated discharge locations are tabulated below.

MIRAMAR HOTEL REDEVELOPMENT PROJECT – DISCHARGE LOCATIONS

Discharge Location	Estimated Wastewater Amount	Source
Ocean Avenue	0.026 cfs	Hotel Parcel
California Avenue	0.026 cfs	Hotel Parcel
2nd Street	0.028 cfs	Hotel Parcel
2nd Street	0.007 cfs	2nd Street Parcel

8.0 CONCLUSION

The analyses in this report show that the existing City of Santa Monica water system is adequate to provide domestic and fire service to the proposed Hotel and Second Street Parcel Projects. The proposed water usage is projected to be less than the existing usage. The sewer system has capacity to accept the wastewater associated with the existing and proposed redevelopment project. No improvements or upsizing is anticipated to be required to the existing public sewer or water systems.

The back-up calculations, exhibits, and references are included in the appendices of this report.

9.0 APPENDICES

Appendix 1	Project Information
Appendix 2	Fire Hydrant Locations & Results
Appendix 3	Water Usage Calculations
Appendix 4	Appendix B & Appendix C of the California Fire Code
Appendix 5	Atlas Maps
Appendix 6	Sewer Monitoring Results
Appendix 7	Detailed Calculations of Total Available Flow
Appendix 8	Fire Flow Requirement Calculations
Appendix 9	Proposed Sewer Exhibit

Appendix 1

Project Information

MIRAMAR GSF CALCULATIONS BREAKDOWN

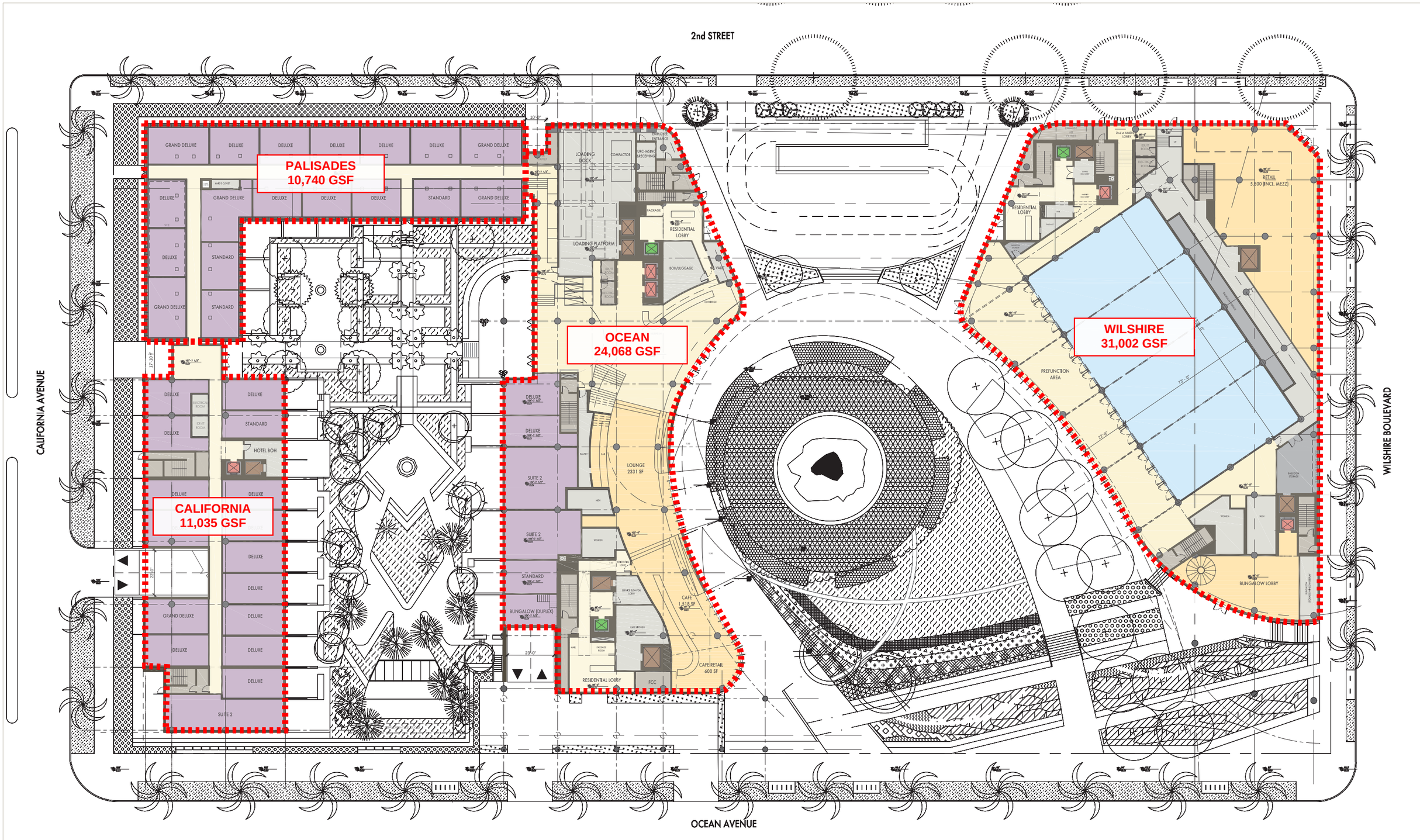
11/8/2018

Total Site Area: Lot Area: **192,063 SF**

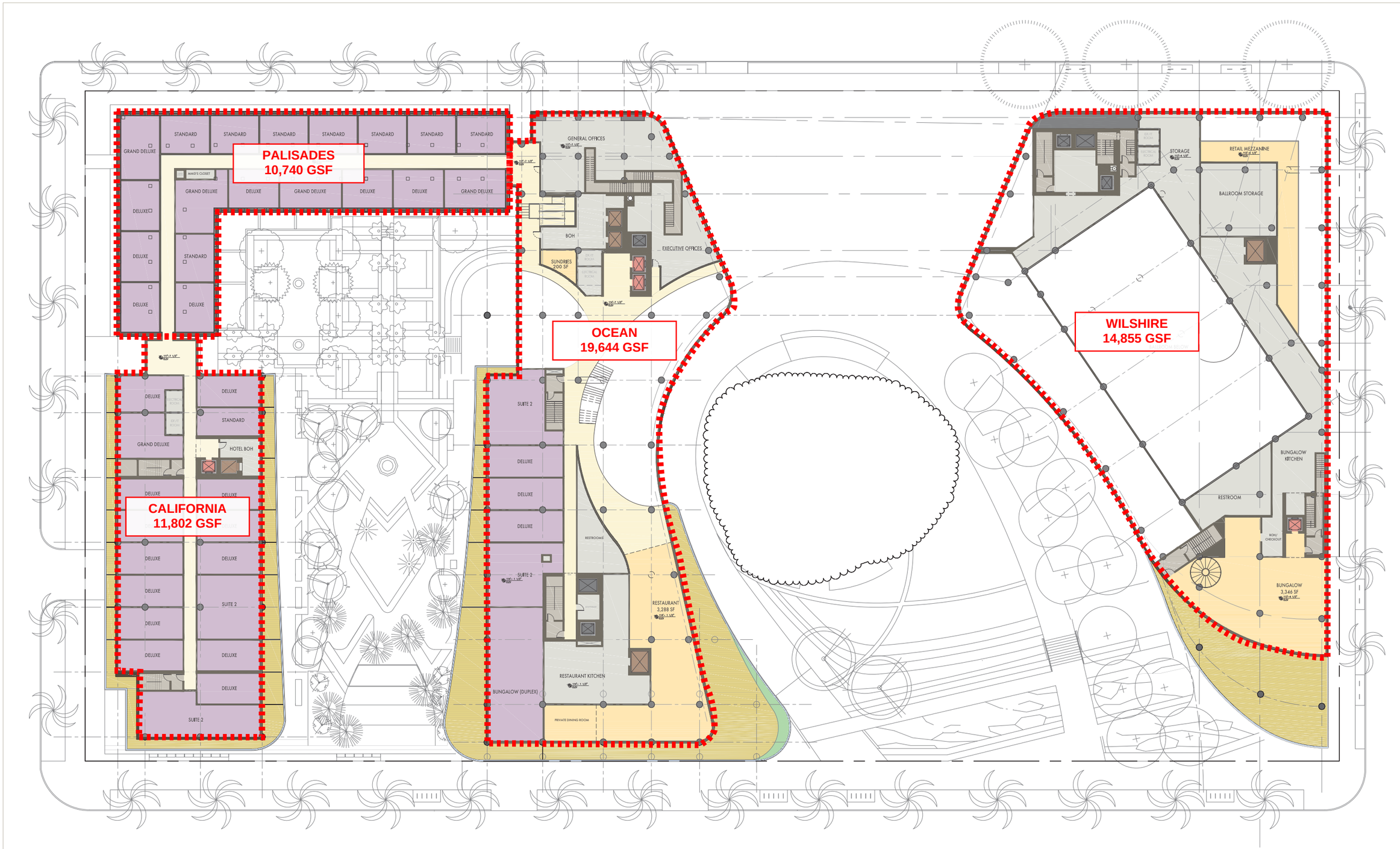
Floor	California Bldg	Palisades Bldg	Ocean Bldg		Total GSF
1	11,035	10,740	55,070	(31,002 on Wilshire)	76,845
2	11,802	10,740	34,499	(14,855 on Wilshire)	57,041
3	11,840	10,740	50,566		73,146
4	11,840	10,740	49,035		71,615
5	11,840	10,740	47,163		69,743
6	9,944	10,740	47,299		67,983
7	9,292		49,542		58,834
8	620		26,936		27,556
9			25,930		25,930
10			20,628		20,628
ROOF			141		141
Above Grade Total	78,213	64,440	406,809		549,462
LL1					63,132
LL2					117,443
LL3					117,443
Below Grade Total					298,018

Type I Construction Area of the three largest successive floors = 298,018 SF

Note: Below grade total sf includes parking garage square footage.

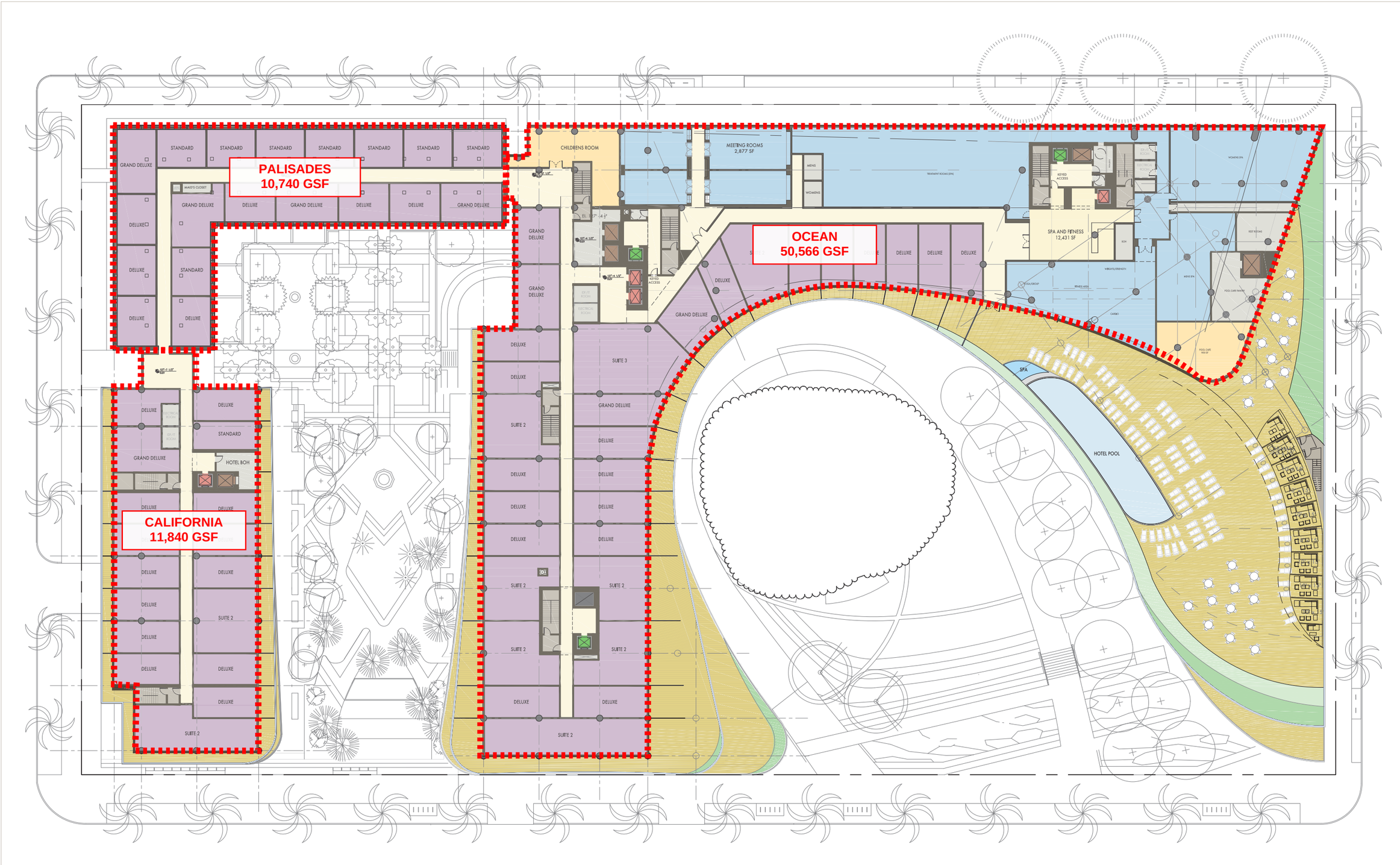


GROUND FLOOR



LEVEL 02

Pelli Clarke Pelli Architects



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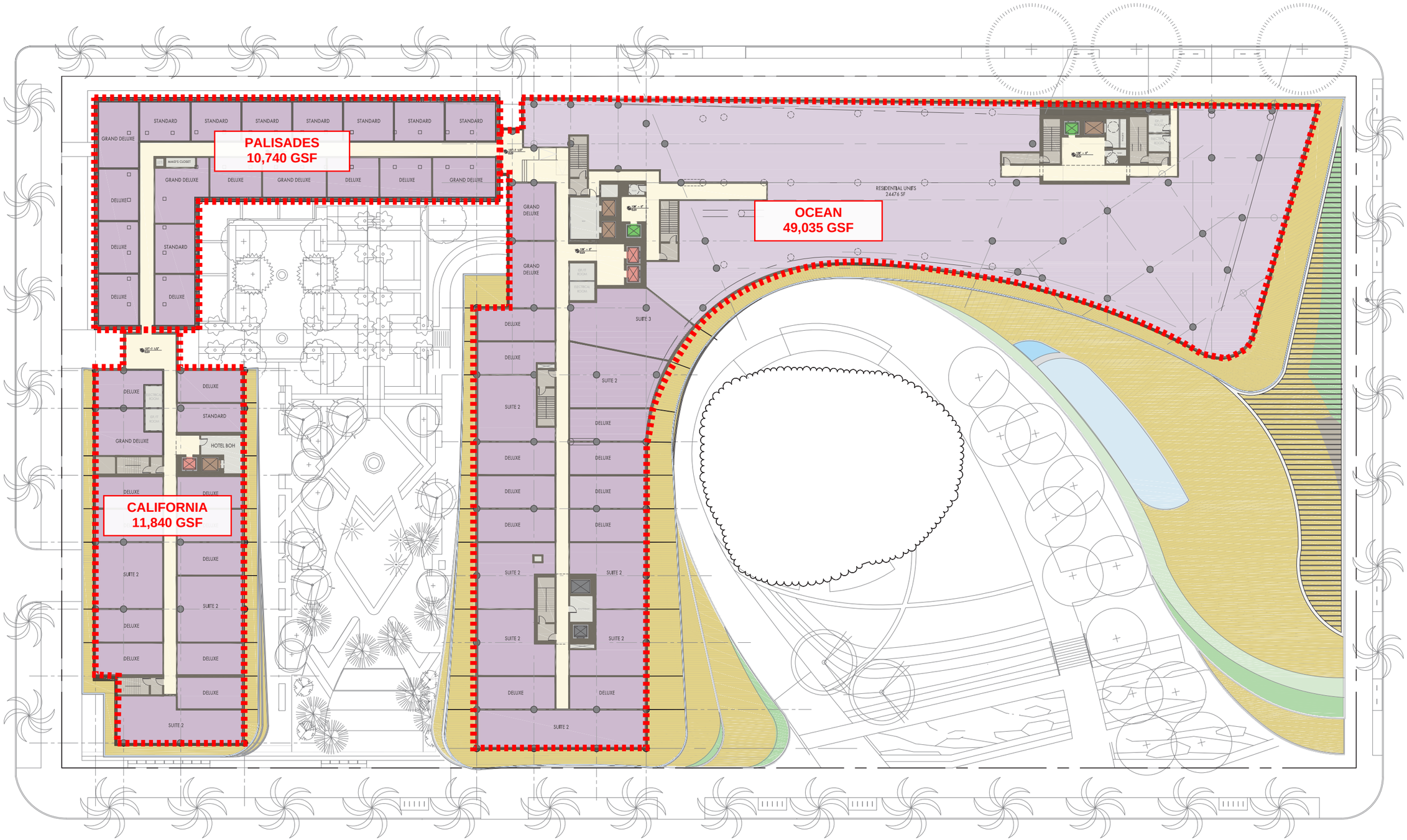

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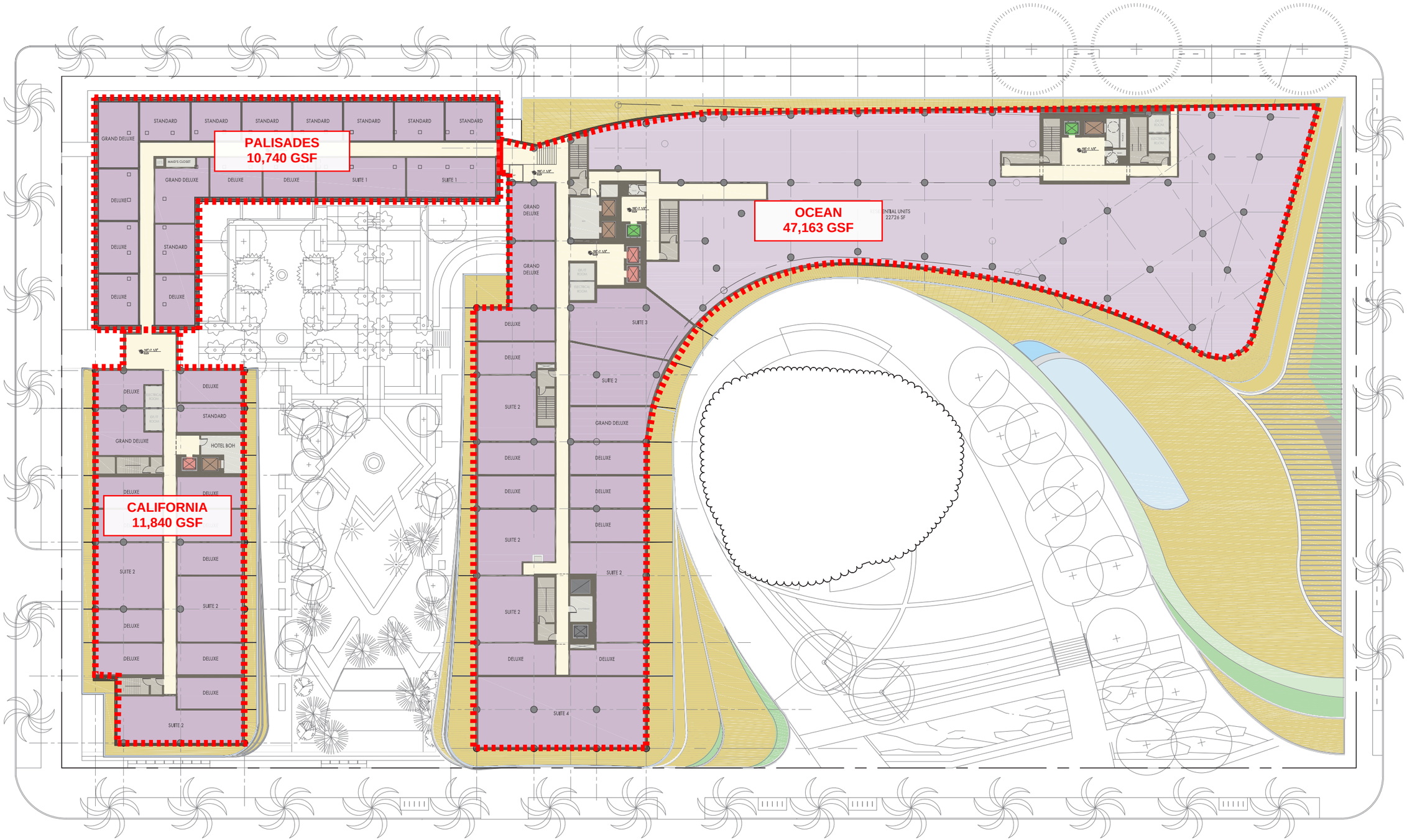

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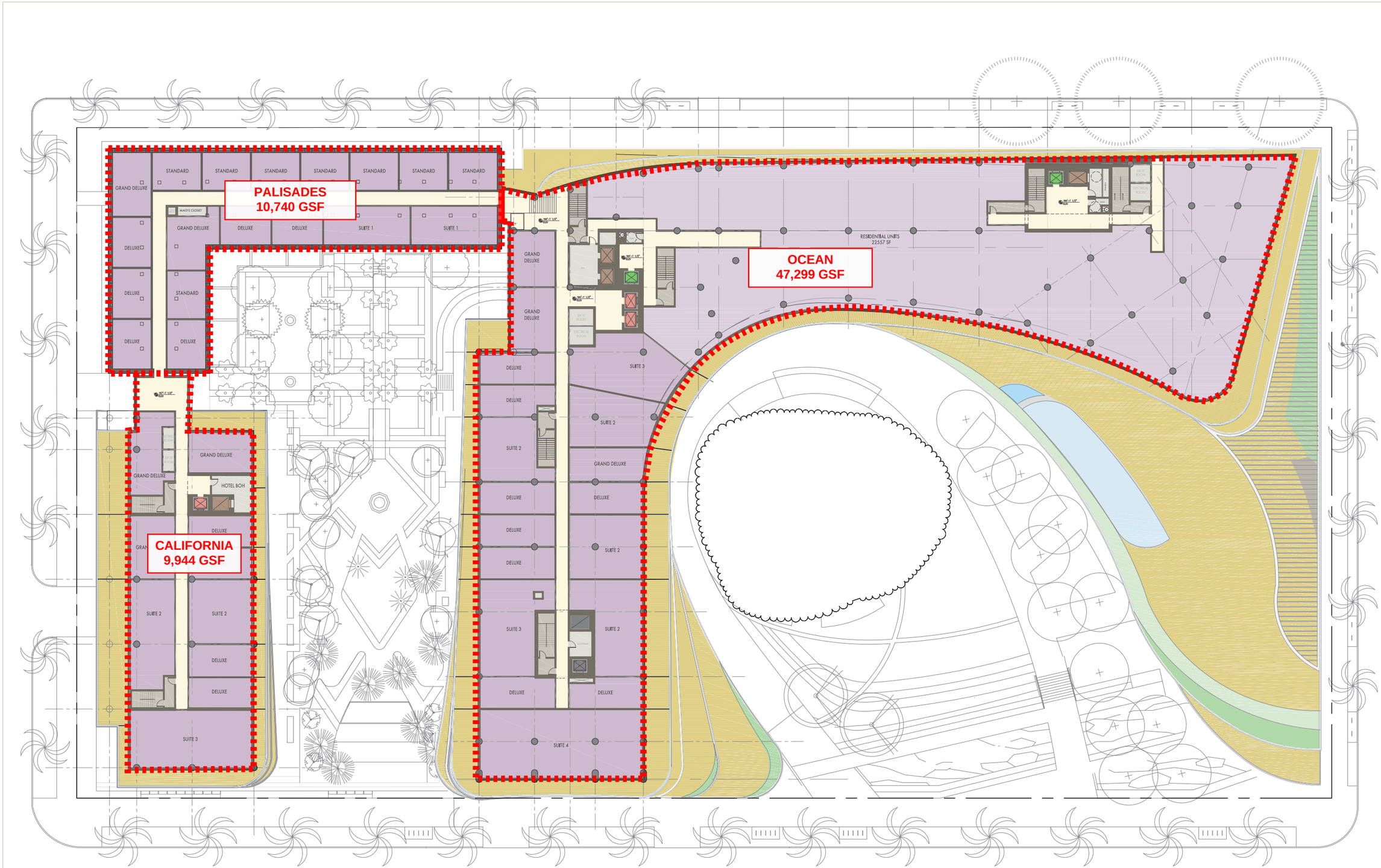

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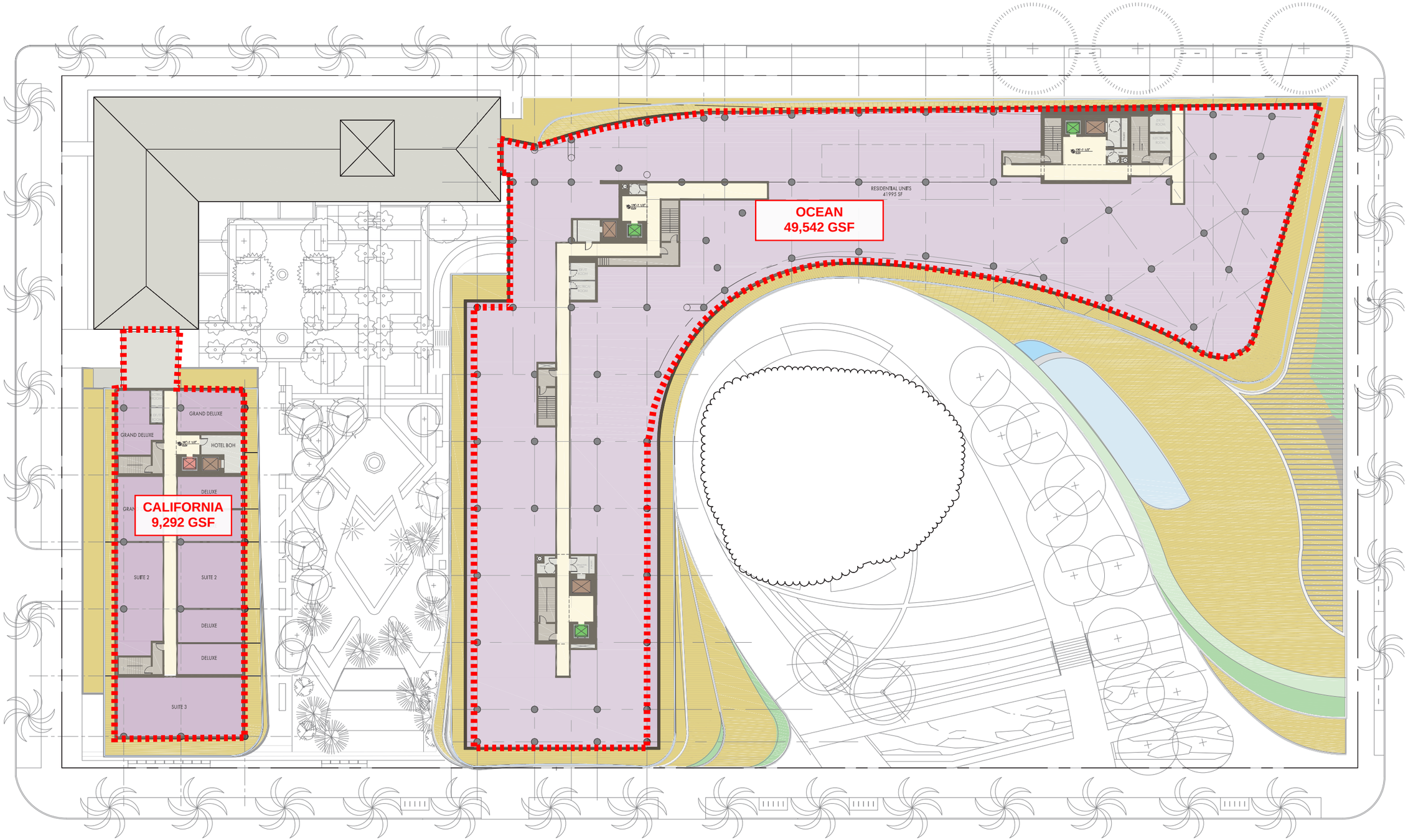

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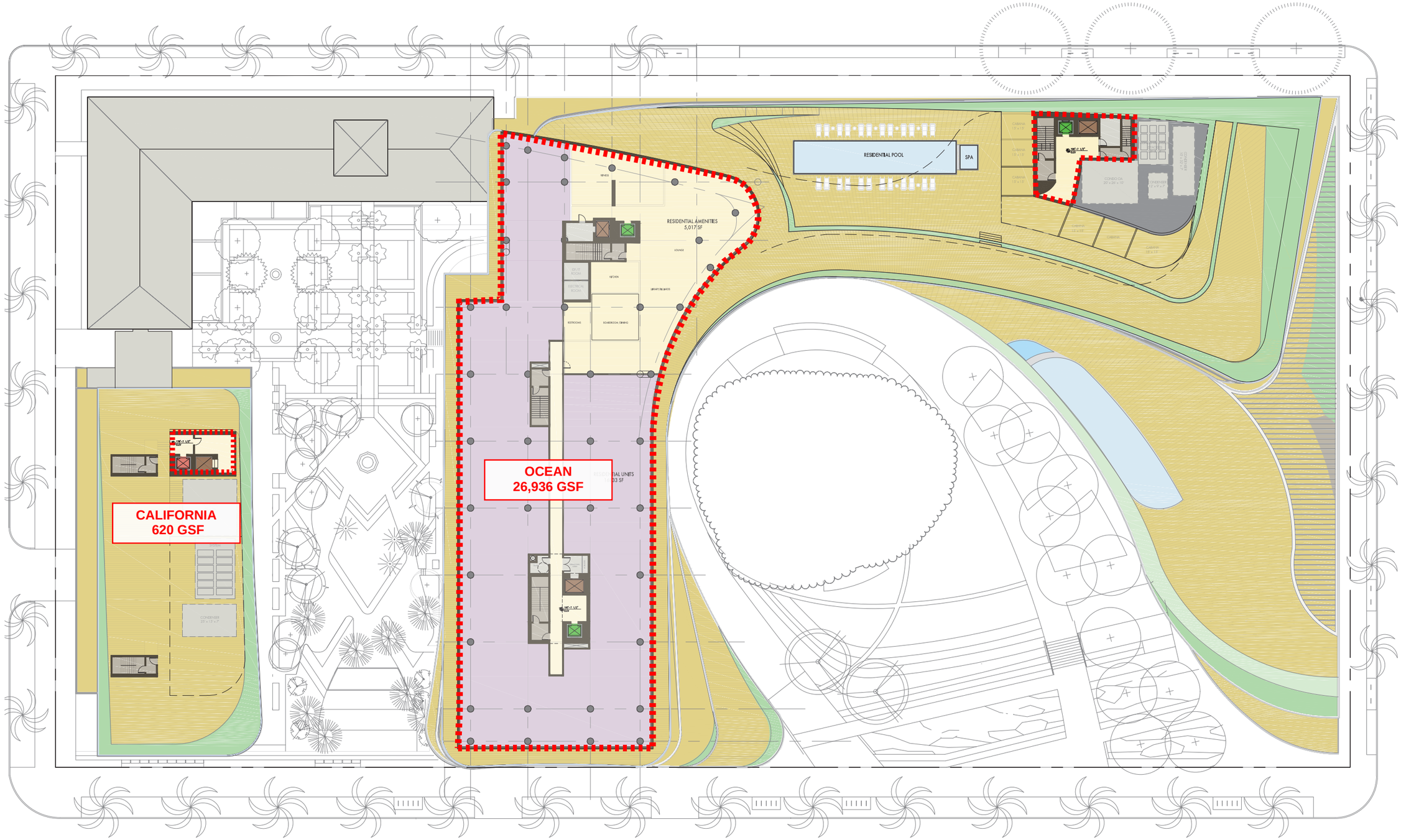

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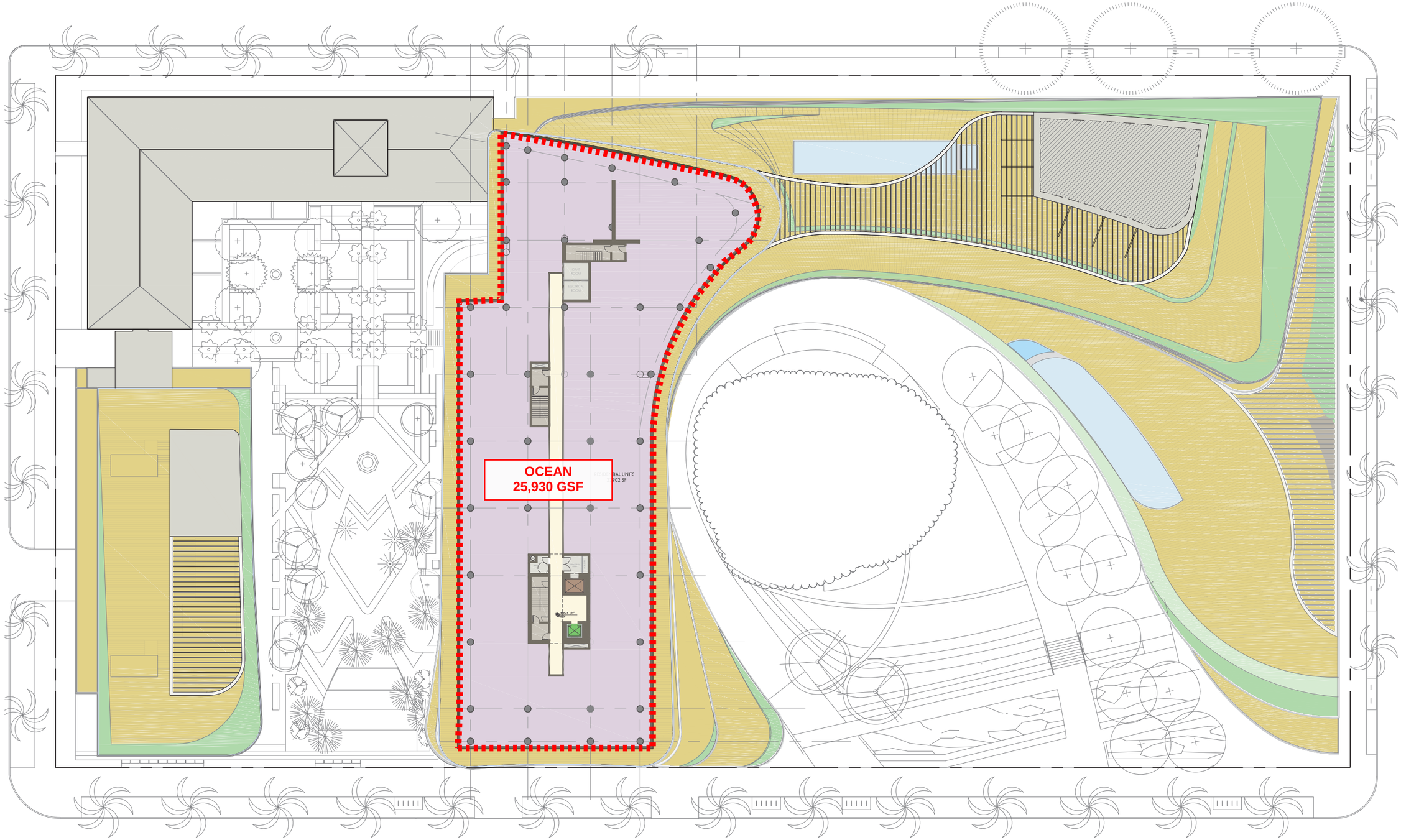

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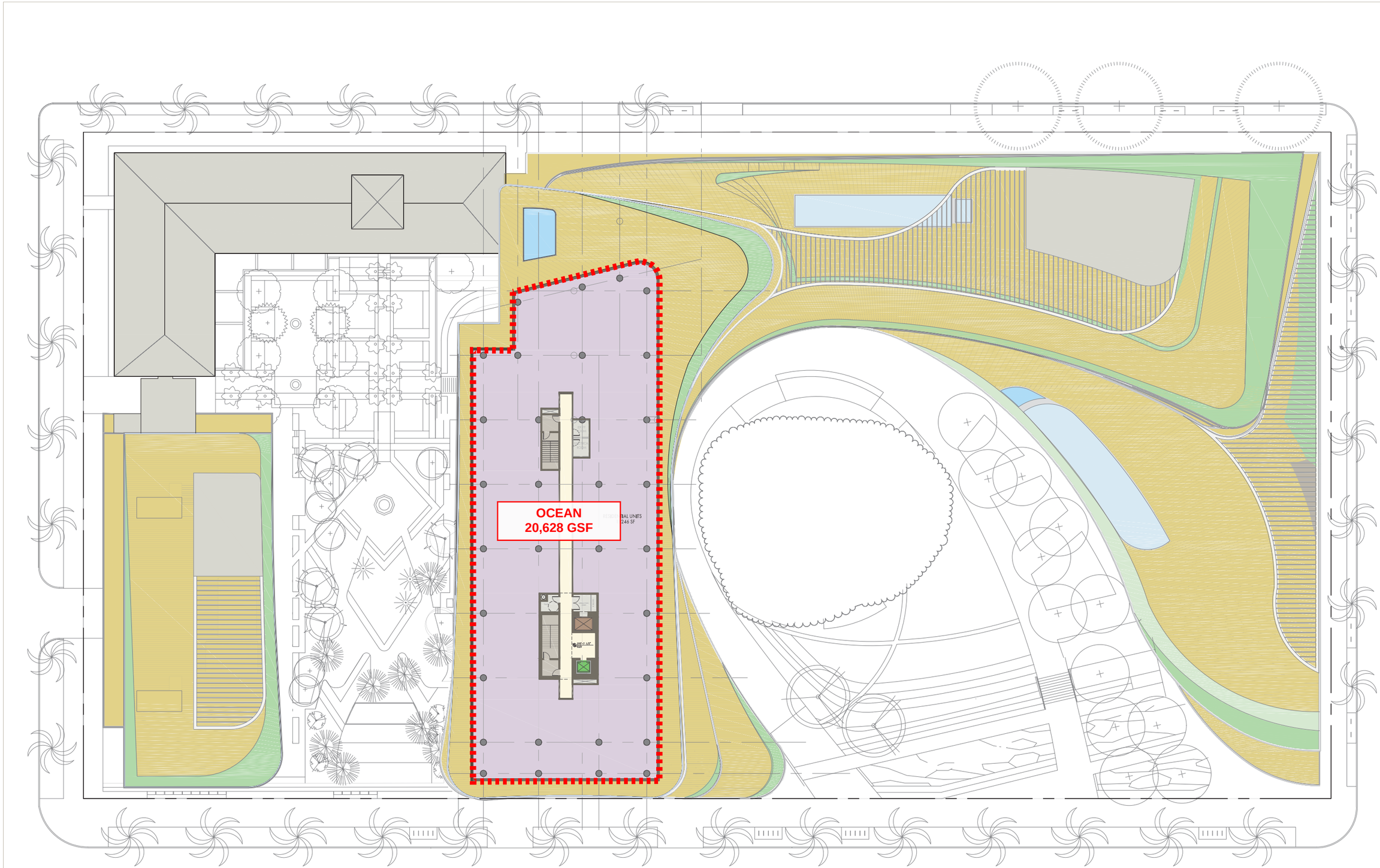
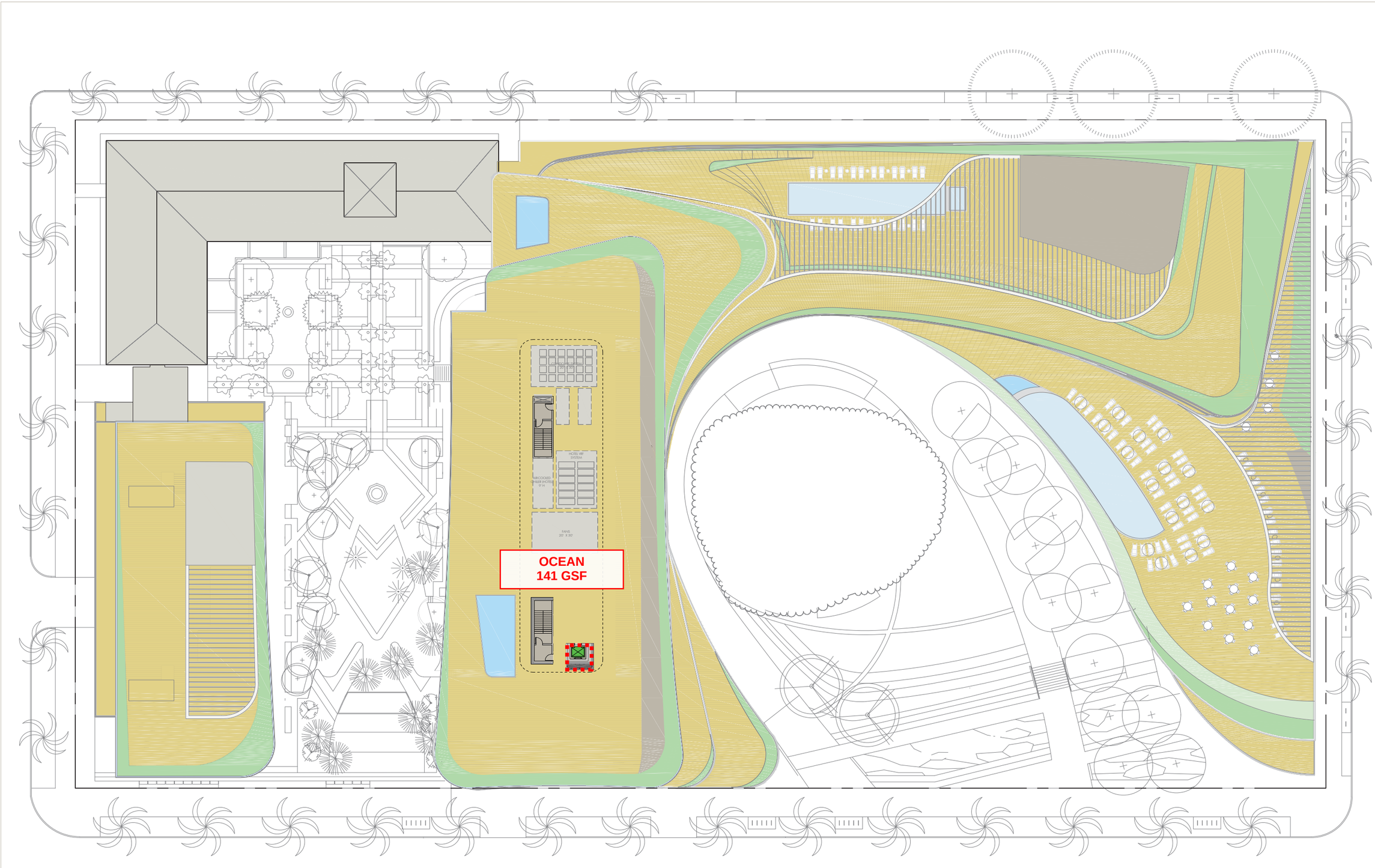
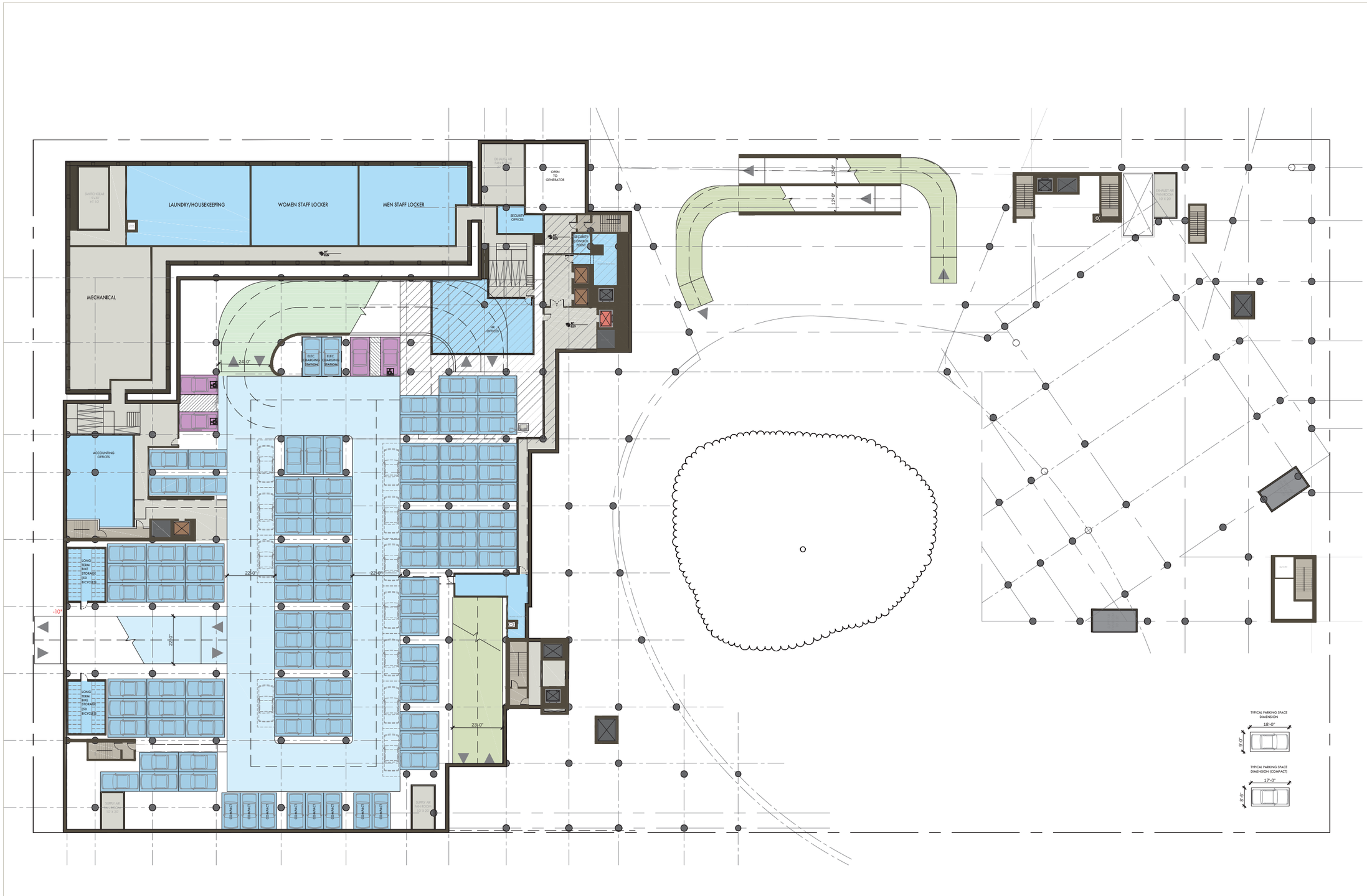


LEVEL 10



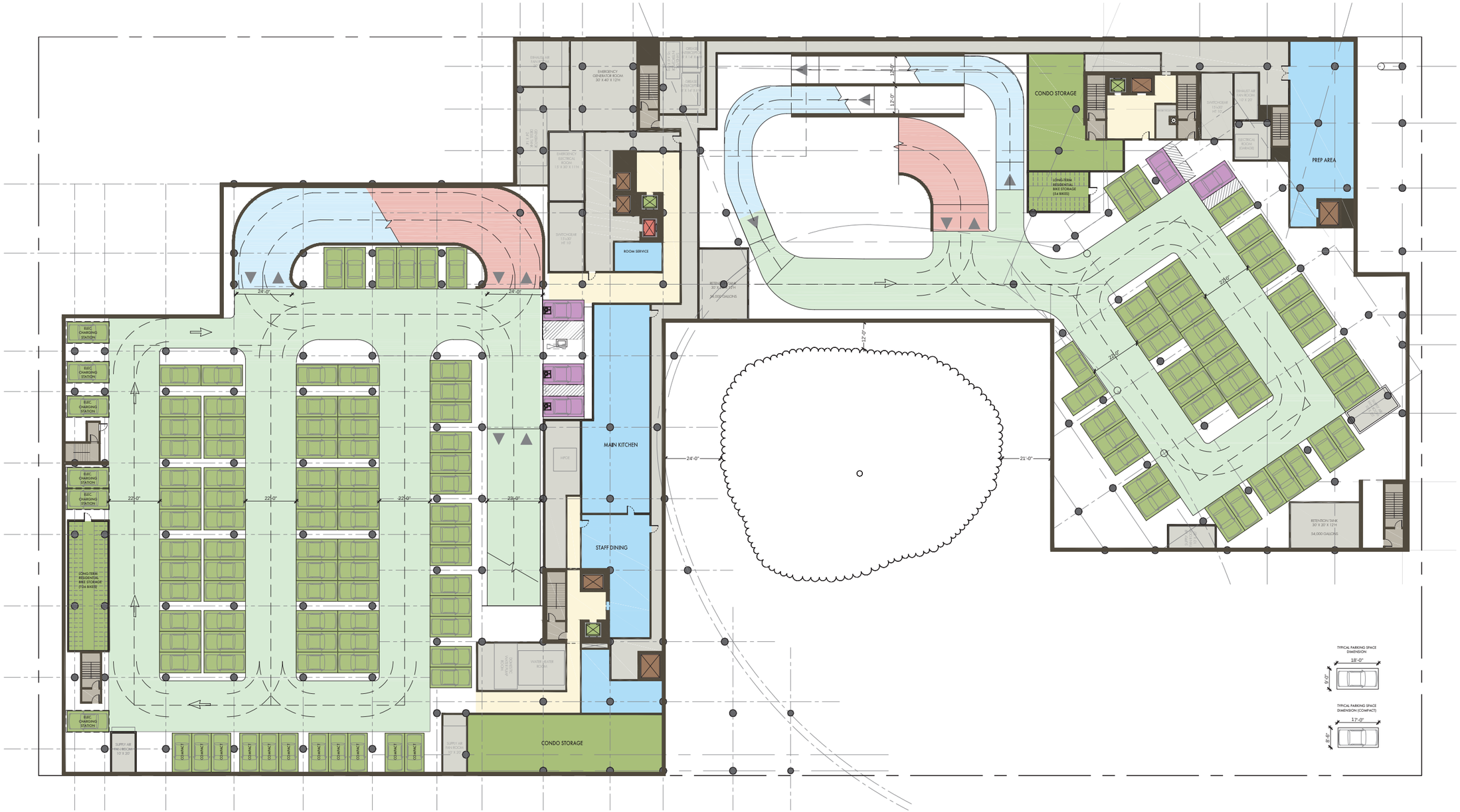
ROOF



LOWER LEVEL 1 +92'

TOTAL	**63,132 GSF**

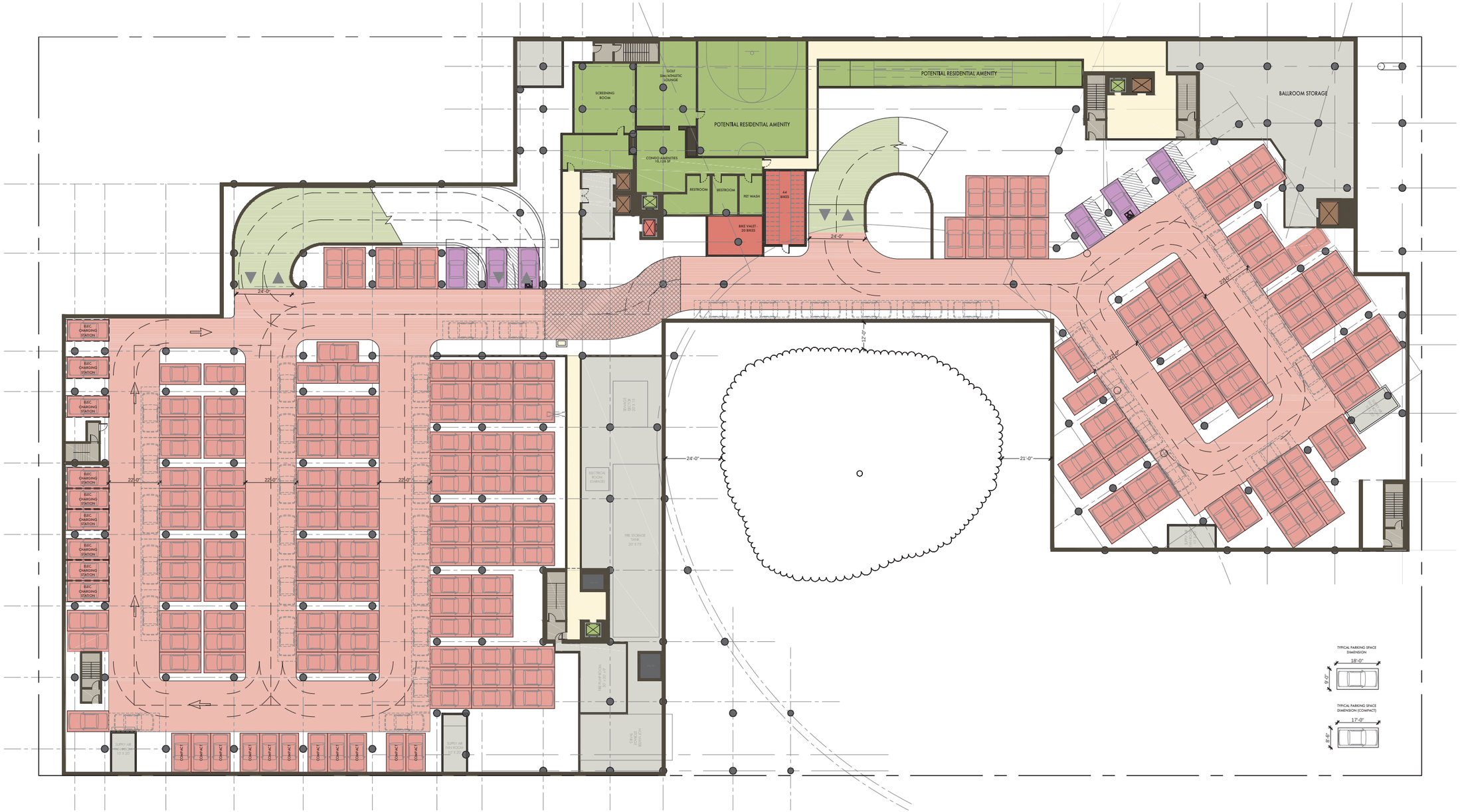
Pelli Clarke Pelli Architects



LOWER LEVEL 2 +82'

TOTAL	**117,443 GSF**

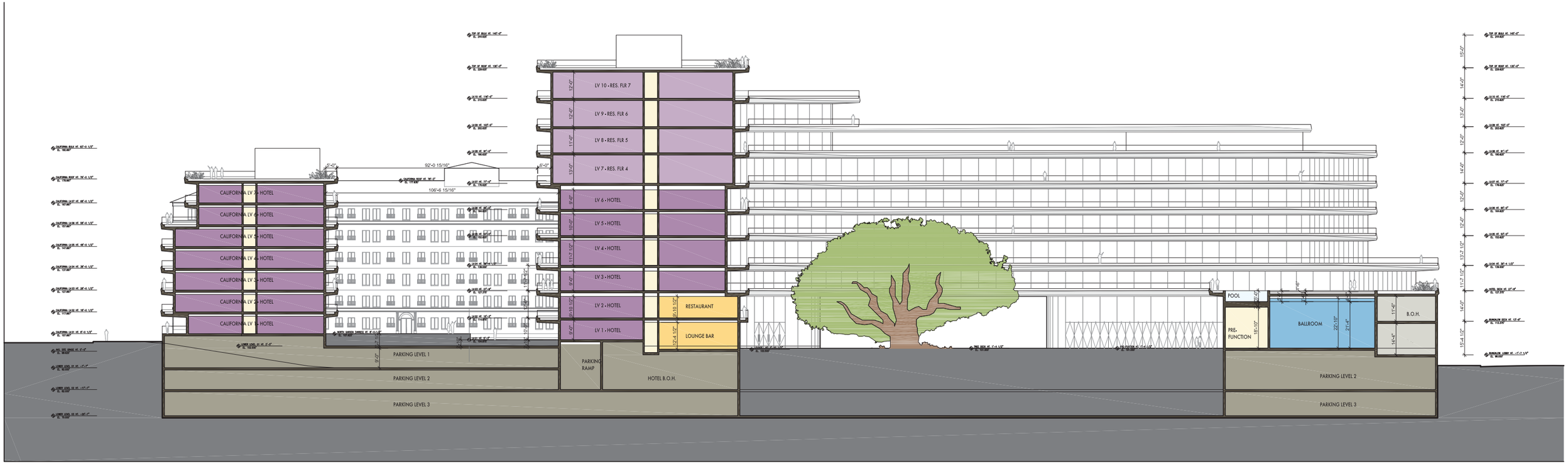
Pelli Clarke Pelli Architects

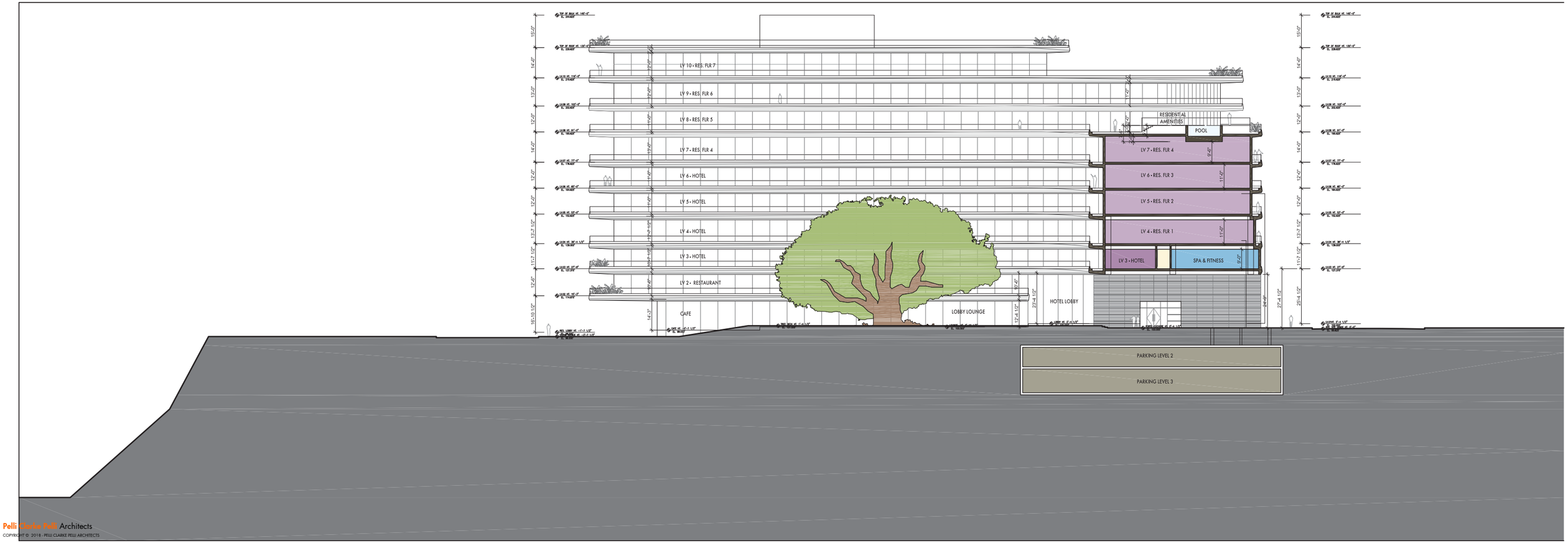


LOWER LEVEL 3 +70'

TOTAL	**117,443 GSF**

Pelli Clarke Pelli Architects





Pelli Clarke Pelli Architects

Appendix 2

Fire Hydrant Locations & Results

CITY OF
Santa Monica©
WATER DIVISION

FIRE HYDRANT FORM

CIVIL ENG. TEST No. 999

WORK ORDER No. _____

INSPECTION No. 22502

DATE: 07/12/18

BY: D.Rosa

LOCATION: 101 Wilshire Blvd.

	EMP #	FIRE HYD #	OUTLET SIZE	STATIC PRESS	PITOT PRESS	FLOW (GPM)
F.H. NO. 1	14203	62	4"	100	20	1921
F.H. NO. 2	19860	1298	4"	112	42	2784
F.H. NO. 3	18941	69	4"	110	34	2505
F.H. NO. 4	21531	63	4"	100	15	1664

EMPLOYEE # 18759

MINUTES FLOWED 4

STATIC 82

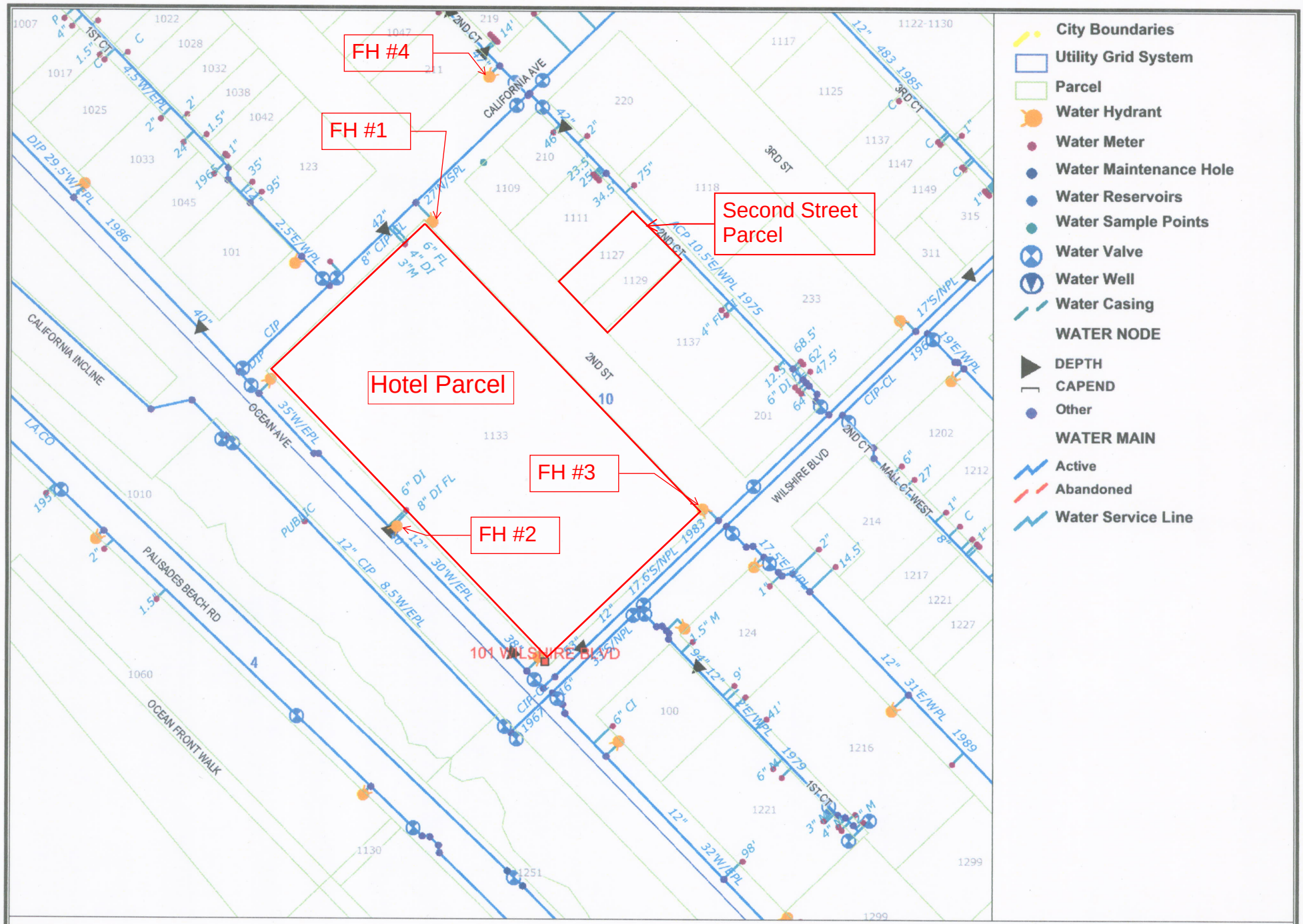
RESIDUAL 42

LOCATION 101 Wilshire Blvd.

LABOR/ EMPLOYEES D.Rosa-18759, D.Balasabas-14203,S.Perez-18794,T.Martinson-19860, M.DelaTorre-21531.

COMMENTS:

Static and residual were taken under normal flow conditions.



Water

Scale 1:2,178
City of Santa Monica GIS
Printed: Oct 5, 2009 3:01:20 PM

Appendix 3

Water Usage Calculations

Existing Water Usage

Account #	Address	Total HCF 5 Years	Total Gallons 5 Years	Ave. GPY
602009-2	1125 OCEAN AVE CO	127,027	95,016,196	19,003,239
601989-2	124 CALIFORNIA AVE CO	65,101	48,695,548	9,739,110
TOTALS		**192,128**	**143,711,744**	**28,742,349**

CITY OF SANTA MONICA Water Deliveries From 08/08/2012 To 08/08/2017

accountno	from	to	category	service_address	name	usage	read_days	no_units
602009-2	06/09/2017	08/08/2017	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3884	60.00	1
602009-2	04/11/2017	06/09/2017	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3754	59.00	1
602009-2	03/14/2017	04/11/2017	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	1700	28.00	1
602009-2	01/10/2017	03/14/2017	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3583	63.00	1
602009-2	11/09/2016	01/10/2017	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3593	62.00	1
602009-2	09/12/2016	11/09/2016	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3640	58.00	1
602009-2	07/12/2016	09/12/2016	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3733	62.00	1
602009-2	05/11/2016	07/12/2016	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	1348	62.00	1
602009-2	03/14/2016	05/11/2016	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3948	58.00	1
602009-2	01/12/2016	03/14/2016	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3639	62.00	1
602009-2	11/12/2015	01/12/2016	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3224	61.00	1
602009-2	09/14/2015	11/12/2015	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4046	59.00	1
602009-2	07/16/2015	09/14/2015	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4277	60.00	1
602009-2	05/18/2015	07/16/2015	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	3880	59.00	1
602009-2	03/17/2015	05/18/2015	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4471	62.00	1
602009-2	01/14/2015	03/17/2015	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4408	62.00	1
602009-2	11/17/2014	01/14/2015	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4171	58.00	1
602009-2	09/17/2014	11/17/2014	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4928	61.00	1
602009-2	07/21/2014	09/17/2014	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4762	58.00	1
602009-2	05/21/2014	07/21/2014	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4701	61.00	1
602009-2	03/24/2014	05/21/2014	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4069	58.00	1
602009-2	01/22/2014	03/24/2014	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4666	61.00	1
602009-2	11/18/2013	01/22/2014	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4538	65.00	1
602009-2	09/16/2013	11/18/2013	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4285	63.00	1
602009-2	07/15/2013	09/16/2013	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	5269	63.00	1
602009-2	05/13/2013	07/15/2013	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	5175	63.00	1
602009-2	03/11/2013	05/13/2013	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	5093	63.00	1
602009-2	01/07/2013	03/11/2013	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	5330	63.00	1
602009-2	11/07/2012	01/07/2013	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4118	61.00	1
602009-2	09/12/2012	11/07/2012	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4135	56.00	1
602009-2	07/16/2012	09/12/2012	COMMERCIAL	1125 OCEAN AVE CO	FAIRMONT MIRAMAR HOTEL	4659	58.00	1

Total HCF over 5 years	127027	
Total Gallons over 5 years	95,016,196	
Average Gallons per Year	**19,003,239**	**<<< Water Neutrality Baseline**

Existing Water Usage
Ocean Ave

CITY OF SANTA MONICA Water Deliveries From 08/08/2012 To 08/08/2017

accountno	from	to	category	service_address	name	usage	read_days	no_units
601989-2	06/09/2017	08/08/2017	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2436	60.00	1
601989-2	04/12/2017	06/09/2017	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1471	58.00	1
601989-2	03/14/2017	04/12/2017	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	836	29.00	1
601989-2	01/10/2017	03/14/2017	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1368	63.00	1
601989-2	11/09/2016	01/10/2017	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1395	62.00	1
601989-2	09/13/2016	11/09/2016	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1534	57.00	1
601989-2	07/12/2016	09/13/2016	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2929	63.00	1
601989-2	05/12/2016	07/12/2016	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	5309	61.00	1
601989-2	03/15/2016	05/12/2016	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1963	58.00	1
601989-2	01/13/2016	03/15/2016	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2082	62.00	1
601989-2	11/11/2015	01/13/2016	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1670	63.00	1
601989-2	09/15/2015	11/11/2015	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1382	57.00	1
601989-2	07/16/2015	09/15/2015	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2240	61.00	1
601989-2	05/18/2015	07/16/2015	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2021	59.00	1
601989-2	03/18/2015	05/18/2015	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1946	61.00	1
601989-2	01/15/2015	03/18/2015	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1789	62.00	1
601989-2	11/17/2014	01/15/2015	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2025	59.00	1
601989-2	09/17/2014	11/17/2014	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1917	61.00	1
601989-2	07/22/2014	09/17/2014	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2137	57.00	1
601989-2	05/21/2014	07/22/2014	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2132	62.00	1
601989-2	03/25/2014	05/21/2014	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1892	57.00	1
601989-2	01/22/2014	03/25/2014	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1804	62.00	1
601989-2	11/19/2013	01/22/2014	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2231	64.00	1
601989-2	09/16/2013	11/19/2013	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2655	64.00	1
601989-2	07/15/2013	09/16/2013	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	3173	63.00	1
601989-2	05/13/2013	07/15/2013	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2848	63.00	1
601989-2	03/12/2013	05/13/2013	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2290	62.00	1
601989-2	01/08/2013	03/12/2013	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1419	63.00	1
601989-2	11/07/2012	01/08/2013	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1794	62.00	1
601989-2	09/12/2012	11/07/2012	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	1989	56.00	1
601989-2	07/16/2012	09/12/2012	COMMERCIAL	124 CALIFORNIA AVE CO	FAIRMONT MIRAMAR HOTEL	2424	58.00	1

Total HCF over 5 years	65101	
Total Gallons over 5 years	48,695,548	
Average Gallons per Year	**9,739,110**	**<<< Water Neutrality Baselin**

Existing Water Usage
California Ave

Susan Williams

From: Dustin Peterson <dpeterson@athensdevco.com>
Sent: Wednesday, December 19, 2018 1:55 PM
To: Oriana Slasor; Susan Williams
Cc: John Zinner
Subject: FW: Miramar Historic Water Use
Attachments: Baselines - Fairmont Miramar.xlsx

Oriana and Susan –

As discussed, please find attached the existing hotel baseline water usage information as distributed by the City on 2017. See also email string below.

Let me know if you need anything further on this.

Thank you,

Dustin G. Peterson
Vice President

The Athens Group
Mail: P.O. Box 1696 Santa Monica CA 90406
Deliveries: 101 Wilshire Blvd. Suite 101 Santa Monica CA 90401
Office: 310-899-4184 | Fax: 310-899-4185
Cell: 949-678-0600
dpeterson@athensdevco.com | www.athensdevco.com

From: Roxanne Tanemori <Roxanne.Tanemori@SMGOV.NET>
Sent: Monday, October 09, 2017 9:39 AM
To: John Zinner (john@zinnerconsultants.com) <john@zinnerconsultants.com>
Cc: Dustin Peterson <dpeterson@athensdevco.com>
Subject: FW: Miramar Historic Water Use

Hi, John – here is the file back; it should work now. Thanks –

Roxanne

From: Roxanne Tanemori
Sent: Monday, October 09, 2017 8:56 AM
To: Thomas Fleming <Thomas.Fleming@SMGOV.NET>
Subject: FW: Miramar Historic Water Use

Hi, Tom – the first spreadsheet doesn't open – the applicant and I both tried. There is an error message. Can you check it out and resend?
Thank you again for your help ---

Roxanne

From: Thomas Fleming
Sent: Friday, October 06, 2017 2:25 PM
To: Roxanne Tanemori <Roxanne.Tanemori@SMGOV.NET>
Cc: Savewater <savewater@SMGOV.NET>
Subject: RE: Miramar Historic Water Use

Thanks Roxanne!

Here's a summary of the Water Neutrality baselines…individual accounts and aggregated. The detailed water usage is in the attached Excel file. Let me know if there are any questions.

Account #	Address	Total HCF 5 Years	Total Gallons 5 Years	Ave. GPY
602009-2	1125 Ocean Ave.	127,027	95,016,196	19,003,239
601989-2	124 California Ave.	65,101	48,695,548	9,739,110
TOTALS		**192,128**	**143,711,744**	**28,742,349**

Existing Water Usage

Thanks!
Tom

Thomas J. Fleming, LEED AP BD+C, O+M
Sustainability Analyst | Water Conservation
310.458.8972 x5 | fax: 310-393-1279

City of Santa Monica | Office of Sustainability and the Environment
1717 4th Street | Suite 100 | Santa Monica, CA 90401

WE SANTA MONICA
Save water. Show your love.
SMgov.net/water

From: Roxanne Tanemori
Sent: Thursday, October 05, 2017 4:13 PM
To: Thomas Fleming <Thomas.Fleming@SMGOV.NET>
Subject: FW: Miramar Historic Water Use

Hi, Thomas – I think this is the information you need. Thanks again and let me know if you have any other questions –

Roxanne

From: Dustin Peterson [mailto:dpeterson@athensdevco.com]
Sent: Thursday, October 05, 2017 11:45 AM
To: Roxanne Tanemori <Roxanne.Tanemori@SMGOV.NET>
Cc: John Zinner <john@zinnerconsultants.com>
Subject: RE: Miramar Historic Water Use

Roxanne –

We did confirm with the hotel that those are the only two water usage accounts that we have with the City. Attached is the authorization from Ocean Avenue LLC to release the water usage information to John Zinner. Please let me know if you need anything further on this.

Thank you,

Dustin G. Peterson
Vice President

The Athens Group
Mail: P.O. Box 1696 Santa Monica CA 90406
Deliveries: 101 Wilshire Blvd. Suite 101 Santa Monica CA 90401
Office: 310-899-4184 | Fax: 310-899-4185
Cell: 949-678-0600
dpeterson@athensdevco.com | www.athensdevco.com

From: Roxanne Tanemori [mailto:Roxanne.Tanemori@SMGOV.NET]
Sent: Saturday, September 30, 2017 7:12 PM
To: Dustin Peterson <dpeterson@athensdevco.com>
Subject: Fwd: Miramar Historic Water Use

Hi Dustin,
Please see the email below. Can you confirm all the water account(s) for the hotel - and return the consent form to me?
Thanks --
Roxanne

Sent from my iPhone

Begin forwarded message:

From: Thomas Fleming <Thomas.Fleming@SMGOV.NET>
Date: September 30, 2017 at 6:59:44 PM PDT
To: Roxanne Tanemori <Roxanne.Tanemori@SMGOV.NET>
Subject: RE: Miramar Historic Water Use

Hi Roxanne,

I found two accounts in our billing system for the Fairmont that have water usage (below). We should check with the property owner to make sure these are accurate and encompass all the accounts for water:

00601989-02
FAIRMONT MIRAMAR HOTEL
124 CALIFORNIA AVE CO
COMMERCIAL

00602009-02
FAIRMONT MIRAMAR HOTEL
1125 OCEAN AVE CO
COMMERCIAL

Also…the City requires approval from the account holder in order to release water usage data to anyone else such as the LEED consultant. I’ve attached a release authorization form.

In summary…

1. Can you check with the property owner (or authorized rep) to verify the accounts above and to see if there are any other water usage accounts under different names/addresses?
2. Can you have property owner (or authorized rep) complete the attached release form for their water accounts? They can place multiple account numbers on one form.

Please call with any questions!

Tom

Miramar Redevelopment
Projected Potable Water Use, February 13, 2019

Whole Building Water Use Calculation Table Utilizing DA Fixtures

Fixture Type	Flow Rate (gpm or gpf)		Duration (minimum or # flushes)		Daily Uses		Occupants[2,4,9]		Gallons Per Day (GPD)
Hotel Guestroom Water Use									
Showerheads residential[1]	1.75	x	8	x	1	x	515	=	7,210.0
Lavatory faucets residential	1.2	x	0.5	x	5	x	515	=	1,545.0
Tank water closets (M)[1]	1	x	1	x	5	x	258	=	1,290.0
Tank water closets (F)[1]	1	x	1	x	5	x	258	=	1,290.0
Hotel swimming pool & spa evaporation[3]								=	314.9
Other Nonresidential Water Use (Retail, Restaurants, Event Space, Spa & Fitness, Hotel Back of House)									
Lavatory faucets nonresidential[1]	0.5	x	0.25	x	3	x	2,043	=	766.1
Kitchen faucets[1,5]	1.5	x	4	x	13	x	104	=	7,800.0
Water closets - nonresidential (F)[1]	1.1	x	1	x	3	x	1022	=	3,372.6
Water closets - nonresidential (M)[1]	1.1	x	1	x	1	x	511	=	562.1
Urinals	0.125	x	1	x	2	x	511	=	127.8
Showerheads for employees[1,6]	1.75	x	5	x	2	x	116	=	2,030.0
Showerheads for spa & fitness center[1]	1.75	x	5	x	2	x	250	=	4,375.0
Commercial kitchen usage[7]								=	3,340.2
Interior Spa Jacuzzi pools evaporation[8]								=	124.5
Residential Water Use									
Showerheads residential[1]	1.75	x	8	x	1	x	150	=	2,100.0
Lavatory faucets residential[1]	1.2	x	0.5	x	5	x	150	=	450.0
Kitchen faucets[1]	1.5	x	4	x	1	x	150	=	900.0
Tank water closets (M)[1]	1	x	1	x	5	x	75	=	375.0
Tank water closets (F)[1]	1	x	1	x	5	x	75	=	375.0
Clotheswashers (gal/person-day)[10]	5.1						150	=	765.0
Dishwashers (gal/person-day)[11]	0.43						150	=	64.5
Residential Swimming Pool & Spa evaporation[12]								=	276.2
Landscape Irrigation (daily)[13]								=	4,535.0
Water Feature Evaporation Loss Makeup (waterfall, koi pond, scrim, 3 decorative pools)[14]									609.4

Daily Baseline Water Use (GPD)	=	**44,598.3**
+ 20% Contingency	=	**8,919.7**
- Water Reuse (GPD)[15]	=	**4,535.0**
DAILY NET POTABLE WATER USE (GPD)	=	**48,982.9**
x Days per Year	x	**365.0**
Annual Baseline Water Use (Gallons Per Year - GPY)	=	**17,878,769.5**
Current Hotel Annual Water Usage (GPY) per City of Santa Monica	-	**28,742,349.0**
MIRAMAR ANNUAL POTABLE WATER USE REDUCTION (GPY)	=	**10,863,579.6**
MIRAMAR PERCENTAGE POTABLEWATER USE REDUCTION	=	**0.378**
Projected 1127/1129 2nd St. Affordable Housing Potable Water Use	=	**1,255,273.0**
New Miramar + Affordable Housing Potable Water Use Reduction	=	**9,608,306.6**
Miramar + Affordable Housing Percent Potable Water Reduction	=	**0.334**

Assumptions
1. Water fixtures usage per previous Santa Monica Development Agreements
2. 515 guests per night (312 hotel rooms (or keys) x 1.65 estimated guests per room per day x 100% estimated occupancy rate).
3. Per PCP, hotel 1,824 SF pool surface + 200 SF spa surface = 2,024 SF. Avg 0.25 inch/0.021 ft evaporation per day, or 314.9 gallons to be made up.
4. Nonresidential occupants per California Plumbing Code Table A, Chapter 4 occupant load factor of 1 person/200 SF retail & 1 person/30 SF restaurant & event space 33 occupants for 6,600 SF ground floor retail 1,376 occupants for 41,251 SF restaurant & event space (11,355 SF food & beverage + 13,000 SF event space + 8,373 outdoor dining space + 8,543 SF back of house kitchens) 250 guests per day for 12,500 SF spa + fitness center (Miramar projection) + 384 daily hotel employees (Miramar projection) 2,043 nonresidential occupants
5. Kitchen sink water use 41,251 SF restaurant & event space/1 employee per 200 sf of restaurant (LEED uses 1/435 SF) x 50% prep works (vs. front of house) = 104 prep staff. 12.5 uses/day/prep worker assumed.
6. Employee shower use assumed to be 30% of employees/day (Miramar projection) = 116.
7. Commercial kitchen equipment water usage estimated utilizing Energy Star Certified Commercial Equipment calculator for 8,543 SF of commercial kitchen. Existing commercial kitchen is 4,200 SF. Estimate of 1,266,000 GPY (3,468.5 GPD) is a 33% savings over baseline.
8. Per Miramar, interior spa Jacuzzi pools surface = 800 SF (men's 120 SF + women's 120 SF + Coed 160 SF). Avg 0.25 inch/0.021 ft evaporation per day, or 124.5 gallons to be made up.
9. 60 residential units. 150 estimated occupants @ 2.5 occupants per unit (instead of 1.75 occupants per unit per American Communities Survey 2014 5-year estimate)
10. Energy Star certified Clothes Washer in each unit. Previous DA required WF= 3.2 = 5.08 gal per person per day.
11. Energy Star certified Dishwashers in each unit. Typical Energy Star performance = 4 Gallons per Cycle (GPC), or 0.43 gal per person per day.
12. Per PCP, 1155 SF common residential pool surface + 120 SF spa surface + 500 SF potential private pools = 1,775 SF. Avg 0.25 inch/0.021 ft evaporation per day, or 276.2 gallons to be made up.
13. Estimated landscaping water use per day per GGN estimate using efficient irrigation system for approximately 52,000 SF of surface irrigated area plus a roof terraces to be designed.
14. Ground level water features (waterfall, koi pond, scrim & 3 decorative pools + overage for possible additions) = 3,917 SF. Avg 0.25 inch/0.021 ft evaporation per day, or 559.2 gallons to be made up.
15. The recycled water volume is calculated to offset all irrigation potable water use.

MIRAMAR REDEVELOPMENT
PROJECTED ANNUAL POTABLE WATER USE REDUCTION
February 19, 2019

	Gallons Per Year
Hotel Guestroom Water Use	4,252,213.5
Other Nonresidential Water Use (Retail, Restaurants, Event Space, Spa/Fitness, Hotel Back of House)	8,211,879.5
Residential Water Use	1,936,580.5
Landscape Irrigation	1,655,275.0
Water Feature Evaporation Makeup	222,431.0
Projected Water Use	**16,278,379.5**
+ 20% Contingency	3,255,675.9
- Water Reuse	1,655,275.0
NEW MIRAMAR PROJECTED WATER USE	**17,878,769.5**
- Current Miramar Potable Water Use per City of Santa Monica	**28,742,349.0**
NEW MIRAMAR POTABLE WATER USE REDUCTION	**-10,863,579.6**
NEW MIRAMAR PERCENT POTABLE WATER USE REDUCTION	**-0.38**
Projected 1127/1129 2nd St. Affordable Housing Potable Water Use	1,255,273
New Miramar + Affordable Housing Potable Water Use Reduction	-9,608,306.6
Miramar + Affordable Housing Percent Potable Water Reduction	**-0.334**

1127/1129 Second Street Affordable Housing
Projected Water Use, December 13, 2018

Whole Building Water Use Calculation Table Utilizing DA Fixtures

Fixture Type	Flow Rate (gpm or gpf)		Duration (min or # flushes)		Daily Uses		Occupants[2]		Gallons Per Day (GPD)
Residential Water Use									
Showerheads residential[1]	1.75	x	8	x	1	x	84	=	1,176.0
Lavatory faucets residential[1]	1.2	x	0.5	x	5	x	84	=	252.0
Kitchen faucets[1]	1.5	x	4	x	1	x	84	=	504.0
Tank water closets (M)[1]	1	x	1	x	5	x	42	=	210.0
Tank water closets (F)[1]	1	x	1	x	5	x	42	=	210.0
Clotheswashers (gal/person-day)[3]	5.1						84	=	428.4
Dishwashers (gal/person-day)[4]	0.43						84	=	36.1
							Subtotal	=	2,816.5
Landscape Irrigation (daily)[5]								=	0.0
							Daily Potable Water Use (GPD)	=	**2,865.9**
							x Days per Year	x	**365.0**
							Annual Potable Water Use (Gallons Per Year - GPY)	=	**1,046,060.8**
							Current Property Annual Water Usage (GPY) per City of Santa Monica	=	**0.0**
							BASELINE ANNUAL POTABLE WATER USE INCREASE (GPY)	=	**1,046,060.8**
							20% Contingency	=	**209,212.2**
							ANNUAL POTABLE WATER USE INCREASE (GPY)	=	**1,255,273.0**

Assumptions
1. Water fixtures usage per previous Santa Monica Development Agreements
2. 48 residential units = 84 estimated occupants (1.75 occupants per unit per American Communities Survey 2014 5-year estimate)
3. Energy Star certified Clothes Washer in each unit. Previous DA required WF= 3.2 = 5.08 gal per person per day.
4. Energy Star certified Dishwashers in each unit. Typical Energy Star performance = 4 Gallons per Cycle (GPC), or 0.43 gal per person per day.
5. No potable water will be utlized for landscaping irrigation.

Appendix 4

Appendix B & Appendix C of the California Fire Code

CALIFORNIA FIRE CODE – MATRIX ADOPTION TABLE
APPENDIX B – FIRE-FLOW REQUIREMENTS FOR BUILDINGS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user. See Chapter 1 for state agency authority and building applications.)

Adopting Agency	BSC	BSC-CG	SFM		HCD			DSA		OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	1	2	1/AC	AC	SS	1	2	3	4								
Adopt Entire Chapter																					
Adopt Entire Chapter as amended (amended sections listed below)			X																		
Adopt only those sections that are listed below																					
[California Code of Regulations, Title 19, Division 1]																					
Chapter / Section																					
B105.2			X																		

* The *California Code of Regulations* (CCR), Title 19, Division 1 provisions that are found in the *California Fire Code* are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures of CCR, Title 19, Division I remain the same.

APPENDIX B

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

SECTION B101
GENERAL

B101.1 Scope. The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings.

SECTION B102
DEFINITIONS

B102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

FIRE-FLOW. The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for fire fighting.

FIRE-FLOW CALCULATION AREA. The floor area, in square feet (m^2), used to determine the required fire flow.

SECTION B103
MODIFICATIONS

B103.1 Decreases. The fire chief is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

B103.2 Increases. The fire chief is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall not be more than twice that required for the building under consideration.

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize NFPA 1142 or the *California Wildland-Urban Interface Code.*

SECTION B104
FIRE-FLOW CALCULATION AREA

B104.1 General. The fire-flow calculation area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of a building, except as modified in Section B104.3.

B104.2 Area separation. Portions of buildings which are separated by fire walls without openings, constructed in accordance with the *California Building Code,* are allowed to be considered as separate fire-flow calculation areas.

B104.3 Type IA and Type IB construction. The fire-flow calculation area of buildings constructed of Type IA and Type IB construction shall be the area of the three largest successive floors.

> **Exception:** Fire-flow calculation area for open parking garages shall be determined by the area of the largest floor.

SECTION B105
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 One- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration requirements for one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.1(1) and B105.1(2).

TABLE B105.1(1)
REQUIRED FIRE-FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

FIRE-FLOW CALCULATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
0-3,600	No automatic sprinkler system	1,000	1
3,601 and greater	No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2) at the required fire-flow rate
0-3,600	Section 903.3.1.3 of the *California Fire Code* or Section *313.3* of the *California Residential Code*	500	$^1/_2$
3,601 and greater	Section 903.3.1.3 of the *California Fire Code* or Section *313.3* of the *California Residential Code*	$^1/_2$ value in Table B105.1(2)	1

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m.

2nd Street Parcel

1,500 x 25% = 375 gpm

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[b]	FLOW DURATION (hours)
Type IA and IB[a]	Type IIA and IIIA[a]	Type IV and V-A[a]	Type IIB and IIIB[a]	Type V-B[a]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	2
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	Reduced to 1,375 gpm @ 2 hours
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	3
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	4
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

4,000 x 25% = 1,000 gpm

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the *California Building Code*.

b. Measured at 20 psi residual pressure.

TABLE B105.2
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the *California Fire Code*	25% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the *California Fire Code*	25% of the value in Table B105.1(2)[b]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.
a. The reduced fire-flow shall be not less than 1,000 gallons per minute.
b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

B105.2 Buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.2 and B105.1(2).

➡ > **Exception:** *[SFM] Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:*

1. *California State Parks buildings of an accessory nature (restrooms).*
2. *Safety roadside rest areas, (SRRA), public restrooms.*
3. *Truck inspection facilities, (TIF), CHP office space and vehicle inspection bays.*
4. *Sand/salt storage buildings, storage of sand and salt.*

B105.3 Water supply for buildings equipped with an automatic sprinkler system. For buildings equipped with an approved automatic sprinkler system, the water supply shall be capable of providing the greater of:

1. The automatic sprinkler system demand, including hose stream allowance.
2. The required fire-flow.

SECTION B106
REFERENCED STANDARDS

ICC	IWUIC—15	International Wildland-Urban Interface Code	B103.3
NFPA	1142—12	Standard on Water Supplies for Suburban and Rural Fire Fighting	B103.3

CALIFORNIA FIRE CODE – MATRIX ADOPTION TABLE
APPENDIX B – FIRE-FLOW REQUIREMENTS FOR BUILDINGS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user. See Chapter 1 for state agency authority and building applications.)

Adopting Agency	BSC	BSC-CG	SFM		HCD			DSA		OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	1	2	1/AC	AC	SS	1	2	3	4								
Adopt Entire Chapter																					
Adopt Entire Chapter as amended (amended sections listed below)			X																		
Adopt only those sections that are listed below																					
[California Code of Regulations, Title 19, Division 1]																					
Chapter / Section																					
B105.2			X																		

* The *California Code of Regulations* (CCR), Title 19, Division 1 provisions that are found in the *California Fire Code* are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures of CCR, Title 19, Division I remain the same.

APPENDIX B

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

SECTION B101
GENERAL

B101.1 Scope. The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings.

SECTION B102
DEFINITIONS

B102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

FIRE-FLOW. The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for fire fighting.

FIRE-FLOW CALCULATION AREA. The floor area, in square feet (m^2), used to determine the required fire flow.

SECTION B103
MODIFICATIONS

B103.1 Decreases. The fire chief is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

B103.2 Increases. The fire chief is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall not be more than twice that required for the building under consideration.

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize NFPA 1142 or the *California Wildland-Urban Interface Code.*

SECTION B104
FIRE-FLOW CALCULATION AREA

B104.1 General. The fire-flow calculation area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of a building, except as modified in Section B104.3.

B104.2 Area separation. Portions of buildings which are separated by fire walls without openings, constructed in accordance with the *California Building Code,* are allowed to be considered as separate fire-flow calculation areas.

B104.3 Type IA and Type IB construction. The fire-flow calculation area of buildings constructed of Type IA and Type IB construction shall be the area of the three largest successive floors.

> **Exception:** Fire-flow calculation area for open parking garages shall be determined by the area of the largest floor.

SECTION B105
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 One- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration requirements for one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.1(1) and B105.1(2).

TABLE B105.1(1)
REQUIRED FIRE-FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

FIRE-FLOW CALCULATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
0-3,600	No automatic sprinkler system	1,000	1
3,601 and greater	No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2) at the required fire-flow rate
0-3,600	Section 903.3.1.3 of the *California Fire Code* or Section *313.3* of the *California Residential Code*	500	$^1/_2$
3,601 and greater	Section 903.3.1.3 of the *California Fire Code* or Section *313.3* of the *California Residential Code*	$^1/_2$ value in Table B105.1(2)	1

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m.

Hotel Parcel (Including Subterranean Parking Structure)

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[b]	FLOW DURATION (hours)
Type IA and IB[a]	Type IIA and IIIA[a]	Type IV and V-A[a]	Type IIB and IIIB[a]	Type V-B[a]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

Reduced to:

1,500 gpm @ 2 hours

6,000 x 25% = 1,500 gpm

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the *California Building Code*.

b. Measured at 20 psi residual pressure.

TABLE B105.2
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the *California Fire Code*	25% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the *California Fire Code*	25% of the value in Table B105.1(2)[b]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.
a. The reduced fire-flow shall be not less than 1,000 gallons per minute.
b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

B105.2 Buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.2 and B105.1(2).

➡ > **Exception:** *[SFM] Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:*

1. *California State Parks buildings of an accessory nature (restrooms).*
2. *Safety roadside rest areas, (SRRA), public restrooms.*
3. *Truck inspection facilities, (TIF), CHP office space and vehicle inspection bays.*
4. *Sand/salt storage buildings, storage of sand and salt.*

B105.3 Water supply for buildings equipped with an automatic sprinkler system. For buildings equipped with an approved automatic sprinkler system, the water supply shall be capable of providing the greater of:

1. The automatic sprinkler system demand, including hose stream allowance.
2. The required fire-flow.

SECTION B106
REFERENCED STANDARDS

ICC	IWUIC—15	International Wildland-Urban Interface Code	B103.3
NFPA	1142—12	Standard on Water Supplies for Suburban and Rural Fire Fighting	B103.3

CALIFORNIA FIRE CODE – MATRIX ADOPTION TABLE
APPENDIX C – FIRE HYDRANT LOCATIONS AND DISTRIBUTION

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user. See Chapter 1 for state agency authority and building applications.)

Adopting Agency	BSC	BSC-CG	SFM		HCD			DSA		OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
			T-24	T-19*	1	2	1/AC	AC	SS	1	2	3	4								
Adopt Entire Chapter																					
Adopt Entire Chapter as amended (amended sections listed below)			X																		
Adopt only those sections that are listed below																					
[California Code of Regulations, Title 19, Division 1]																					
Chapter / Section																					
C101.1			X																		

* The *California Code of Regulations* (CCR), Title 19, Division 1 provisions that are found in the *California Fire Code* are a reprint from the current CCR, Title 19, Division 1 text for the code user's convenience only. The scope, applicability and appeals procedures of CCR, Title 19, Division I remain the same.

APPENDIX C

FIRE HYDRANT LOCATIONS AND DISTRIBUTION

SECTION C101
GENERAL

C101.1 Scope. In addition to the requirements of Section 507.5.1 of the *California Fire Code*, fire hydrants shall be provided in accordance with this appendix for the protection of buildings, or portions of buildings, hereafter constructed or moved into the jurisdiction.

➡ ***Exception:*** *[SFM] Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:*

1. *California State Parks buildings of an accessory nature (restrooms).*
2. *Safety roadside rest areas, (SRRA), public restrooms.*
3. *Truck inspection facilities, (TIF), California Highway Patrol (CHP) office space and vehicle inspection bays.*
4. *Sand/salt storage buildings, storage of sand and salt.*

SECTION C102
NUMBER OF FIRE HYDRANTS

C102.1 Minimum number of fire hydrants for a building. The number of fire hydrants available to a building shall be not less than the minimum specified in Table C102.1.

SECTION C103
FIRE HYDRANT SPACING

C103.1 Hydrant spacing. Fire apparatus access roads and public streets providing required access to buildings in accordance with Section 503 of the *California Fire Code* shall be provided with one or more fire hydrants, as determined by Section C102.1. Where more than one fire hydrant is required, the distance between required fire hydrants shall be in accordance with Sections C103.2 and C103.3.

C103.2 Average spacing. The average spacing between fire hydrants shall be in accordance with Table C102.1.

Exception: The average spacing shall be permitted to be increased by 10 percent where existing fire hydrants provide all or a portion of the required number of fire hydrants.

C103.3 Maximum spacing. The maximum spacing between fire hydrants shall be in accordance with Table C102.1.

SECTION C104
CONSIDERATION OF EXISTING FIRE HYDRANTS

C104.1 Existing fire hydrants. Existing fire hydrants on public streets are allowed to be considered as available to meet the requirements of Sections C102 and C103. Existing fire hydrants on adjacent properties are allowed to be considered as available to meet the requirements of Sections C102 and C103 provided that a fire apparatus access road extends between properties and that an easement is established to prevent obstruction of such roads.

SECTION C105
REFERENCED STANDARDS

ICC	IFC—15	International Fire Code	C101.1, C103.1, Table C102.1
ICC	IRC—15	International Residential Code	Table C102.1

Second Street Project & Hotel

TABLE C102.1
REQUIRED NUMBER AND SPACING OF FIRE HYDRANTS

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS[a, b, c, f, g] (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT[d, f, g]
1,750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150
7,500 or more	8 or more[e]	200	120

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.

a. Reduce by 100 feet for dead-end streets or roads.

b. Where streets are provided with median dividers that cannot be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis.

c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.

d. Reduce by 50 feet for dead-end streets or roads.

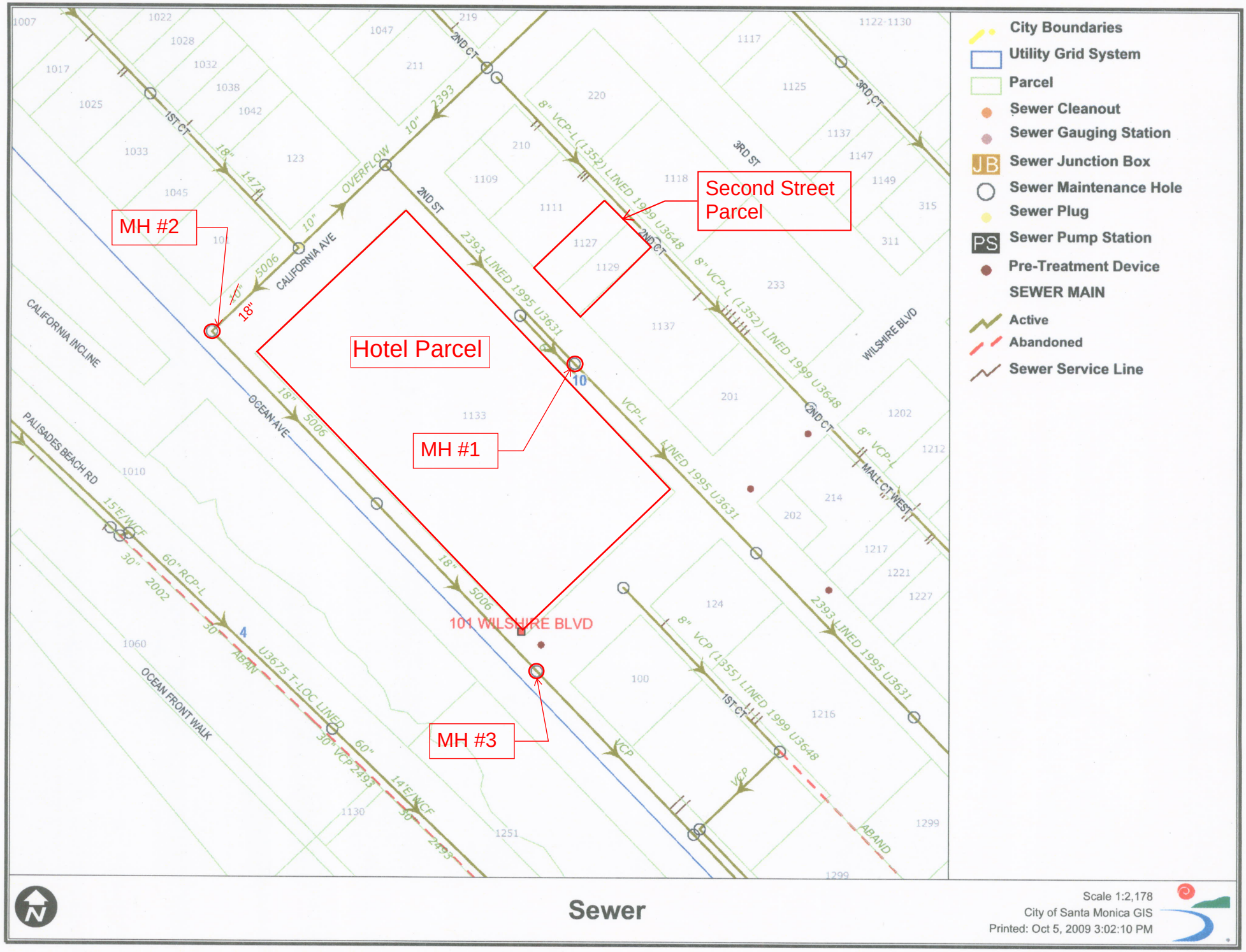
e. One hydrant for each 1,000 gallons per minute or fraction thereof.

f. A 50-percent spacing increase shall be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the *California Fire Code*.

g. A 25-percent spacing increase shall be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2 or 903.3.1.3 of the *California Fire Code* or Section P2904 of the *California Residential Code*.

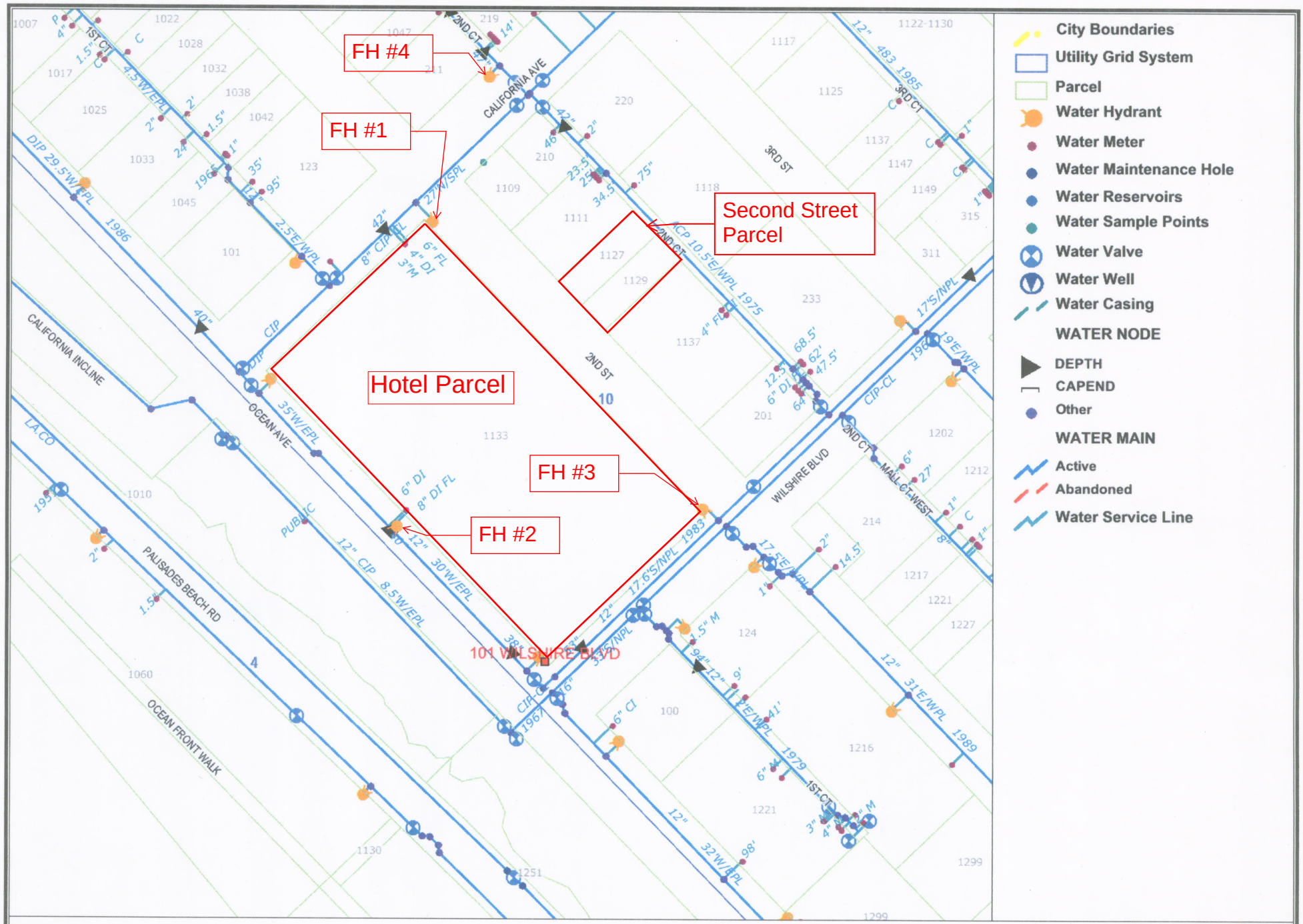
Appendix 5

Atlas Maps



Sewer

Scale 1:2,178
City of Santa Monica GIS
Printed: Oct 5, 2009 3:02:10 PM

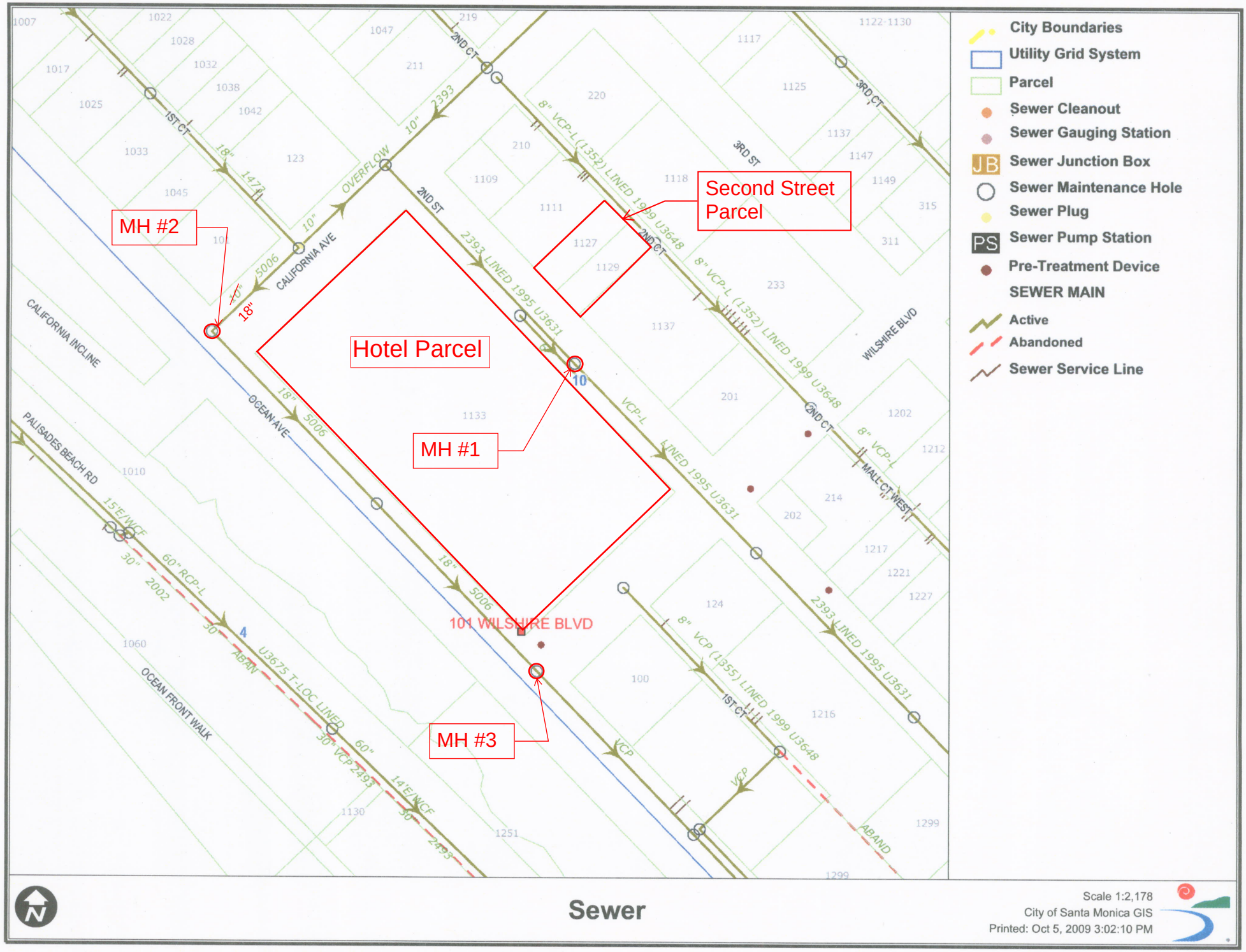


Water

Scale 1:2,178
City of Santa Monica GIS
Printed: Oct 5, 2009 3:01:20 PM

Appendix 6

Sewer Monitoring Results



Sewer

Scale 1:2,178
City of Santa Monica GIS
Printed: Oct 5, 2009 3:02:10 PM

Site Report 09-14-2018

Confidential Proprietary Information

Fuscoe ~1137 2nd St, Santa Monica, CA 90403

2018.09 Wilshire & 2nd MH 1 MH monitored for 101 Wilshire Blvd Project & 2nd St Project

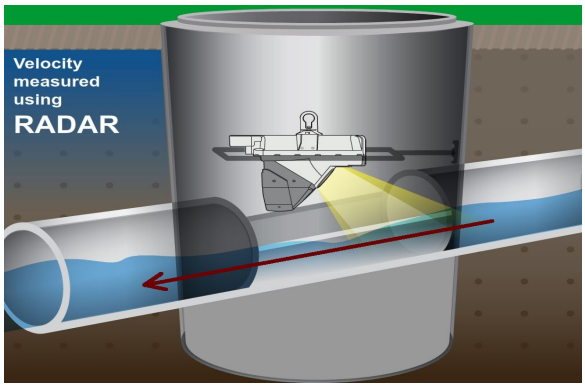
Access:
MH is in the southbound bike lane.

System Type:
Sanitary [X] Storm [ ]

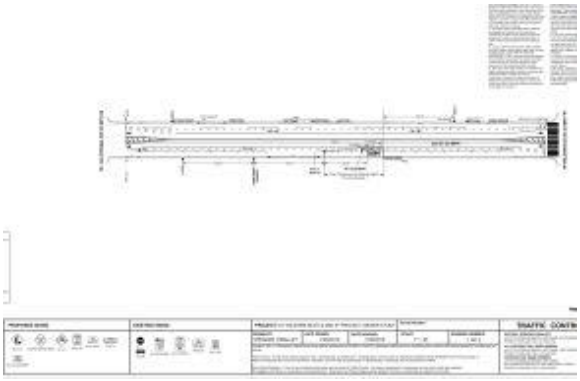
Install Date: 8/30/2018

Map

Technology



Traffic Plan



Flow Meter			
Meter Depth: 105"			
MH Coordinates: 34.018144, -118.500934			
Moderate open channel hydraulics; note the MH condition in the upstream photo.			
Avg Velocity	Avg Measured Level		Multiplier
2.25 fps	2.66"		1
Gas			
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
No laterals; monitored the upstream line as it provided the best hydraulics.			
Traffic Safety			
Used cones & signs in accord w/approved TCP per CA MUTCD TC requirements.			
Land Use			
Residential	Commercial	Industrial	Trunk
	X		

Manhole Depth	122"
Monitored Pipe Size	10"
Inner Pipe Size (In/Out)	10"/10"
Pipe Shape	Round
Pipe Condition	Good
Manhole Material	Brick
Silt	0
Velocity Profile Data	*
Velocity Profile Taken	0.4 2-D
Sensor Offset	17.32"
Sensor Dist. to Crown	7.32"
Sensor Direction	Upstream
Flow Heading	South

Meter Site Document

Fuscoe

2018.09 Wilshire & 2nd MH 1 ~1137 2nd St, Santa Monica, CA

Site

Manhole Before Install

Installation Process

Installed

Monitored Upstream

Monitored Pipe Size

Site Report 09-14-2018

Confidential Proprietary Information

Fuscoe	~101 California Av, Santa Monica, CA 90403
2018.09 Wilshire & 2nd MH 2	MH monitored for 101 Wilshire Blvd Project & 2nd St Project

Access:

MH is in the NB lane of Ocean Av at its intersection w/CA Av

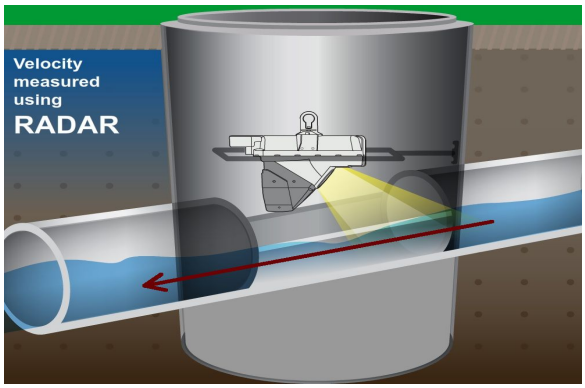
System Type:

Sanitary [X] Storm [ ]

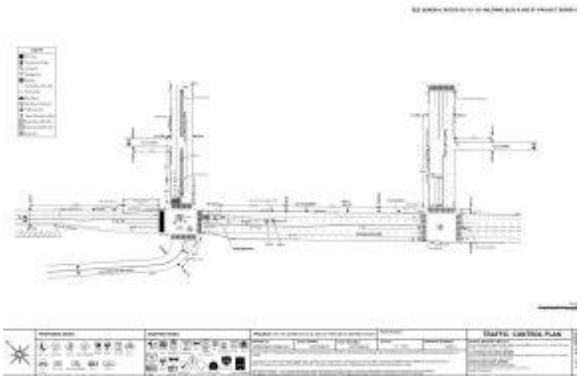
Install Date: 8/30/2018

Map

Technology



Traffic Plan



Flow Meter			
Meter Depth: 69"			
MH Coordinates: 34.018216, -118.502797			
Moderate open channel hydraulics with some turbulence due to 90-degree bend in trough			
Avg Velocity	Avg Measured Level		Multiplier
4.25 fps	2.5"		1
Gas			
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
Due to poor hydraulics in MH 2, moved downstream one MH & monitored the upstream line.			
Traffic Safety			
Used arrow board, barricades, cones & signs in accord w/approved TCP per CA MUTCD TC requirements.			
Land Use			
Residential	Commercial	Industrial	Trunk
	X		

Manhole Depth	94"
Monitored Pipe Size	10"
Inner Pipe Size (In/Out)	10"/18"
Pipe Shape	Round
Pipe Condition	Good
Manhole Material	Brick
Silt	0
Velocity Profile Data	*
Velocity Profile Taken	0.4 2-D
Sensor Offset	25.24"
Sensor Dist. to Crown	15.24"
Sensor Direction	Upstream
Flow Heading	South

Meter Site Document

Fuscoe

2018.09 Wilshire & 2nd MH 2 ~101 California Av, Santa Monica, CA

Site

Original MH Location

Original MH Hydraulics

Next Downstream MH Location

Monitored Upstream

Downstream Pipe Size

Site Report 09-14-2018

Confidential Proprietary Information

Fuscoe	~101 Wilshire Blvd, Santa Monica, CA 90401
2018.09 Wilshire & 2nd MH 3	MH monitored for 101 Wilshire Blvd Project & 2nd St Project

Access:

MH is in the NB lane of Ocean Av at its intersection w/Wilshire Blvd

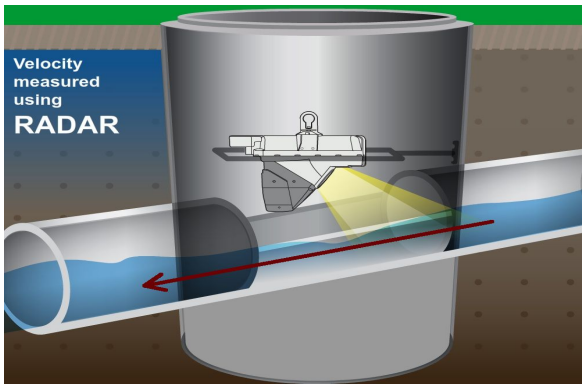
System Type:

Sanitary [X] Storm [ ]

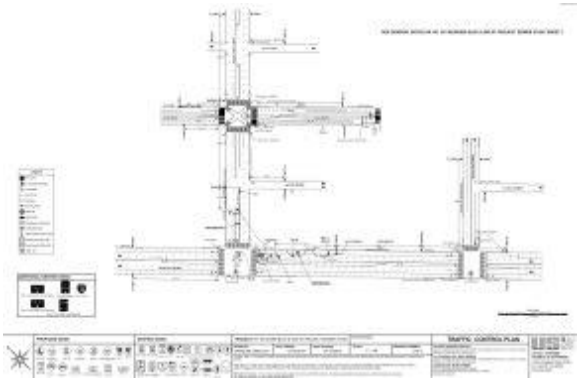
Install Date: 8/30/2018

Map

Technology



Traffic Plan



Flow Meter			
Meter Depth: 69"			
MH Coordinates: 34.016821, -118.501167			
Moderate open channel hydraulics			
Avg Velocity	Avg Measured Level		Multiplier
4.0 fps	2.0"		1
Gas			
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
No laterals; monitored upstream line as it provided best hydraulics.			
Traffic Safety			
Used arrow board, barricades, cones & signs in accord w/approved TCP per CA MUTCD TC requirements.			
Land Use			
Residential	Commercial	Industrial	Trunk
	X		

Manhole Depth	95"
Monitored Pipe Size	18"
Inner Pipe Size (In/Out)	18"/18"
Pipe Shape	Round
Pipe Condition	Good
Manhole Material	Brick
Silt	0
Velocity Profile Data	*
Velocity Profile Taken	0.4 2-D
Sensor Offset	25.86"
Sensor Dist. to Crown	7.86"
Sensor Direction	Upstream
Flow Heading	South

Meter Site Document

Fuscoe

2018.09 Wilshire & 2nd MH 3

~101 Wilshire Blvd, Santa Monica, CA

Site

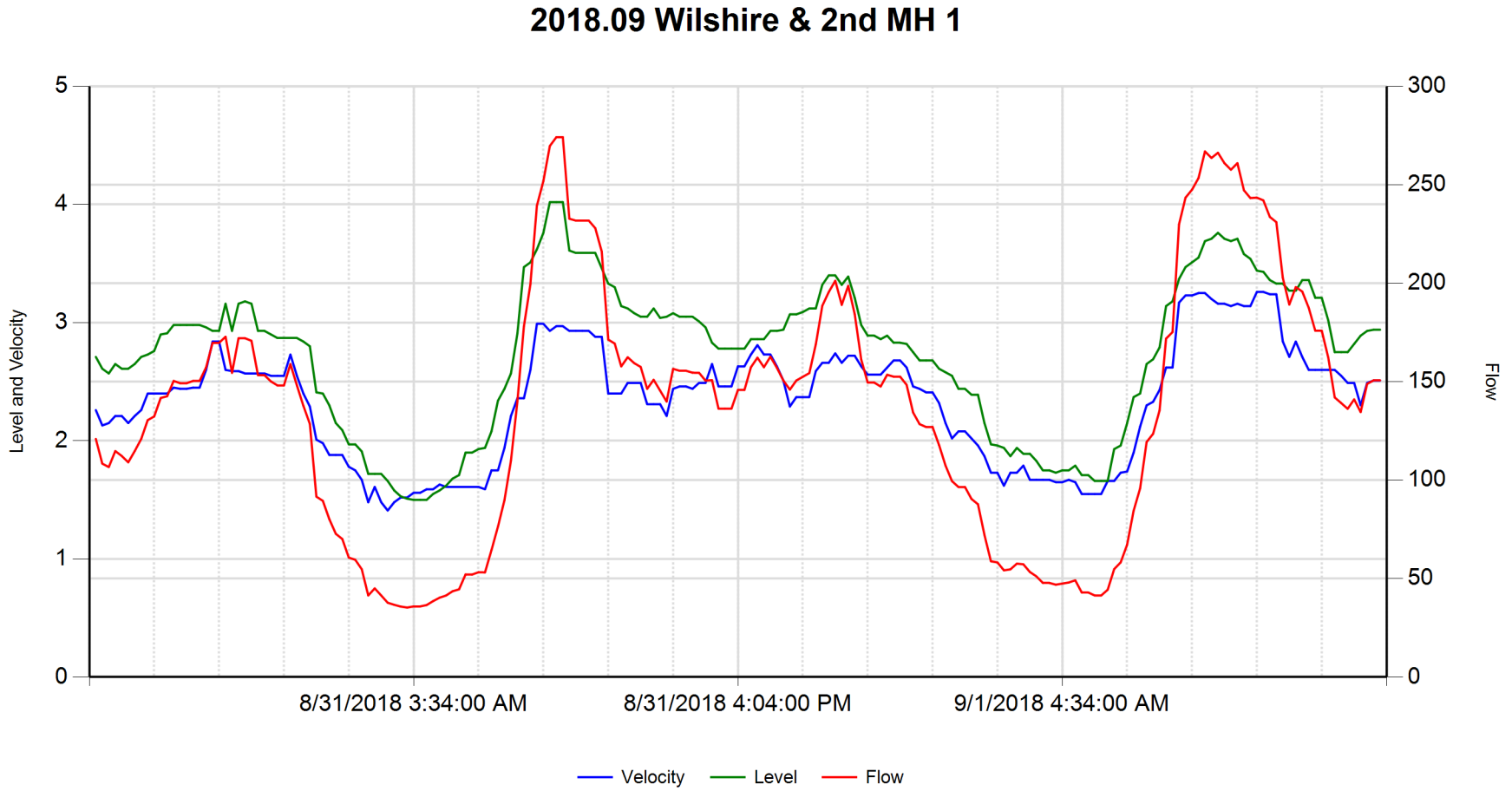
Manhole Before Install

Installation Process

Installed

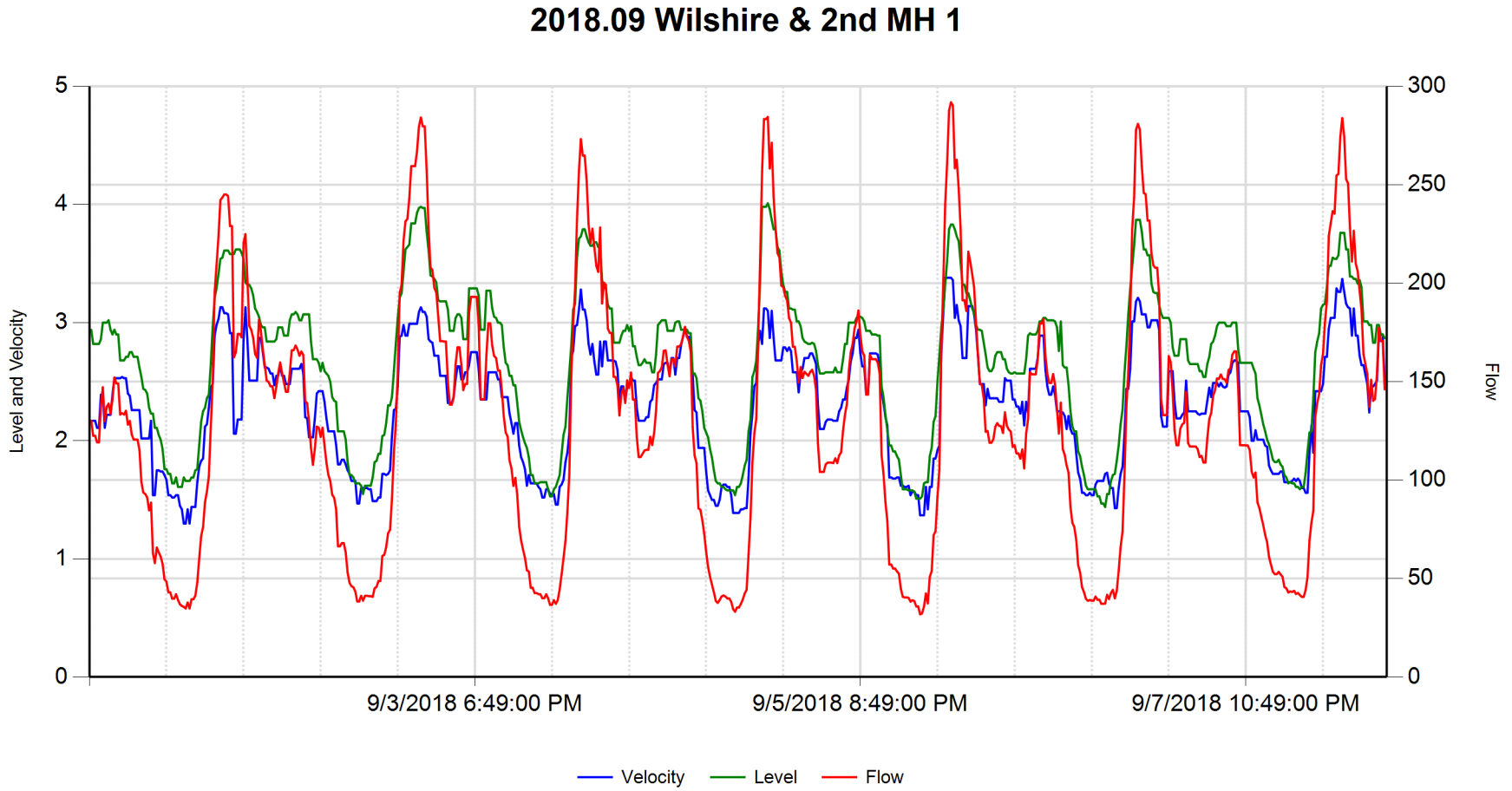
Monitored Upstream

Monitored Pipe Size



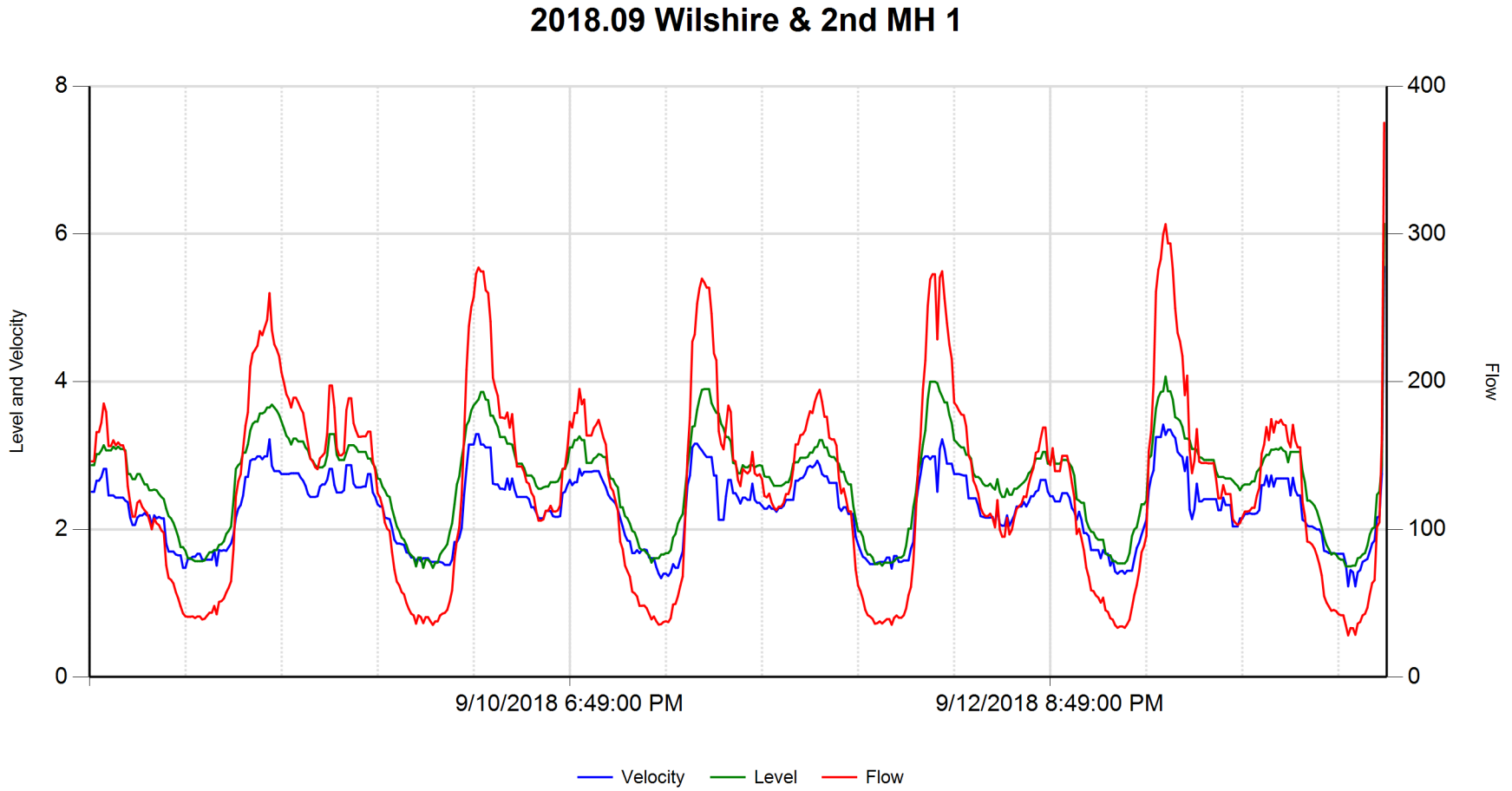
	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.342	2.735	136.496	**RainFall**	Inches
Maximum	3.260	4.020	274.166		
Minimum	1.410	1.500	35.347		

9/14/2018 3:01:55 PM



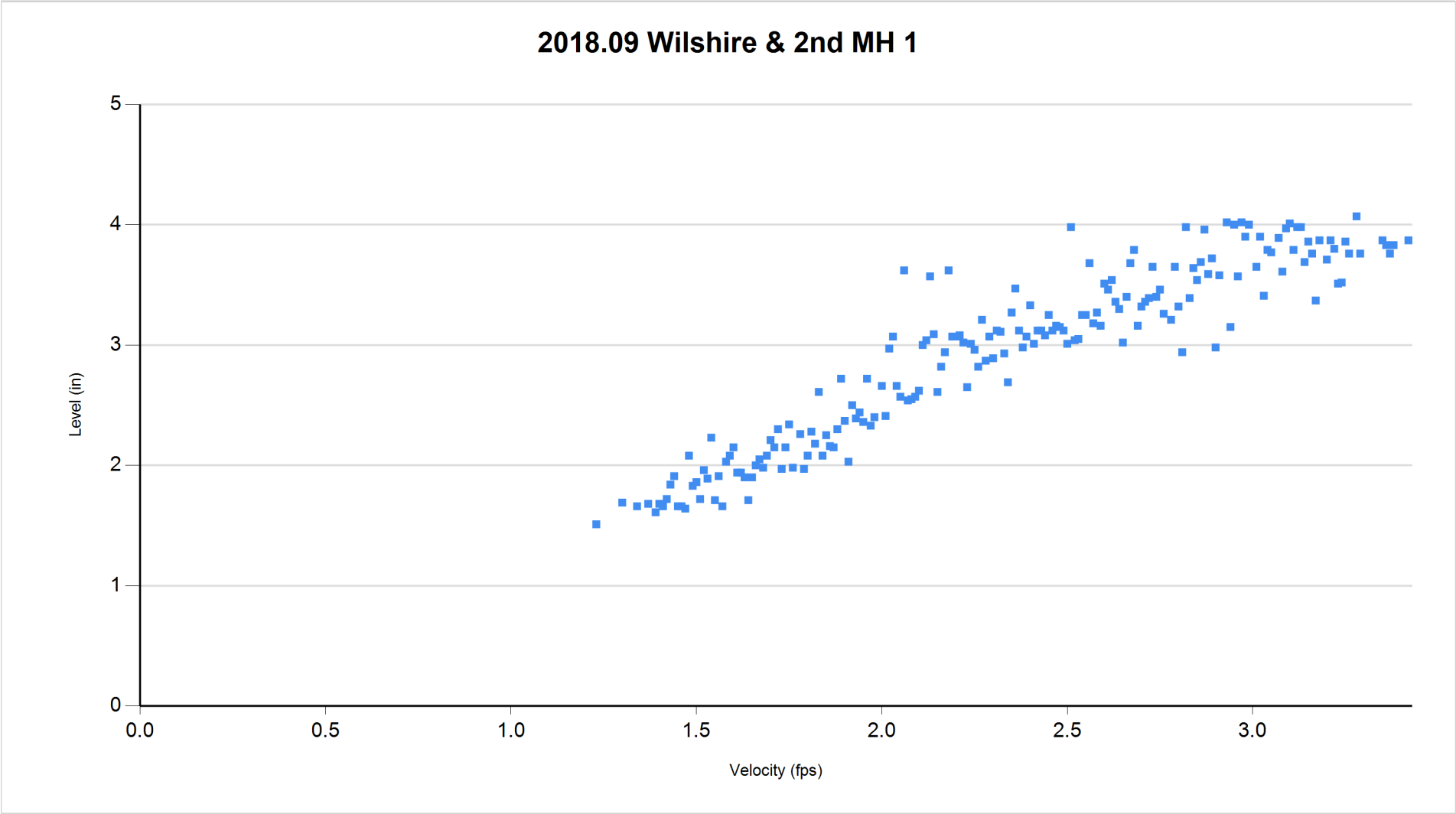
	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.302	2.672	130.812	**RainFall**	Inches
Maximum	3.380	4.010	291.874		
Minimum	1.300	1.440	31.875		

9/14/2018 3:01:55 PM



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.276	2.647	127.944	**RainFall**	Inches
Maximum	3.420	4.070	306.666		
Minimum	1.230	1.480	28.264		

9/14/2018 3:01:55 PM



8/30/2018 thru 9/14/2018

9/14/2018 3:01:55 PM

Utility Systems Science and Software

Report Date: 09/14/2018
Customer: Fuscoe
Group: Santa Monica
SiteID: 3200

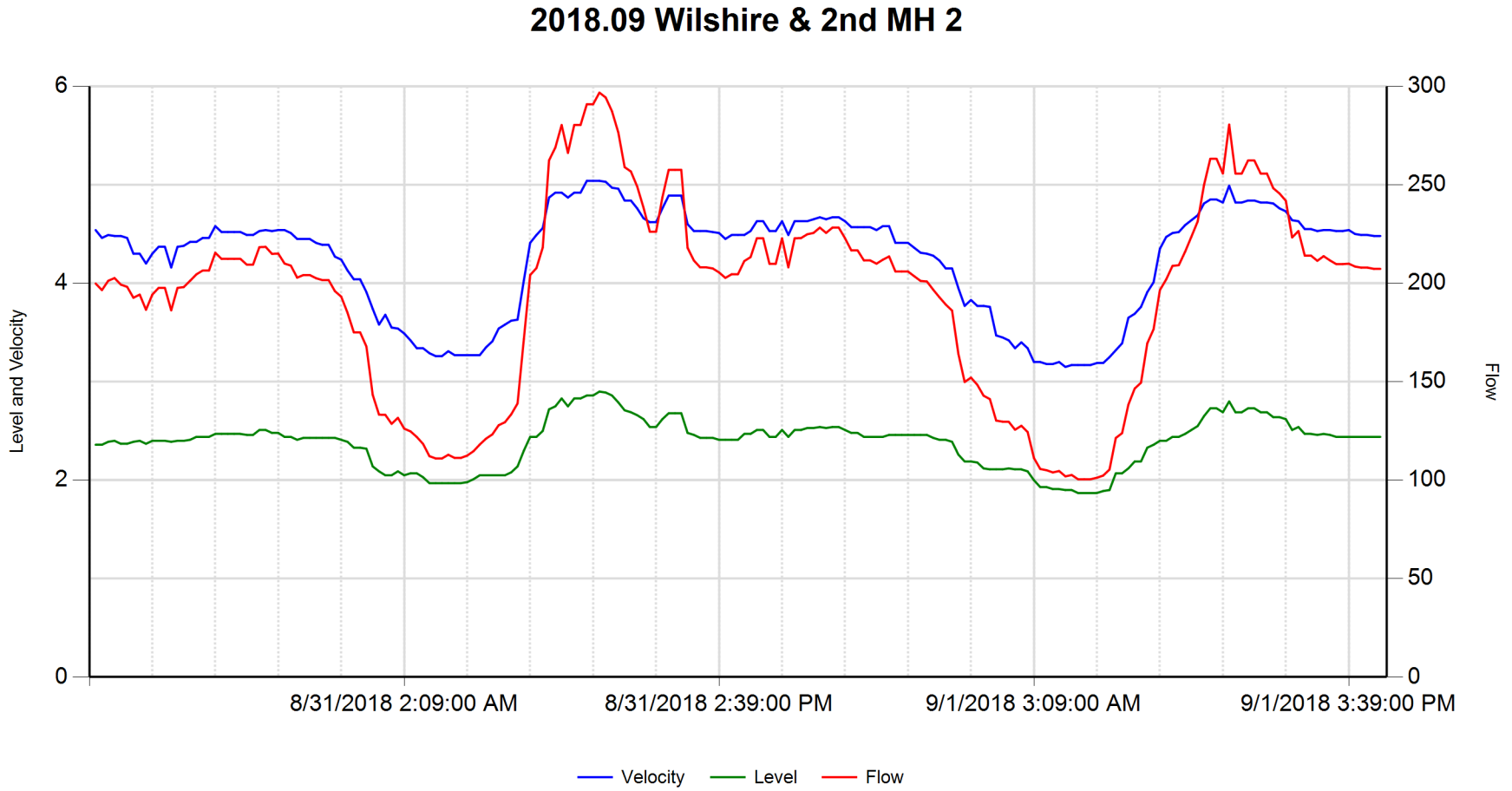
Statistics for 2018.09 Wilshire & 2nd MH 1: 08/30/2018 thru 09/14/2018

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Total Gal**	**Rain**
8/30/18	141.77	172.85	91.67	0.20	0.25	0.13	2.44	2.84	2.01	2.86	3.18	2.41	204,154	
8/31/18	134.33	274.17	35.35	0.19	0.40	0.05	2.30	2.99	1.41	2.73	4.02	1.50	193,434	
9/1/18	134.61	266.94	41.46	0.19	0.38	0.06	2.34	3.26	1.55	2.71	3.76	1.66	193,834	
9/2/18	127.62	245.07	34.86	0.18	0.35	0.05	2.25	3.13	1.30	2.68	3.62	1.61	183,768	
Week:	**134.58**	**274.17**	**34.86**	**0.19**	**0.40**	**0.05**	**2.33**	**3.26**	**1.30**	**2.75**	**4.02**	**1.50**	**775,189**	
9/3/18	139.08	284.17	38.40	0.20	0.41	0.06	2.31	3.13	1.47	2.77	3.98	1.55	200,275	
9/4/18	132.99	273.19	36.67	0.19	0.39	0.05	2.34	3.28	1.46	2.68	3.79	1.53	191,506	
9/5/18	130.98	284.44	33.19	0.19	0.41	0.05	2.31	3.12	1.39	2.66	4.01	1.54	188,613	
9/6/18	128.30	291.87	31.87	0.18	0.42	0.05	2.32	3.38	1.37	2.61	3.83	1.51	184,753	
9/7/18	125.06	280.90	37.22	0.18	0.40	0.05	2.26	3.21	1.43	2.62	3.87	1.44	180,090	
9/8/18	134.35	283.89	40.76	0.19	0.41	0.06	2.35	3.37	1.56	2.69	3.76	1.59	193,460	
9/9/18	135.30	260.00	39.03	0.19	0.37	0.06	2.34	3.22	1.48	2.71	3.69	1.57	194,830	
Week:	**132.29**	**291.87**	**31.87**	**0.19**	**0.42**	**0.05**	**2.32**	**3.38**	**1.37**	**2.68**	**4.01**	**1.44**	**1,333,526**	
9/10/18	131.76	277.29	35.35	0.19	0.40	0.05	2.31	3.29	1.52	2.67	3.86	1.48	189,729	
9/11/18	132.23	269.79	35.56	0.19	0.39	0.05	2.31	3.16	1.34	2.70	3.90	1.55	190,405	
9/12/18	125.21	274.79	35.49	0.18	0.40	0.05	2.26	3.22	1.47	2.62	4.00	1.51	180,300	
9/13/18	132.85	306.67	33.40	0.19	0.44	0.05	2.30	3.42	1.40	2.70	4.07	1.54	191,298	
9/14/18	62.35	197.99	28.26	0.09	0.29	0.04	1.77	2.78	1.23	1.91	3.07	1.50	89,777	
Week:	**116.88**	**306.67**	**28.26**	**0.17**	**0.44**	**0.04**	**2.19**	**3.42**	**1.23**	**2.52**	**4.07**	**1.48**	**841,509**	
Totals:	**128.05**	**306.67**	**28.26**	**0.18**	**0.44**	**0.04**	**2.28**	**3.42**	**1.23**	**2.65**	**4.07**	**1.44**	**2,950,225**	

Maximum Flow: 0.683 cfs

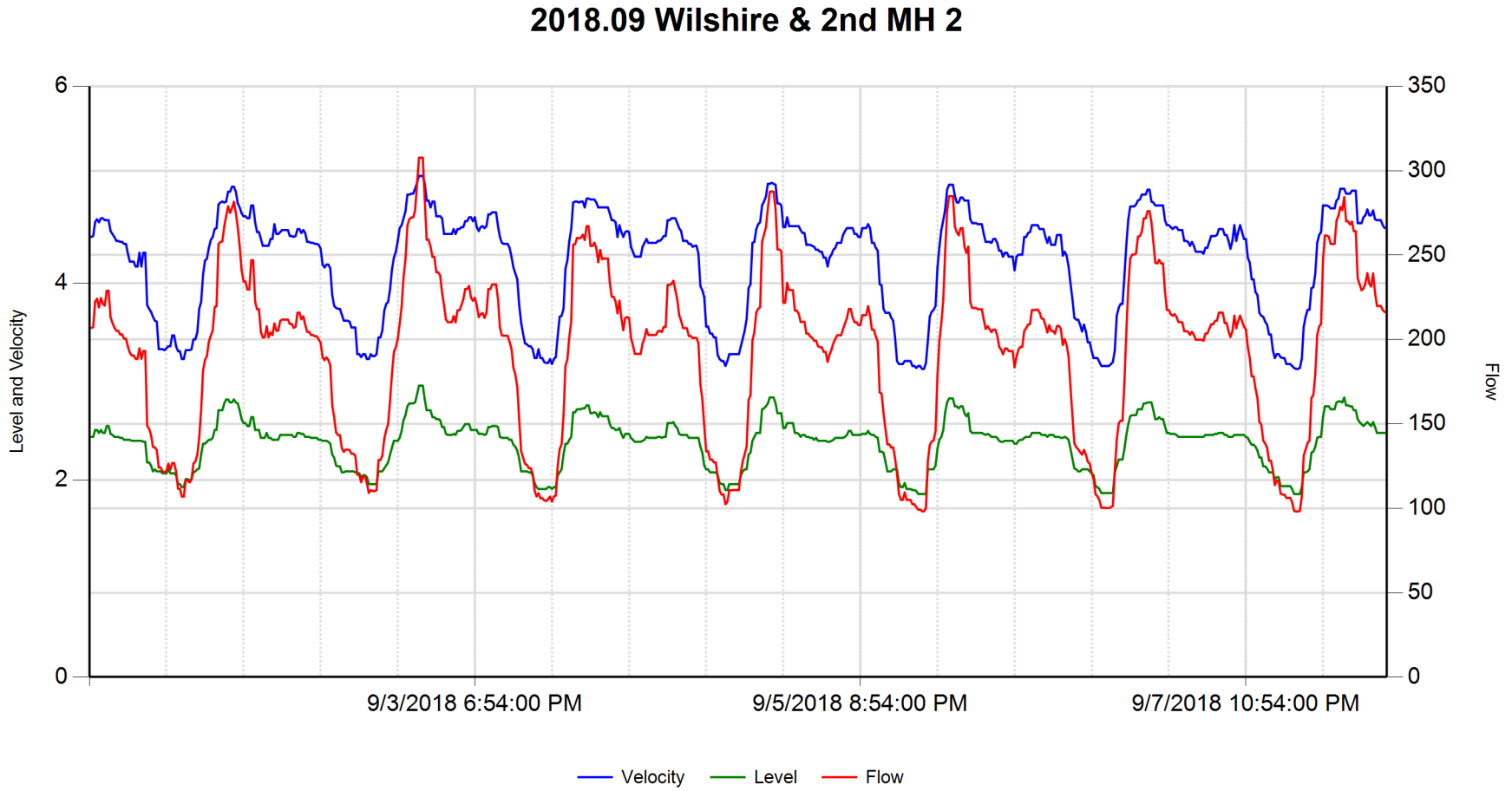
Maximum Depth: 4.07"

d/D = 4.07/12 = 0.34



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	4.255	2.385	194.362	**RainFall**	Inches
Maximum	5.040	2.900	296.805		
Minimum	3.150	1.870	100.486		

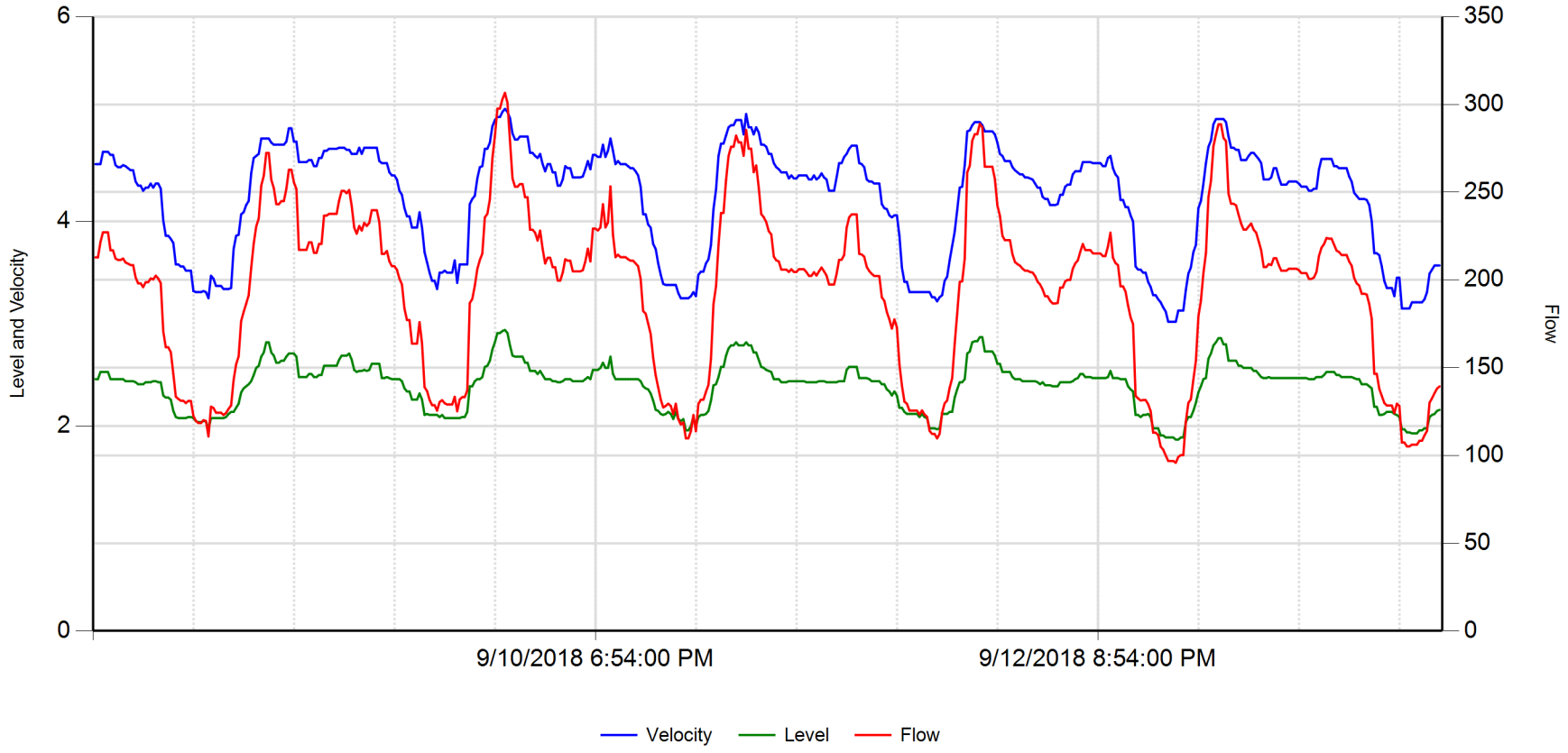
9/14/2018 3:03:08 PM



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	4.227	2.383	193.081	**RainFall**	Inches
Maximum	5.090	2.960	307.707		
Minimum	3.130	1.860	98.125		

9/14/2018 3:03:08 PM

2018.09 Wilshire & 2nd MH 2



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	4.231	2.399	194.607	**RainFall**	Inches
Maximum	5.100	2.940	306.596		
Minimum	3.020	1.870	95.833		

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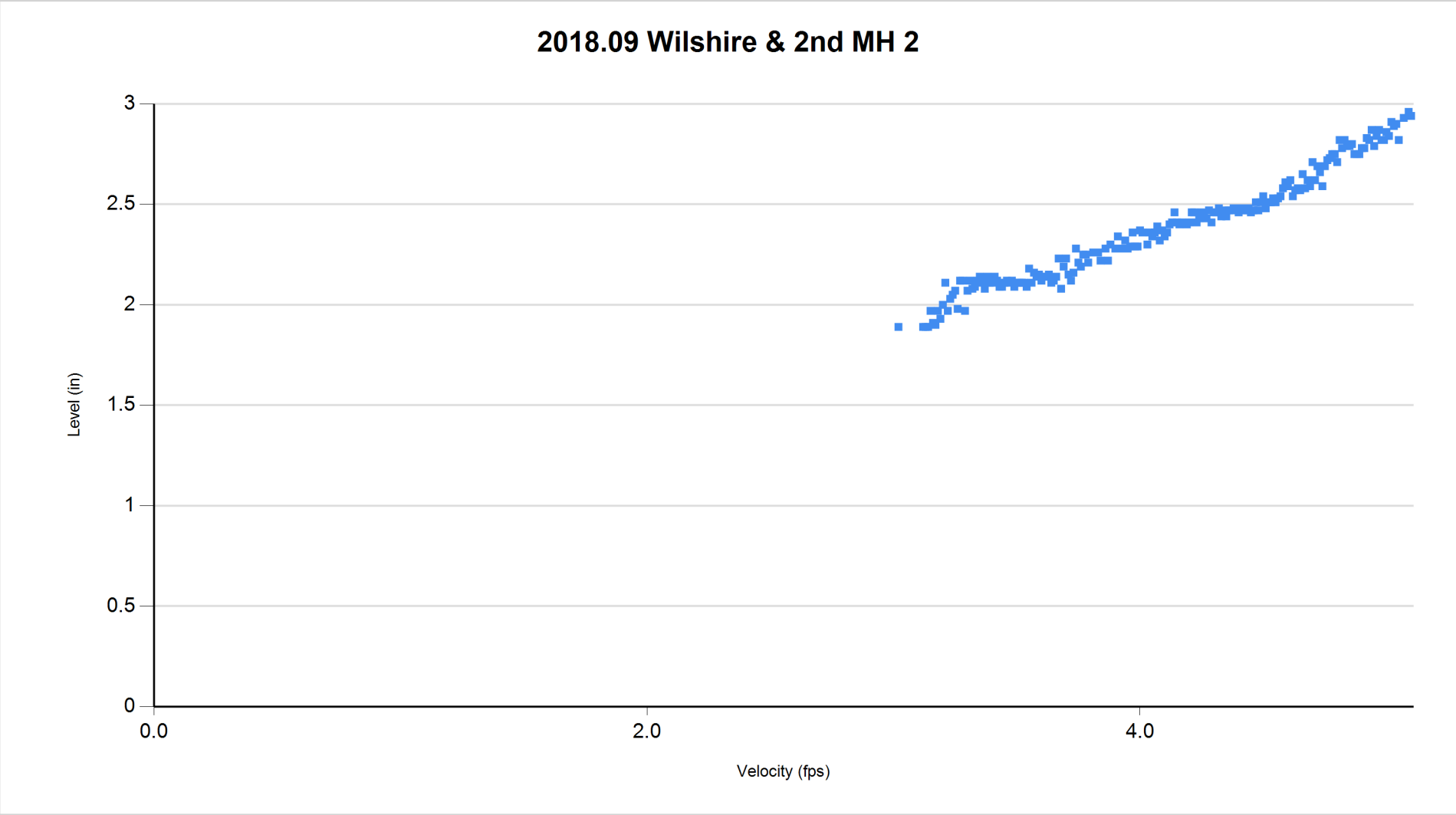


8/30/2018 thru 9/14/2018

9/14/2018 3:03:08 PM

Utility Systems Science and Software

Report Date: 09/14/2018
Customer: Fuscoe
Group: Santa Monica
SiteID: 3201

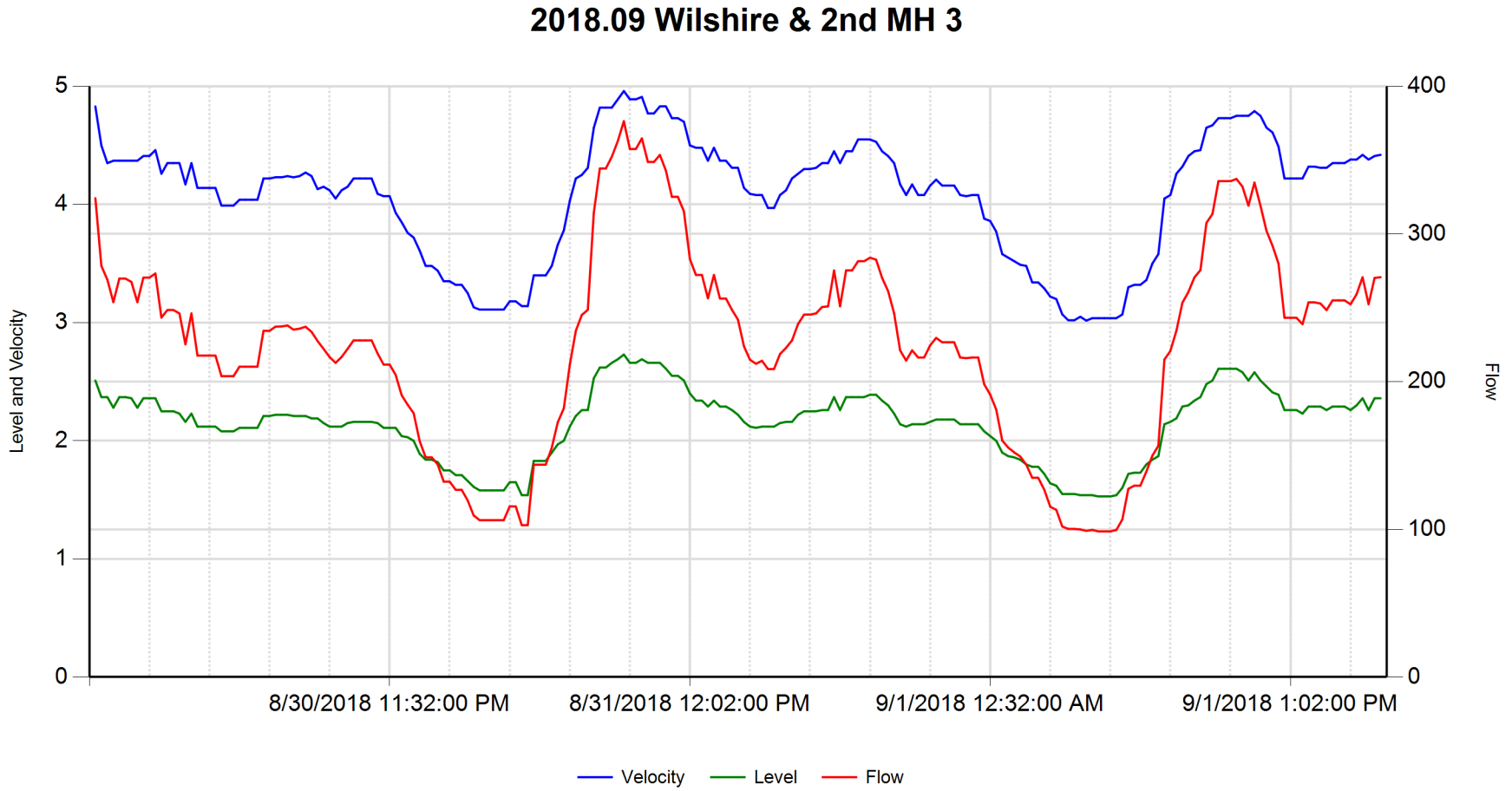
Statistics for 2018.09 Wilshire & 2nd MH 2: 08/30/2018 thru 09/14/2018

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Total Gal	Rain
8/30/18	202.98	218.47	185.00	0.29	0.31	0.27	4.43	4.58	4.13	2.43	2.51	2.36	292,284	
8/31/18	200.19	296.80	111.04	0.29	0.43	0.16	4.30	5.04	3.26	2.42	2.90	1.97	288,279	
9/1/18	188.30	280.55	100.49	0.27	0.40	0.14	4.19	4.99	3.15	2.36	2.80	1.87	271,155	
9/2/18	191.52	281.60	106.94	0.28	0.41	0.15	4.21	4.98	3.23	2.38	2.82	1.93	275,794	
Week:	**195.75**	**296.80**	**100.49**	**0.28**	**0.43**	**0.14**	**4.28**	**5.04**	**3.15**	**2.39**	**2.90**	**1.87**	**1,127,513**	
9/3/18	197.93	307.71	109.17	0.29	0.44	0.16	4.27	5.09	3.23	2.41	2.96	1.96	285,015	
9/4/18	194.96	267.15	103.96	0.28	0.38	0.15	4.25	4.86	3.18	2.39	2.76	1.91	280,748	
9/5/18	191.19	287.78	102.43	0.28	0.41	0.15	4.22	5.02	3.16	2.38	2.84	1.90	275,319	
9/6/18	188.89	284.93	98.26	0.27	0.41	0.14	4.19	5.00	3.13	2.36	2.83	1.86	272,002	
9/7/18	192.38	276.04	100.14	0.28	0.40	0.14	4.22	4.95	3.16	2.38	2.79	1.87	277,032	
9/8/18	195.07	284.37	98.12	0.28	0.41	0.14	4.24	4.96	3.13	2.39	2.84	1.86	280,899	
9/9/18	199.36	272.36	110.83	0.29	0.39	0.16	4.27	4.91	3.25	2.42	2.82	1.97	287,076	
Week:	**194.26**	**307.71**	**98.12**	**0.28**	**0.44**	**0.14**	**4.24**	**5.09**	**3.13**	**2.39**	**2.96**	**1.86**	**1,958,092**	
9/10/18	204.83	306.60	125.21	0.30	0.44	0.18	4.36	5.10	3.34	2.44	2.94	2.08	294,952	
9/11/18	198.33	285.49	109.79	0.29	0.41	0.16	4.28	5.05	3.25	2.42	2.82	1.96	285,598	
9/12/18	194.79	288.89	109.72	0.28	0.42	0.16	4.23	4.97	3.22	2.41	2.87	1.97	280,504	
9/13/18	192.25	288.68	95.83	0.28	0.42	0.14	4.19	5.00	3.02	2.39	2.86	1.87	276,834	
9/14/18	125.06	177.85	105.21	0.18	0.26	0.15	3.40	4.00	3.15	2.07	2.37	1.93	180,092	
Week:	**183.05**	**306.60**	**95.83**	**0.26**	**0.44**	**0.14**	**4.09**	**5.10**	**3.02**	**2.34**	**2.94**	**1.87**	**1,317,980**	
Totals:	**191.13**	**307.71**	**95.83**	**0.28**	**0.44**	**0.14**	**4.20**	**5.10**	**3.02**	**2.38**	**2.96**	**1.86**	**4,403,585**	

Maximum Flow: 0.686 cfs

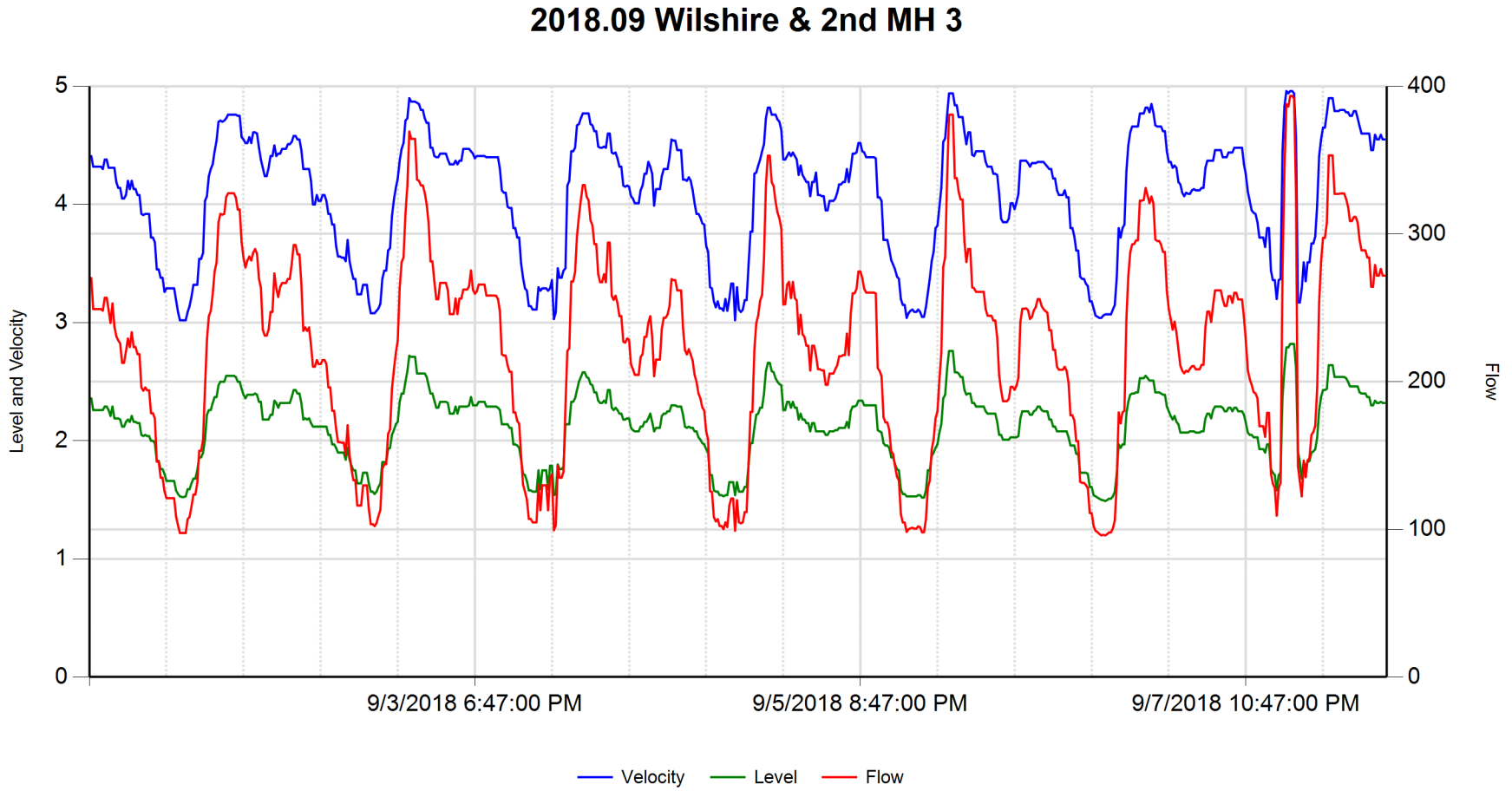
Maximum Depth: 2.96"

d/D = 2.96/18 = 0.17



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	4.077	2.145	224.285	**RainFall**	Inches
Maximum	4.960	2.730	376.388		
Minimum	3.017	1.529	98.680		

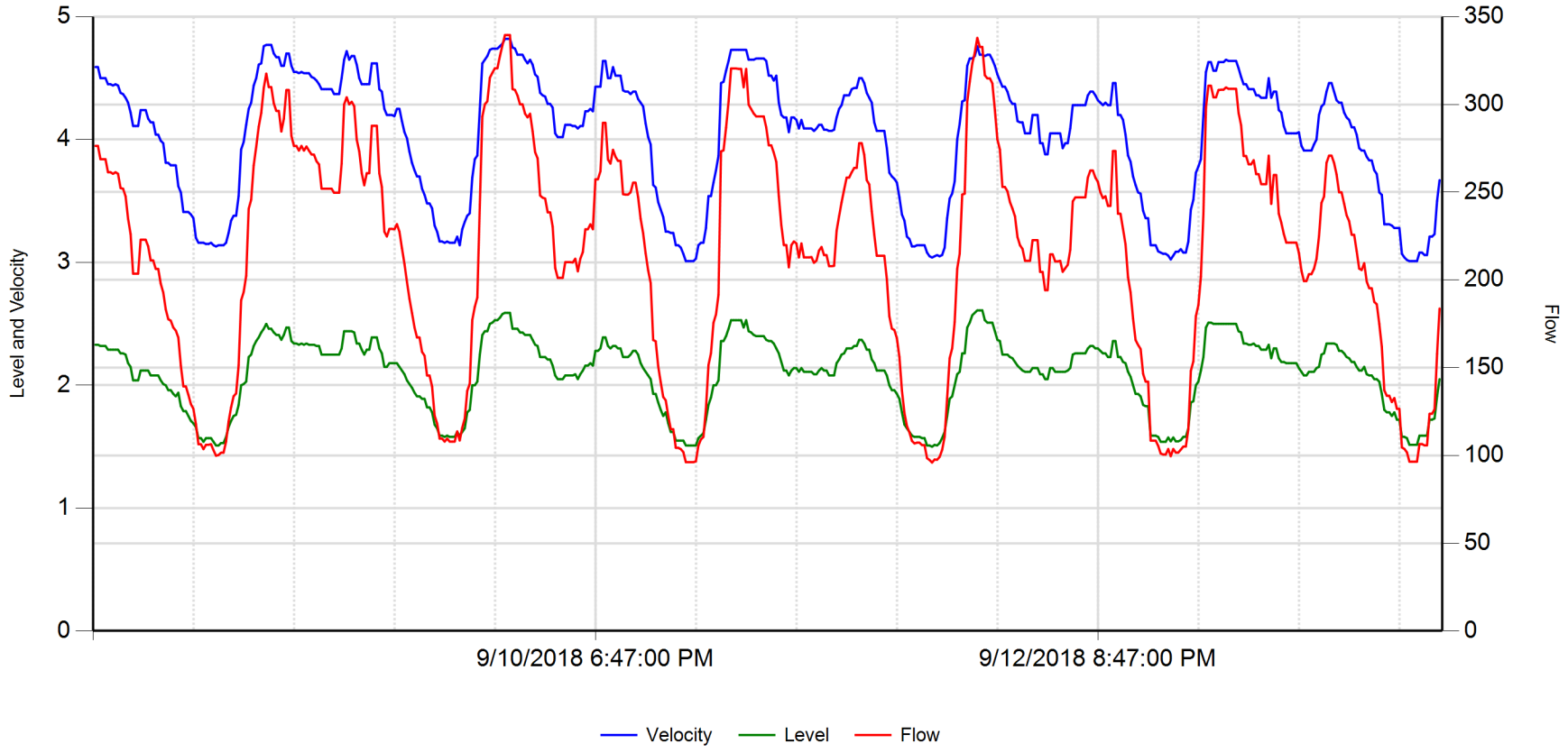
9/14/2018 3:03:46 PM



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	4.094	2.127	222.753	**RainFall**	Inches
Maximum	4.960	2.820	393.471		
Minimum	3.020	1.490	95.972		

9/14/2018 3:03:46 PM

2018.09 Wilshire & 2nd MH 3



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	4.032	2.099	215.388	**RainFall**	Inches
Maximum	4.820	2.610	339.513		
Minimum	3.010	1.500	95.972		

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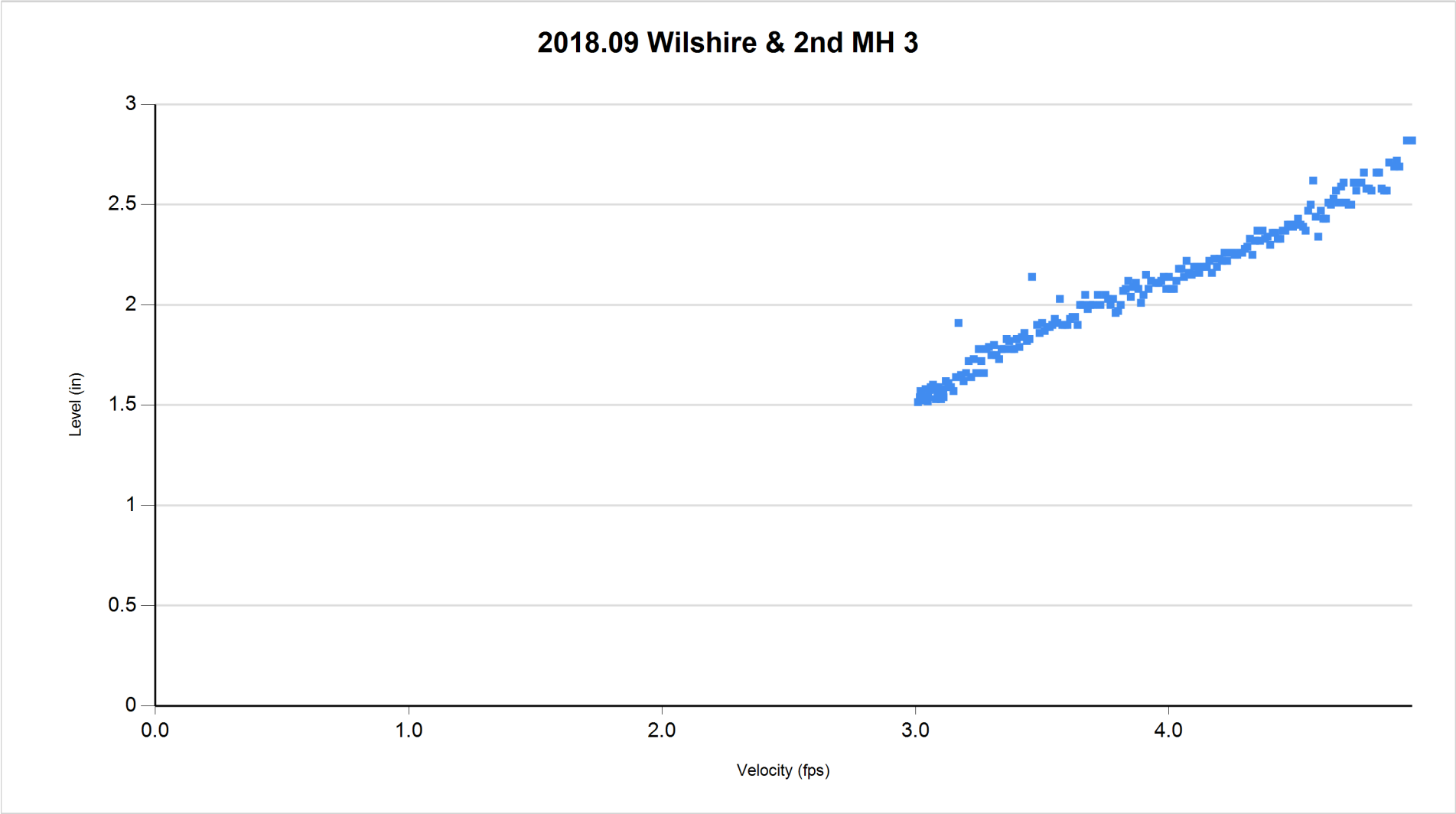


8/30/2018 thru 9/14/2018

9/14/2018 3:03:46 PM

Utility Systems Science and Software

Report Date: 09/14/2018
Customer: Fuscoe
Group: Santa Monica
SiteID: 3202

Statistics for 2018.09 Wilshire & 2nd MH 3: 08/30/2018 thru 09/14/2018

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Total Gal	Rain
8/30/18	234.97	324.30	203.75	0.34	0.47	0.29	4.22	4.83	3.93	2.20	2.51	2.08	338,354	
8/31/18	228.47	376.39	102.92	0.33	0.54	0.15	4.10	4.96	3.11	2.16	2.73	1.54	329,003	
9/1/18	217.21	337.29	98.68	0.31	0.49	0.14	4.02	4.79	3.02	2.11	2.61	1.53	312,782	
9/2/18	223.48	327.57	97.57	0.32	0.47	0.14	4.09	4.76	3.02	2.13	2.55	1.52	321,817	
Week:	**226.03**	**376.39**	**97.57**	**0.33**	**0.54**	**0.14**	**4.11**	**4.96**	**3.02**	**2.15**	**2.73**	**1.52**	**1,301,956**	
9/3/18	225.83	369.37	102.22	0.33	0.53	0.15	4.09	4.90	3.08	2.15	2.72	1.55	325,189	
9/4/18	216.99	333.12	99.44	0.31	0.48	0.14	4.06	4.77	3.03	2.11	2.58	1.54	312,472	
9/5/18	212.83	352.99	99.10	0.31	0.51	0.14	4.03	4.82	3.02	2.08	2.66	1.53	306,469	
9/6/18	214.71	380.76	98.06	0.31	0.55	0.14	4.04	4.94	3.04	2.09	2.76	1.52	309,177	
9/7/18	217.03	331.18	95.97	0.31	0.48	0.14	4.09	4.85	3.04	2.09	2.55	1.49	312,520	
9/8/18	248.97	393.47	109.31	0.36	0.57	0.16	4.28	4.96	3.17	2.23	2.82	1.58	358,516	
9/9/18	223.84	317.57	99.86	0.32	0.46	0.14	4.13	4.77	3.13	2.12	2.50	1.51	322,324	
Week:	**222.88**	**393.47**	**95.97**	**0.32**	**0.57**	**0.14**	**4.10**	**4.96**	**3.02**	**2.12**	**2.82**	**1.49**	**2,246,666**	
9/10/18	226.05	339.51	107.92	0.33	0.49	0.16	4.14	4.82	3.14	2.14	2.59	1.58	325,516	
9/11/18	216.34	320.49	96.18	0.31	0.46	0.14	4.05	4.73	3.01	2.10	2.53	1.51	311,527	
9/12/18	213.73	337.92	95.97	0.31	0.49	0.14	4.00	4.76	3.04	2.10	2.61	1.50	307,776	
9/13/18	215.70	310.69	99.58	0.31	0.45	0.14	3.99	4.65	3.02	2.12	2.51	1.54	310,604	
9/14/18	130.84	195.28	96.46	0.19	0.28	0.14	3.28	3.83	3.01	1.74	2.08	1.51	188,403	
Week:	**200.53**	**339.51**	**95.97**	**0.29**	**0.49**	**0.14**	**3.89**	**4.82**	**3.01**	**2.04**	**2.61**	**1.50**	**1,443,826**	
Totals:	**216.69**	**393.47**	**95.97**	**0.31**	**0.57**	**0.14**	**4.04**	**4.96**	**3.01**	**2.10**	**2.82**	**1.49**	**4,992,448**	

Maximum Flow: 0.877 cfs

Maximum Depth: 2.82"

d/D = 2.82/18 = 0.16

Methods & Procedures & Equipment

Methods and Procedures

Utility Systems Science & Software provided Fuscoe Engineering with an off the shelf, non-proprietary flow monitoring solution that included three state of the art Hach Flo-Dar® AV Sensor systems. The project course of action is listed below. The US^3 team:

- Assessed permitting and traffic control at the sites on 2nd St, California Av, and Wilshire Blvd for the 101 Wilshire Blvd Project and the 2nd St Project (Fairmont Miramar Hotel, Fuscoe Project No. 00886-003-01, Task R08B) in Santa Monica.
- Validated two of the sites for suitability for flow monitoring, but the California Av site had unsuitable hydraulics, so monitoring was moved downstream one manhole.
- Prepared the traffic control plans and obtained a City Encroachment Permit.
- Coordinated with the City wastewater Inspector for installation of equipment.
- Installed and removed traffic control in accord with approved traffic control plans for both the installation and removal of equipment.
- Installed and calibrated the flow monitoring equipment per manufacturer recommendations.
- Removed the equipment, validated the data and prepared the data reports.

Equipment

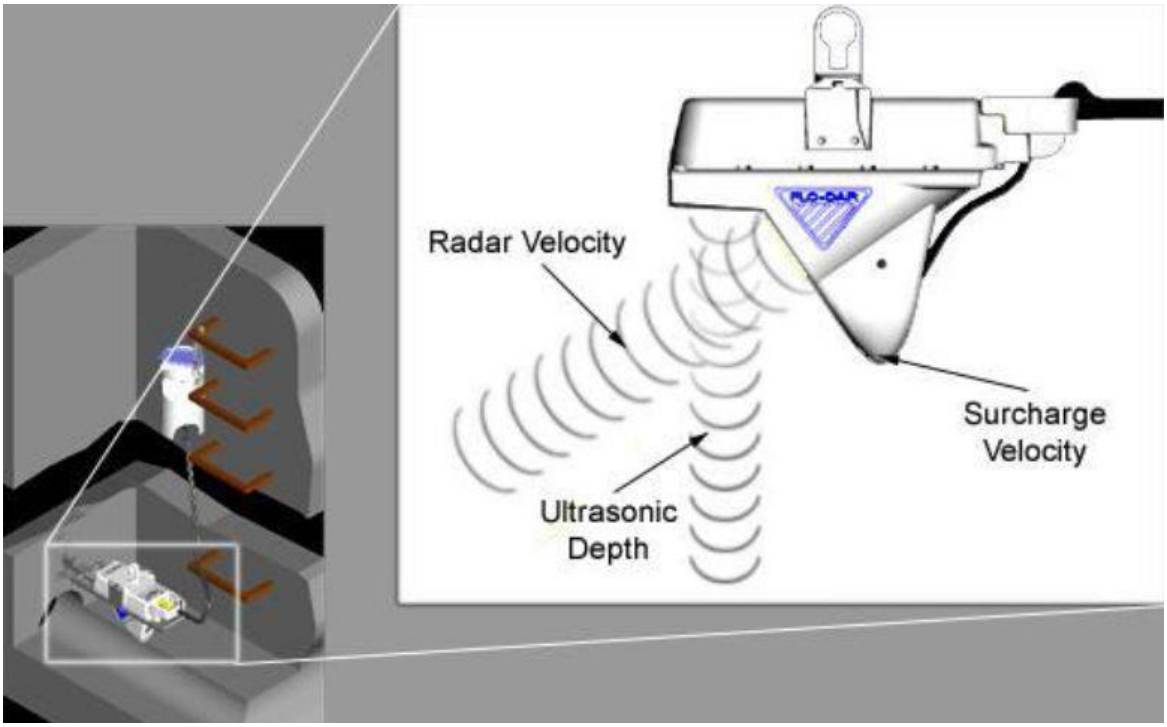


Figure: Equipment installed as part of the Sewer Flow Monitoring Study

Figure: Web-Enabled Flo-Dar® AV Sensor, Radar-Based Velocity/Area Flow Meter

SPECIFICATIONS

- **Enclosure**
  - IP68 Waterproof rating, Polystyrene
- **Dimensions**
  - 160.5 W x 432.2 L x 297 D mm (6.32 x 16.66 x 11.7 in.),
  - With SVS, D = 387 mm (15.2 in.)
- **Weight**
  - 4.8 kg (10.5 lbs.)
- **Operating Temperature**
  - -10 to 50°C (14 to 122°F)
- **Storage Temperature**
  - -40 to 60°C (-40 to 140°F)
- **Power Requirements**
  - Supplied by FL900 Flow Logger, Flo-Logger, or Flo-Station

- **Interconnecting Cable**
  - Disconnect available at both sensor and logger or Flo-Station
  - Polyurethane, 0.400 (±0.015) in. diameter; IP68
  - Standard length 9 m (30 ft), maximum 305 m (1000 ft)
- **Cables – available in two styles:**
  - connectors at both ends
  - connector from sensor with open leads to desiccant hub, desiccant hub with connector to logger. A potting/sealant kit will be included. This can be used to run the cable through conduit.
- **Certification**
  - Certified to: FCC Part 15.245: FCC ID: VIC-FLODAR24
  - Industry Canada Spec. RSS210. v7: IC No.: 6149A-FLODAR24

SURCHARGE DEPTH MEASUREMENT

  - Auto zero function maintains zero error below 0.5 cm (0.2 in.)
- **Method**
  - Piezo-resistive pressure transducer with stainless steel diaphragm
- **Range**
  - 3.5 m (138 in.), overpressure rating 2.5 x full scale

VELOCITY MEASUREMENT

- **Method**
  - Radar
- **Range**
  - 0.23 to 6.10 m/s (0.75 to 20 ft/s)
- **Frequency Range**
  - 24.075 to 24.175 GHz, 15.2 mW (max.)
- **Accuracy**
  - ±0.5%; ±0.03 m/s (±0.1 ft/s)

DEPTH MEASUREMENT

- **Method**
  - Ultrasonic
- **Standard Operating Range from Flo-Dar® Housing to Liquid**
  - 0 to 152.4 cm (0 to 60 in.)
- **Optional Extended Level Operating Range from Transducer Face to Liquid**
  - 0 to 6.1 m (0 to 20 ft.) with 43.18 cm (17 in.) dead band, temperature compensated.
- **Accuracy**
  - ±1%; ±0.25 cm (±0.1 in.)

FLOW MEASUREMENT

- **Method**
  - Based on Continuity Equation
- **Accuracy**
  - ±5% of reading typical where flow is in a channel with uniform flow conditions and is not surcharged, ±1% full scale max.

SURCHARGE CONDITIONS DEPTH/VELOCITY DEPTH (Std with Flo-Dar® Sensor)

- **Surcharge depth supplied by Flo-Dar® sensor.**

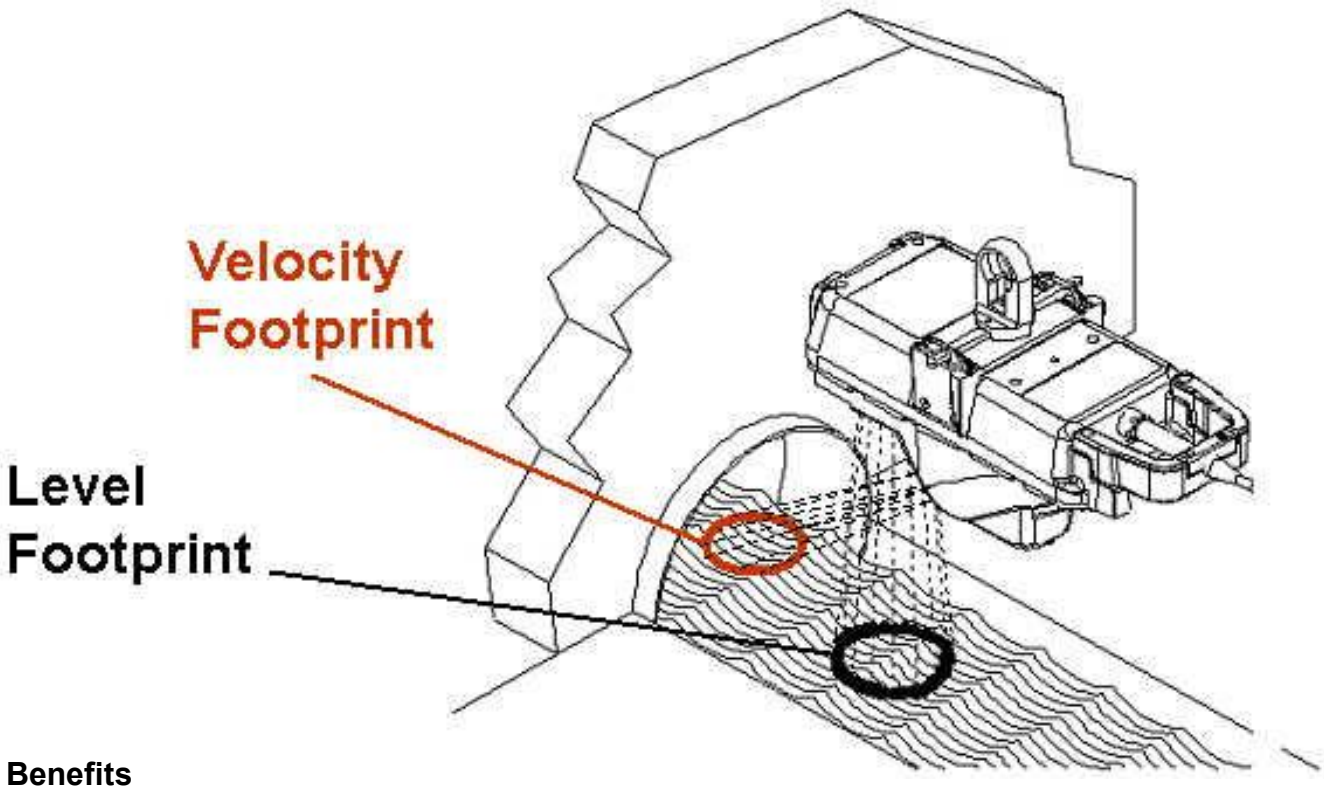
VELOCITY (Optional Surcharge Velocity Sensor)

- **Method**
  - Electromagnetic
- **Range**
  - ±4.8 m/s (±16 ft/s)
- **Accuracy**
  - ±0.15 ft/s or 4% of reading, whichever is greater.
- **Zero Stability**
  - ±0.05 ft/s

The Flo-Dar® Open Channel Flow Meters provide an innovative approach to open channel flow monitoring. Combining digital Doppler radar velocity sensing with ultrasonic pulse echo level sensing Flo-Dar® provides accurate open channel flow monitoring without the fouling problems associated with submerged sensors.

Perfect solution for Difficult Flow Conditions:

- Flows with High Solids Content
- High Temperature Flows
- Caustic Flows
- Large Man-Made Channel
- High Velocities
- Shallow Flows



Benefits

1. Personnel have no contact with the flow during installation.
2. Maintenance caused by sensor fouling is eliminated
3. Field Replaceable/Interchangeable Sensors and Monitors

How It Works

Flo-Dar® transmits a digital Doppler radar beam that interacts with the fluid and reflects back signals at a different frequency than that which was transmitted. These reflected signals are compared with the transmitted frequency. The resulting frequency shift provides an accurate measure of the velocity and the direction of the flow. Level is detected by ultrasonic pulse echo. Flow is then calculated based on the Continuity Equation:

Q = V x A, Where Q = Flow, V = Average Velocity and A = Area

Accurate Flow Measurements

Flo-Dar® provides the user with highly accurate flow measurements under a wide range of flows and site conditions. By measuring the velocity of the fluid from above, Flo-Dar® eliminates accuracy problems inherent with submerged sensors including sensor disturbances, high solids content and distribution of reflectors.

US^3 Company Information

US^3 is a California Corporation **Federal ID No. 33-0729605** and qualifies as a Minority Business Enterprise. US^3 has certified as an MBE with the California Public Utility Commission's authorized clearinghouse, **Verification Number: 97ES0008.**

US^3 is a specialty service company for the Water & Waste Water industry, providing monitoring and control for Utilities since 1996. US^3 is in the forefront of this industry by taking the proven technological approaches developed in other high-tech industries and applying them to protect one of our most precious natural resources - our water.

US^3 engineers and technical personnel have applied advanced instrumentation system technology to water/wastewater open channel flow monitoring, pipeline evaluation, engineering, and data analysis, all coupled to the power of the Internet. This unique integrated systems approach allows the company to bring greater insight and intelligence to gathering information about water/wastewater system performance of our clients, and in turn, to support the fulfillment of their commitments to manage and cost effectively design, operate, and maintain these systems.

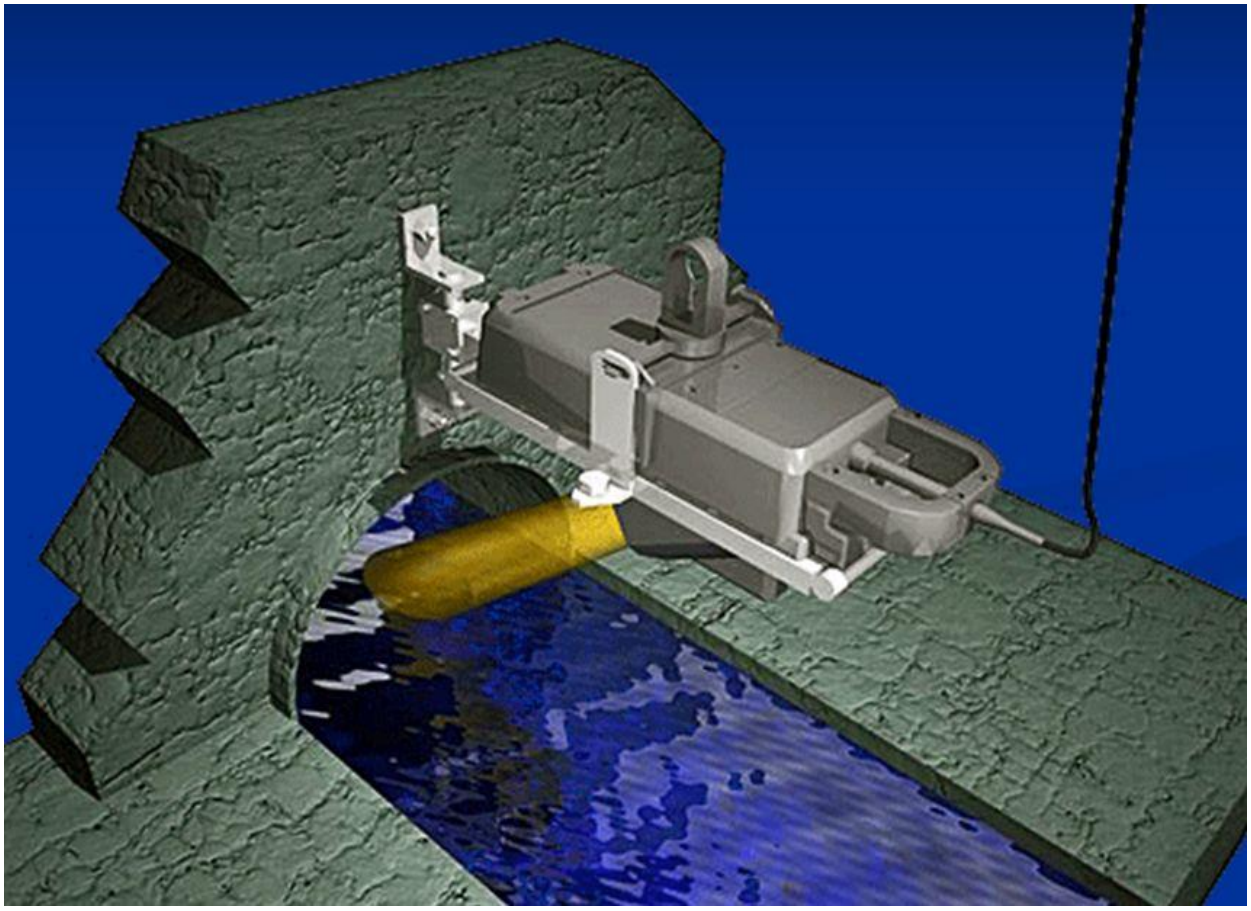


Figure: US^3 utilizes exclusively Hach March-McBirney Flo-Dar® Meters

Moreover, ***US³*** supports Municipalities, Consulting Engineering firms and other water/waste water systems integrators by providing temporary technical services for engineering, software programming and technical site maintenance and calibration site support work, primarily in the Water and Waste Water industries.

Figure: All technicians are certified for Confined Space Entry.

Name, Title, Address and Telephone numbers of persons to contact concerning this report.

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Appendix 7

Detailed Calculations of Total Available Flow

Miramar Hotel & Second Street Parcels

Detailed Calculations of Total Available Flow

Fire Hydrant #1 (62) (California Avenue) – PALISADES BUILDING

$Q_r = Q_f \times (H_r/H_f)^{0.54}$

Static Pressure = 100 PSI

Residual Pressure = 42 PSI

Q_r = Rated capacity at 20 PSI

Q_f = Total test flow = 1921 gpm

H_r = Static pressure minus 20 PSI

H_f = Static pressure minus residual pressure

$Q_r = 1921 \times ((100-20)/(100-42))^{0.54}$ = **2,285 gpm**

Total Available to Palisades Building: 2,285 gpm

Fire Hydrant #4 (63) (Second Court) – SECOND STREET PARCEL

$Q_r = Q_f \times (H_r/H_f)^{0.54}$

Static Pressure = 100 PSI

Residual Pressure = 42 PSI

Q_r = Rated capacity at 20 PSI

Q_f = Total test flow = 1664 gpm

H_r = Static pressure minus 20 PSI

H_f = Static pressure minus residual pressure

$Q_r = 1664 \times ((100-20)/(100-42))^{0.54}$ = **1,979 gpm**

Total Available to Second Street Project: 1,979 gpm

Miramar Hotel & Second Street Parcels

Detailed Calculations of Total Available Flow

Fire Hydrant #2 (1298) (Ocean Avenue) (Other Hotel Buildings/Combined with FH #3)

$Q_r = Q_f \times (H_r/H_f)^{0.54}$

Static Pressure = 112 PSI

Residual Pressure = 42 PSI

Q_r = Rated capacity at 20 PSI

Q_f = Total test flow = 2784 gpm

H_r = Static pressure minus 20 PSI

H_f = Static pressure minus residual pressure

$Q_r = 2784 \times ((112-20)/(112-42))^{0.54}$ = **3226 gpm**

Fire Hydrant #3 (69) (Wilshire Boulevard) (Other Hotel Buildings/Combined with FH #2)

$Q_r = Q_f \times (H_r/H_f)^{0.54}$

Static Pressure = 110 PSI

Residual Pressure = 42 PSI

Q_r = Rated capacity at 20 PSI

Q_f = Total test flow = 2505 gpm

H_r = Static pressure minus 20 PSI

H_f = Static pressure minus residual pressure

$Q_r = 2505 \times ((110-20)/(110-42))^{0.54}$ = **2914 gpm**

Total Available to Other Hotel Buildings & Parking Structure: (3226 + 2914 =) 6,140 gpm

Appendix 8

Fire Flow Requirement Calculations

Hotel Parcel (Including Underground Parking Structure) – Fire Flow Requirements Calculation, Fuscoe Engineering 12/18/18

Results Table:

Building Type	Square Footage	Fire Flow Requirements Table B105.1(2) (before 25%-factor reductions per Table B105.2)	Fire Flow Requirements Table B105.2 (Use 25% of the value in Table B105.1(2))
Type I (Including Underground Parking Structure)	298,018 sf	6,000 gpm & 4 hours	1,500 gpm @ 2 hours
Total Fire Flow Requirement for Hotel Building & Parking Structure			1,500 gpm @ 2 hours

References: 1. California Fire Code (2016) (Appendix B, page 609-611)
2. Building floor area determination from Project Information (Appendix 1)
3. Table B104.2 – Section 903.3.1.1 of the California Fire Code (Reduced fire-flow shall not be less than 1000 gallons per minute)

Building Flow Areas
LL1: 63,132 sf
LL2: 117,443 sf
LL3: 117,443 sf
TYPE I (3 largest successive floors) = 298,018 sf

Second Street Parcel – Fire Flow Requirements Calculation, Fuscoe Engineering 1/29/19

Results Table:

Building Type	Square Footage	Fire Flow Requirements Table B105.1(2) (before 25%-factor reductions per Table B105.2)	Fire Flow Requirements Table B105.2 (Use 25% of the value in Table B105.1(2))
Type I (1st floor & parking garage)	21,800 sf	1,500 gpm @ 2 hours	375 gpm @ 2 hours
Type IIIB (5 floors)	34,000 sf	4,000 gpm @ 4 hours	1,000 gpm @ 2 hours
Total Fire Flow Requirement for Second Street Parcel			1,375 gpm @ 2 hours

References: 1. California Fire Code (2016) (Appendix B, page 609-611)
2. Building floor area determination from Project Information (Appendix 1)
3. Table B104.2 – Section 903.3.1.1 of the California Fire Code (Reduced fire-flow shall not be less than 1000 gallons per minute)

Building Flow Areas (Second Street Parcel)

TYPE I (3 largest successive floors; however, only 2 floors of Type I in building)

- Parking Structure: 15,000 square feet
- 1st Floor: 6,800 square feet

Total Type I = 21,800

Type IIIB (2nd – 6th Floors)
2nd Floor: 6,800 sf
3rd Floor: 6,800 sf
4th Floor: 6,800 sf
5th Floor: 6,800 sf
6th Floor: 6,800 sf
Total Type IIIB = 34,000 sf

Appendix 9

Proposed Sewer Exhibit

PROP SS
LATERAL (2ND ST PARCEL)
EST DISCHARGE=0.007 CFS

2ND STREET

MH#1

PROP 3-6"SS
HOTEL PARCEL-TO 2ND STREET
EST DISCHARGE=0.028 CFS

PALISADES BUILDING
(TO BE REMODELED)

CALIFORNIA AVENUE

CALIFORINA
BUILDING

OCEAN
TOWER

WILSHIRE
BUILDING

WILSHIRE BOULEVARD

FIRST CT

FIRST CT

PROP 2-6"SS

HOTEL PARCEL-TO CALIFORNIA AVENUE
EST DISCHARGE=0.026 CFS

PROP 2-6"SS

HOTEL PARCEL-TO OCEAN AVENUE
EST DISCHARGE=0.026 CFS

EX 6"SS

EX 6"SS

EX 6"SS

EX 8"SS

MH#2

MH#3

OCEAN AVENUE

LEGEND

SS EXISTING SEWER

PROPOSED SEWER

NOTE: ALTHOUGH IT MAY BE POSSIBLE TO REUSE EXISTING SEWER LATERALS, NEW LATERALS MAY BE REQUIRED, BASED ON CONDITION OF EXISTING LATERALS. PROPOSED LATERALS ARE SHOWN IN CASE EXISTING LATERALS CANNOT BE REUSED. EXISTING LATERALS WILL BE EVALUATED FOR POSSIBLE REUSE DURING FINAL DESIGN.

60' 0' 30' 60'

SCALE: 1" = 60'

PREPARED BY:

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16795 Von Karman, Suite 100
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tel 949.474.1960 • fax 949.474.5315
www.fuscoe.com

PROPOSED SEWER EXHIBIT

SANTA MONICA MIRAMAR HOTEL REDEVELOPMENT

JUNE 2019

P:\PROJECTS\886\03\ENG\EXHIBITS\EIR EXHIBITS\88603XH - SEWER PROPOSED - MAIN PROJECT.DWG (06-06-19 5:26:15PM) Plotted by: Susan Williams

Appendix O

Pedestrian Wind Study, RWDI, Inc., August 18, 2019

ESA

REPORT

MIRAMAR HOTEL REDEVELOPMENT

SANTA MONICA, CALIFORNIA

PEDESTRIAN WIND STUDY
RWDI # 1703278
August 18, 2019

SUBMITTED TO

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EXECUTIVE SUMMARY

RWDI was retained to conduct a pedestrian wind assessment for the redevelopment of the Miramar Hotel (the "Proposed Configuration" or the "Project") in Santa Monica, California (Image 1). This study was requested to consider (i) any impacts on pedestrian comfort on sidewalks adjacent to the Project, and (ii) the comfort of the new open spaces being proposed as part of the Project.

Through its research and consulting practice since 1974, RWDI has developed wind speed criteria that have been widely accepted by municipal authorities as well as by the building design and city planning community. RWDI works extensively with architects during the project design phase and provides design recommendations and treatments as appropriate.

Wind conditions during both the summer and winter periods were studied at eighty-two (82) different locations using wind tunnel testing under both the Existing hotel configuration (the "Existing Configuration") and the Proposed Configuration (Images 2a and 2b) and using local wind records (Image 3). The potential wind comfort conditions are predicted as shown on site plans in Figures 1a through 2b, while the associated predicted wind speeds are also listed in Table 1. These results can be summarized as follows:

- The majority of the wind comfort conditions for the 82 sensor locations are within a comfortable category for pedestrian use.
- Overall, the Project does not significantly impact wind speeds on the public-right-of-way around the Project site (i.e. sidewalks adjacent to and around the site) and the new open spaces provided as part of the Project will generally be comfortable for the proposed pedestrian use.
- On the sidewalks in the public-right-of-way adjacent and around the Hotel Parcel (defined below):
    - The wind speeds are comfortable for pedestrians during the winter months at all locations both in the Existing Configuration and with the Proposed Configuration.
    - The wind speeds are comfortable for pedestrians during the summer months at all but three (3) of the 82 wind sensor locations in both the Existing and Proposed Configurations. In the three locations where wind speeds are predicted to fall into the uncomfortable range, the proposed Project slightly increases the wind speed (by 1 mph) at a single location (sensor #4). Recent Project refinements which were not included in the study are expected to reduce wind speeds at this location.
- On the private property (Hotel Parcel and Second Street Parcel – to be defined below):
    - The wind sensor locations on and around the new affordable housing building on the Second Street Parcel show no uncomfortable wind conditions in the Proposed Configuration in either the summer or winter periods and comfortable wind conditions for pedestrian uses.

- The wind sensor locations in the proposed open spaces on the Hotel Parcel, including the Public Garden Terraces, the Miramar Gardens, the Moreton Bay Fig Tree and around the historic Palisades Building all show comfortable wind conditions for pedestrian use in the Proposed Configuration.
- There are three (3) sensor locations in the Proposed Configuration that show uncomfortable ratings (i.e. within 5-7 mph of comfortable) during the summer period. Two (2) are at the private residential entries at the hotel motor court (east of the Moreton Bay Fig Tree) and one (1) in the north Palisades Garden (hotel guest/residential open space). One of the two at the private residential entries and one in the north Palisades Garden also show an uncomfortable rating during the winter period in the Proposed Configuration. These areas are anticipated to be used primarily by hotel guests and residents and the wind conditions in these areas could be improved with design recommendations including landscaping treatments (which were not modeled in this study).

- Wind speeds at all locations studied at and around the Proposed Project are predicted to meet the pedestrian wind safety criterion.

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Figure 2a: Pedestrian Wind Comfort Conditions – Existing – Winter
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Table 1: Pedestrian Wind Comfort and Safety Conditions

1 INTRODUCTION

RWDI was retained to conduct a pedestrian wind assessment for the proposed redevelopment of the Miramar Hotel in Santa Monica, California. This report presents the project objectives, background and approach, and discusses of the results from RWDI's assessment.

1.1 Project Description

The proposed Project consists of two parcels totaling 4.7 acres (see Figure 1 below). The first parcel (The "Hotel Parcel") is a full city block bounded to the east by Second Street, to the west by Ocean Avenue, to the north by California Avenue and to the south by Wilshire Boulevard. The Hotel Parcel is 4.41 acres. The second parcel (the "Second Street Parcel") is located across Second Street form the Hotel Parcel totaling 0.3 acres and is an existing surface parking lot.

The Hotel Parcel currently consists of a 301-room hotel with approximately 262,284 square feet of floor area, and is comprised of the following:

- The six-story Palisades Building, built in 1924, which is located a lot the southwest corner of Second Street and California Avenue intersection;
- A ten-story Ocean Building in the middle portion of the Hotel Parcel;
- A two-story meeting and back of the house building along Second Street; and,
- Several single-story and two-story buildings along Ocean Avenue and California Avenue.

Hotel Parcel

The proposed Project will consist of luxury hotel, retail, and residential uses, which is anticipated to contribute in a meaningful way to the pedestrian experience in Downtown Santa Monica. The Project will create new open spaces to encourage pedestrian activity to and through the site. More than 50% of the site is proposed as open space at ground level.

Project components on the Hotel Parcel consist of:

1) the rehabilitation and ongoing hotel use of the historic Palisades Building (a City-designated landmark);
2) the preservation and protection of the Moreton Bay Fig Tree (a City-designated landmark) as a focal point of the Project;
3) the relocation of the main entry drive from Wilshire Boulevard to Second Street;
4) the removal of the existing surface parking lots;
5) the demolition of all non-landmarked buildings;
6) the construction of two new buildings;
7) the expansion of public and guest open space areas on the ground level and in building terraces and rooftops; and,
8) the construction of a subterranean parking garage beneath the newly constructed buildings and open space.

Uses proposed on the Hotel Parcel include 312 hotel guest rooms, up to 60 market-rate condominium units, new retail spaces, new food and beverage spaces, new meeting/banquet space, and new spa and fitness center spaces. All parking will be accommodated in a new subterranean garage.

Second Street Parcel

The proposed Second Street Parcel development consists of up to 48 affordable housing apartment units with new underground parking.

1.2 Study Objectives

The objective of the study was to assess the effect of the proposed redevelopment on local conditions in pedestrian areas on and around the study site. This quantitative assessment was based on wind speed measurements on a scale model of the Project and its surroundings in one of RWDI's boundary-layer wind tunnels. These measurements were combined with the local wind records and compared to appropriate criteria for gauging wind comfort and safety in pedestrian areas. The assessment focused on critical pedestrian areas, including, public sidewalks and garden spaces.

2 BACKGROUND AND APPROACH

2.1 Wind Tunnel Study Model

To assess the wind environment around the proposed Project, a 1:300 scale model of the Project site and surroundings was constructed for the wind tunnel tests of the following configurations:

A - Existing: Existing site with existing surroundings (Image 2a), and,

B - Proposed: Proposed Project with existing and future approved surroundings (Image 2b).

The wind tunnel model included all relevant surrounding buildings and topography within an approximately 1200 ft radius of the Hotel Parcel. No landscaping (other then the Moreton Bay Fig Tree) was included in the scale models. Had landscaping been included, it is expected the wind speed estimates provided in this study would be reduced. The wind and turbulence profiles in the atmospheric boundary layer beyond the modeled area were also simulated in RWDI's wind tunnel. The wind tunnel model was instrumented with eighty-two (82) specially designed wind speed sensors to measure mean and gust speeds at a full-scale height of approximately 5 ft above local grade in pedestrian areas throughout the study site. Wind speeds were measured for 36 directions in a 10-degree increments. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the mean wind speed at a reference height above the model.

Image 1: Aerial View of Site and Surroundings (Photo Courtesy of Google™ Earth)

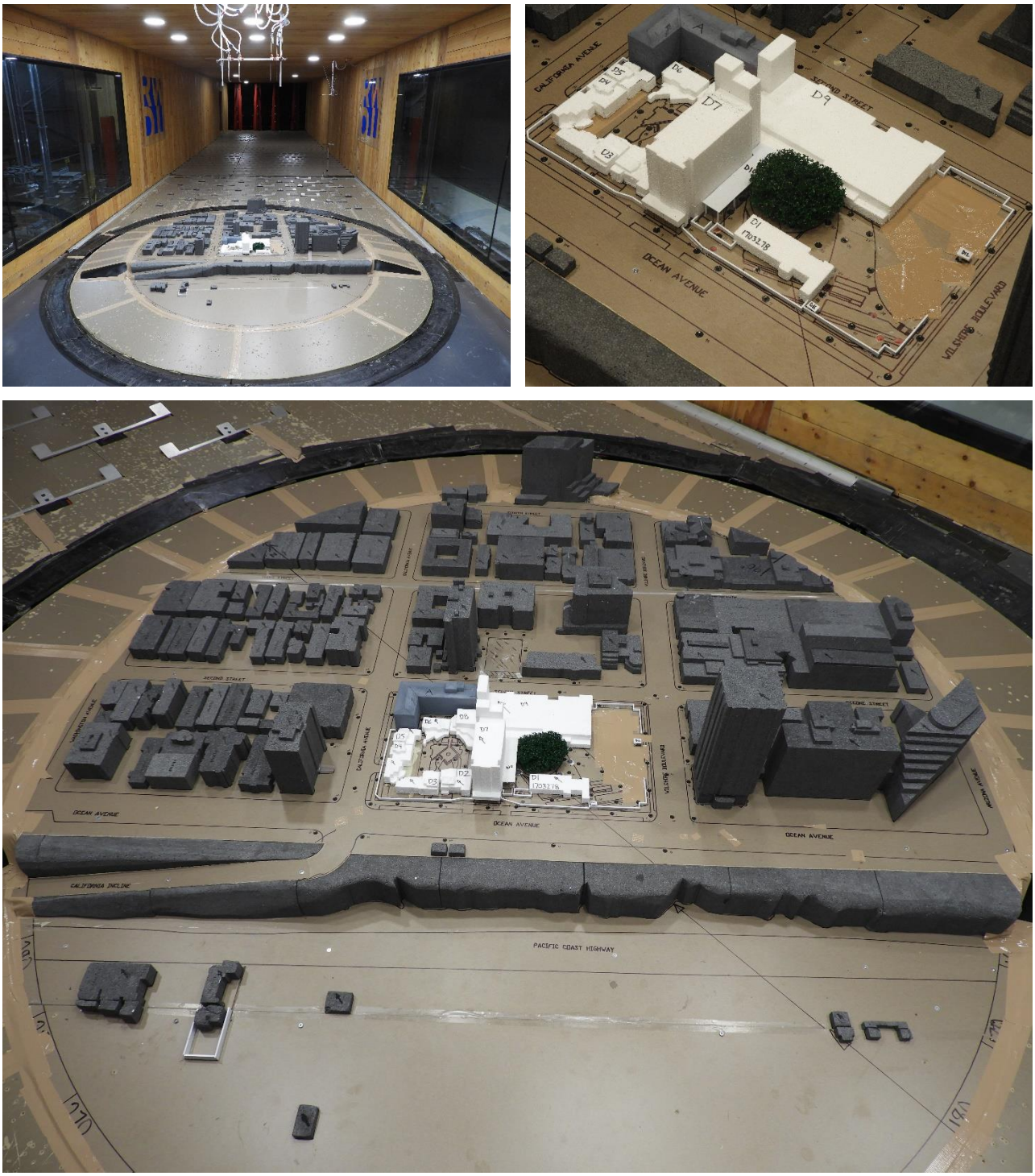


Image 2a: Wind Tunnel Study Model – Existing Configuration

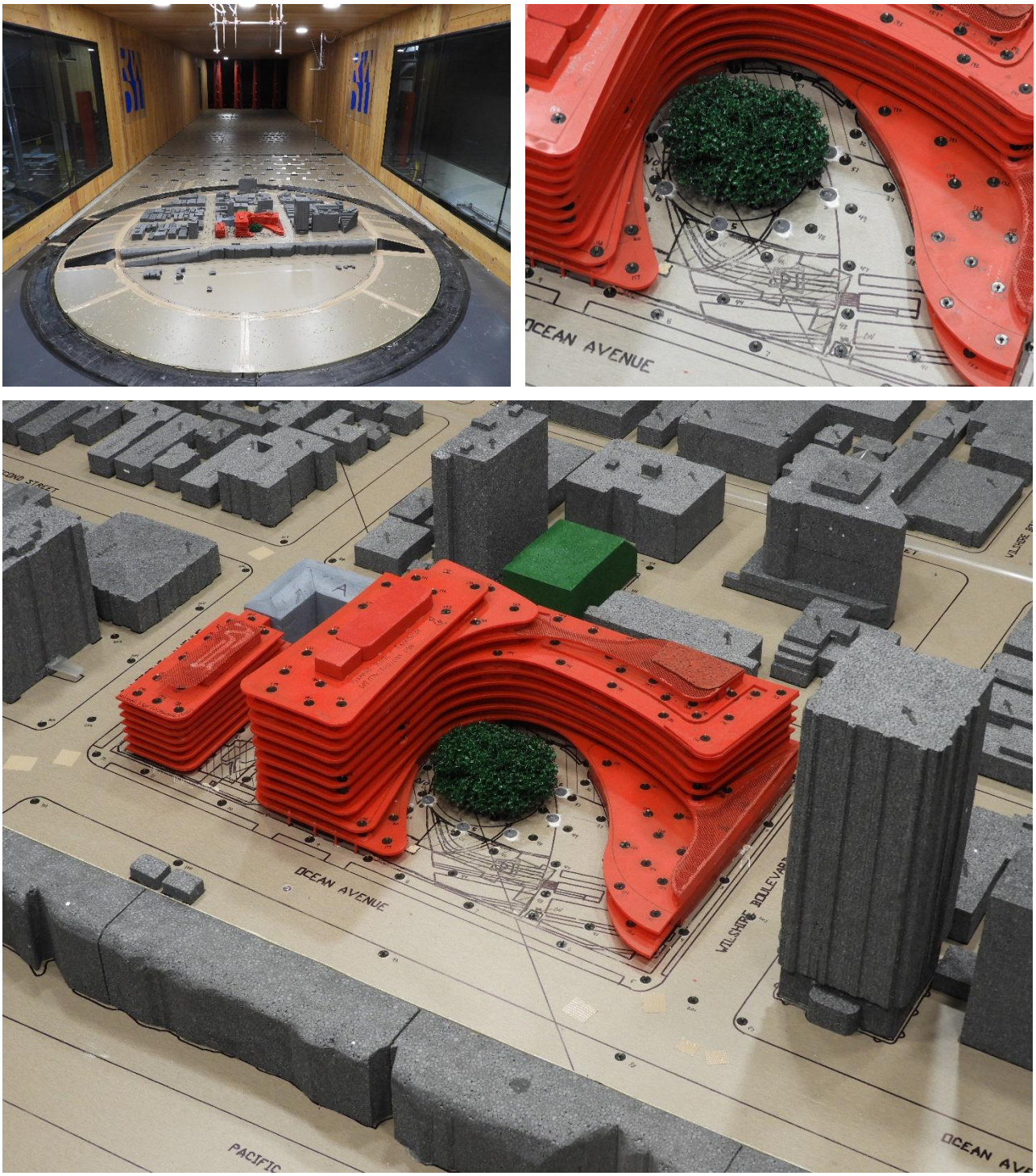


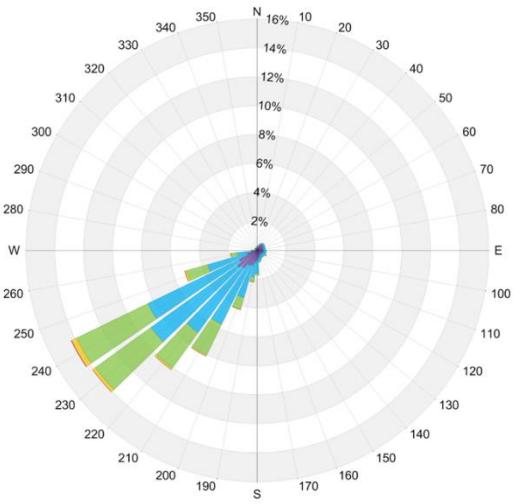
Image 2b: Wind Tunnel Study Model – Proposed Configuration

2.2 Meteorological Data

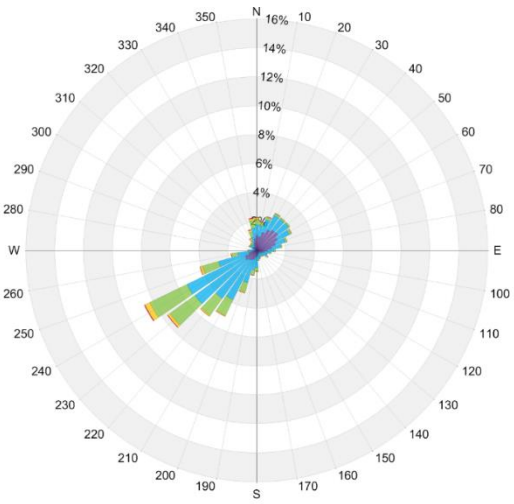
Wind statistics recorded at Santa Monica Municipal Airport between 1988 and 2018, inclusive, were analyzed for the Summer (May through October) and Winter (November through April) seasons. This is the nearest weather station with long-term, representative wind data.

Image 3 graphically depicts the directional distributions of wind frequencies and speeds for these two seasons. Winds from the southwest direction are predominant throughout the year as indicated by the wind roses, with infrequent but relatively strong winds from the north through northeast directions in the winter season. Strong winds of a mean speed greater than 10 mph measured at the airport (at an anemometer height of 30 ft) occur for 20.5% and 16.3% of the time during the summer and winter seasons, respectively, and they are primarily from the southwest and north directions.

Wind statistics were combined with the wind tunnel data to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared with the wind criteria for pedestrian comfort and safety.



Summer (May – October)



Winter (November – April)

Wind Speed (mph)	Probability (%) Summer	Probability (%) Winter
Calm	25.6	24.3
1-5	17.7	24.5
6-10	36.1	34.9
11-15	19.3	13.9
16-20	1.1	2.0
>20	0.1	0.4

Image 3: Directional Distribution of Winds Approaching Santa Monica Municipal Airport From 1988 to 2018

2.2 RWDI Pedestrian Wind Criteria

The RWDI pedestrian wind criteria, which have been developed by RWDI through research and consulting practice since 1974, are used in the current study. These criteria have been widely accepted by municipal authorities as well as by the building design and city planning community. Regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. can affect a person's perception of the wind climate. Therefore, comparisons of wind speeds for the Existing and Proposed Configurations are the most objective way in assessing local pedestrian wind conditions. In general, the combined effect of mean and gust speeds on pedestrian comfort can be quantified by a Gust Equivalent Mean (GEM).

Comfort Category	GEM Speed (mph)	Description
Sitting	≤ 6	Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
Standing	≤ 8	Gentle breezes suitable for main building entrances, bus stops, and other places where pedestrians may linger
Strolling	≤ 10	Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park
Walking	≤ 12	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
Uncomfortable	> 12	Strong winds of this magnitude are considered a nuisance for all pedestrian activities, and wind mitigation is typically recommended

Notes:
(1) GEM speed = max (mean speed, gust speed/1.85);
(2) GEM speeds listed above are based on a seasonal exceedance of 20% of the time between 6:00 and 23:00. Nightly hours between 0:00 and 5:00 are excluded from the wind analysis for comfort since limited usage of outdoor spaces is anticipated.

Safety Criterion	Gust Speed (mph)	Description
Exceeded	> 56	Excessive gust speeds that can adversely affect a pedestrian's balance and footing. Wind mitigation is typically required.

Notes:
(1) Based on an annual exceedance of 9 hours or 0.1% of the time for 24 hours a day; and,
(2) Only gust speeds need to be considered in the wind safety criterion. These are usually rare events, but deserve special attention in city planning and building design due to their potential safety impact on pedestrians.

3 RESULTS AND DISCUSSION

The predicted wind conditions are shown on site plans in Figures 1a through 2b located in the "Figures" section of this report. These conditions and the associated wind speeds are also represented in Table 1, located in the "Tables" section of this report.

Table 1 includes a comparison of the predicted wind speeds in the Existing Configuration and in the Proposed Configuration at 67 of the 82 sensor locations in both the winter and summer periods. Some sensor locations were not able to be tested in the Existing Configuration because of existing buildings at those particular sensor locations. The data in Table 1 indicates that the predicted wind speeds are relatively similar in the Existing and Proposed Configurations, with wind speeds varying slightly depending on the sensor location. For both winter and summer periods, GEM wind speeds (i.e. wind comfort conditions) at most of the sensor locations (85%) had a minimal change in wind speed between 0-2 mph and 14% had a change in wind speed between 3-5 mph. One sensor location had a change of 6 mph. The following is a discussion of the suitability of the predicted wind conditions for the anticipated pedestrian use of each area of interest.

Wind conditions comfortable for walking or strolling are appropriate for sidewalks and walkways as pedestrians will be active and less likely to remain in one area for prolonged periods of time. Lower wind speeds conducive to standing or sitting are preferred for areas intended for passive activities and where pedestrians are apt to linger.

Wind conditions that meet the safety criterion are predicted at all locations for both configurations assessed.

3.1 Existing Configuration

3.1.1 Hotel Parcel Sidewalks and Walkways

Wind conditions along public sidewalks and walkways around the Hotel Parcel are generally comfortable for walking or more passive pedestrian usage throughout the year (Figures 1a and 2a). These conditions are considered appropriate for sidewalks and walkways. Exceptions to these conditions include existing uncomfortable conditions to the north of the site, in the public-right-of-way along California Avenue (Locations 103 and 104 in Figure 1a) and to the south of the site, in the public-right-of-way along Wilshire Boulevard (Location 3 in Figure 1a) during the summer season.

3.1.2 Hotel Parcel Open Spaces

Wind conditions on the existing Hotel Parcel, including the areas surrounding the Moreton Bay Fig Tree and the gardens area on the north side of the site are comfortable for sitting or standing pedestrian usage throughout the year (Figures 1a and 2a). These conditions are considered suitable for outdoor garden spaces.

3.1.3 Second Street Parcel

Wind conditions around the Second Street Parcel are generally comfortable for strolling or more passive pedestrian uses throughout the year.

3.2 Proposed Configuration

3.2.1 Hotel Parcel Sidewalks and Walkways

With the addition of the proposed Project, future wind conditions along the expanded public sidewalks and walkways are predicted to remain similar to the existing conditions and comfortable for the anticipated pedestrian usage at almost all areas (Figures 1b and 2b). During the winter period, the sidewalks adjacent to the Project will remain comfortable for pedestrian use with the proposed Project. During the summer, the existing uncomfortable conditions, in the public-right-of-way along California Avenue are predicted to remain (Locations 103 and 104 in Figure 1b) and the existing uncomfortable location along Wilshire Boulevard (Location 3 in Figure 1a) is predicted to remain, but is re-located south to Location 4 (Figure 1b) which is predicted to fall into the uncomfortable category by 1 mph.

To help reduce wind speeds near Location 4, RWDI understands that the design team intends to chamfer the south corner of the Project adjacent to Location 4. This change, along with the incorporation of landscaping will help to reduce corner accelerating wind flows and create more suitable wind conditions for pedestrians in this area.

3.2.2 Hotel Parcel Open Spaces

In the proposed Hotel Parcel open spaces, including the Public Garden Terraces, the open space surrounding the Moreton Bay Fig Tree, and the areas around the Palisades Building the predicted wind conditions are generally expected to be comfortable for standing or sitting usage throughout the year (Figures 1b and 2b). These conditions are considered appropriate for the anticipated uses of these areas. East of the Moreton Bay Fig Tree, near the proposed porte cochere, increased wind activity is predicted at the two private residential entries due to prevailing winds channeling underneath the porte cochere (Locations 35 and 58 in Figures 1b and 2b).

In the Palisades Garden (designed primarily for hotel guests and resident use), slightly increased wind speeds compared to the Existing configuration are anticipated due to the proposed open design to Ocean Avenue and exposure to prevailing southwesterly winds. Comfortable wind speeds for walking and strolling are predicted throughout this hotel guest/resident open space area except for one location. The sensor location that results in uncomfortable conditions throughout the year (Location 90 in Figures 1b and 2b) may be reduced with the incorporation of landscaping treatment (not modeled in this study).

3.2.3 Second Street Parcel

With the addition of the proposed Project and the affordable housing building, the wind conditions at and around the Second Street Parcel are predicted to remain similar to the existing conditions and suitable for the anticipated pedestrian usage.

4 CONCLUSIONS

Based on the current wind tunnel study, the Project does not significantly impact wind speeds around the Project site (i.e. adjacent sidewalks) and the new open spaces provided as part of the Project will generally be comfortable for pedestrian use. At the location along Wilshire Boulevard with increased wind speeds (Location 4) the wind speeds will be reduced through recent revisions to the design. The sensor locations on the Hotel Parcel where the wind conditions are predicted to be uncomfortable can be improved with the introduction of wind control measures which may include denser landscaping, planters, and/or vertical hardscaping elements. Based on our consulting experience and understanding of wind flow patterns around the Project, with the implementation of these wind control measures, more favorable wind conditions on site can be anticipated.

5 APPLICABILITY OF RESULTS

This study was based upon a Conceptual Design Package dated February 15, 2018 received from Pelli Clarke Pelli Architects which were used to construct the scale model of the proposed Project. Should there be any design changes that deviate significantly from the Concept Design Package, the wind condition predictions presented may change.

6 REFERENCES

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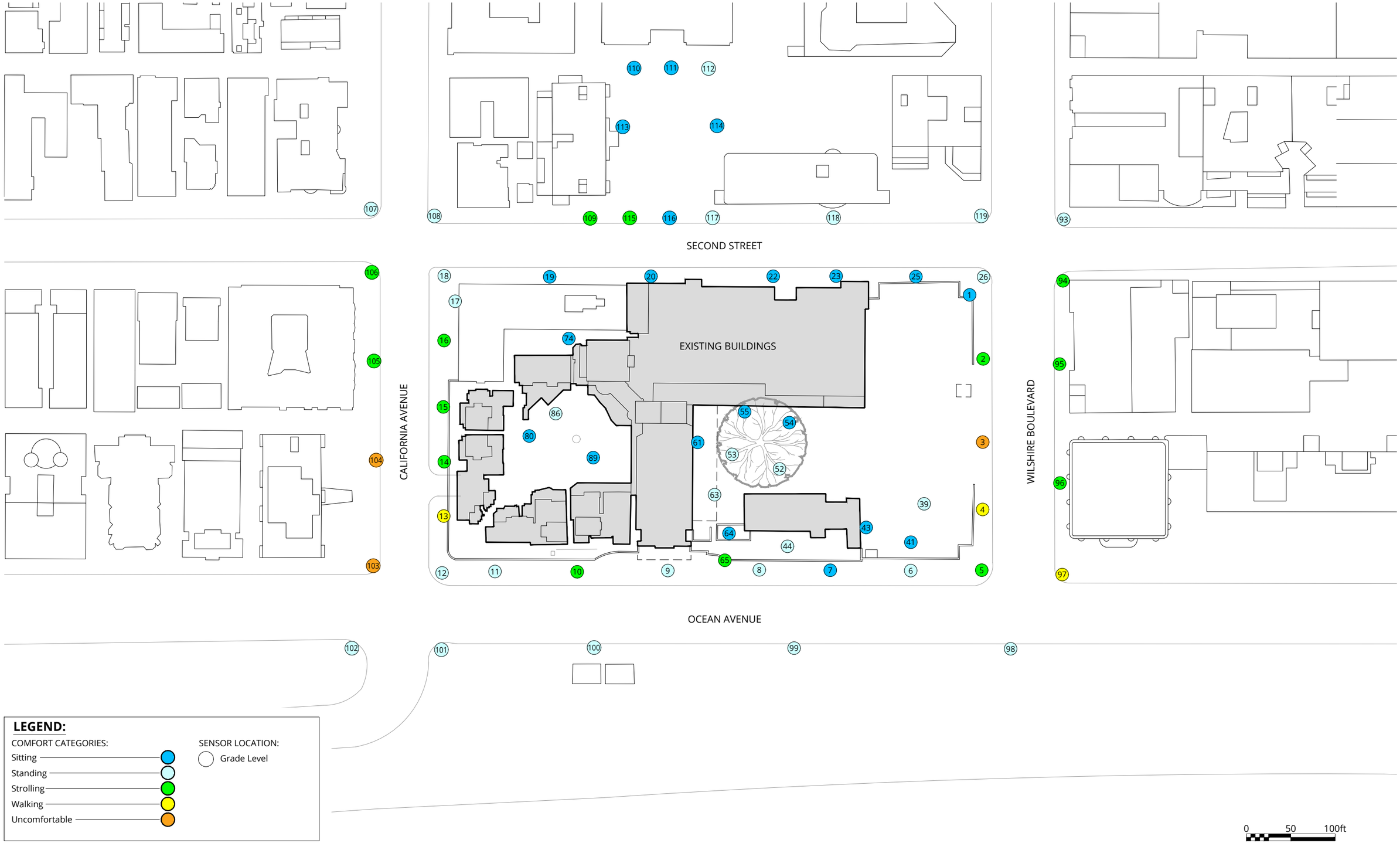
FIGURES



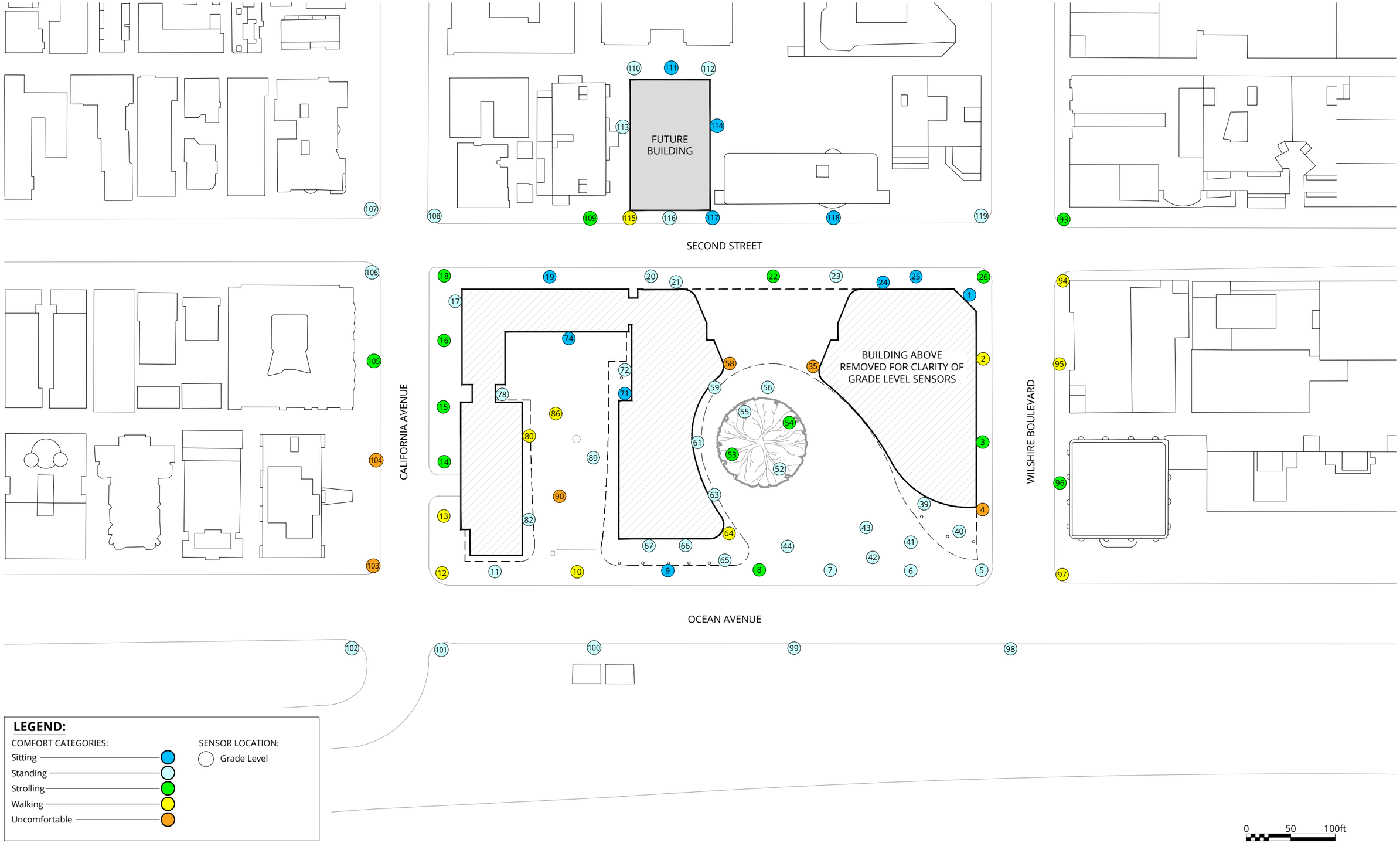
Pedestrian Wind Comfort Conditions

Existing Configuration
Summer (May to October, 6:00 to 23:00)
Miramar Hotel Redevelopment - Santa Monica, CA

True North

Project #1703278

Drawn by: ARM	Figure: 1A	
Approx. Scale:	1"=100'	
Date Revised:	July 4, 2019	

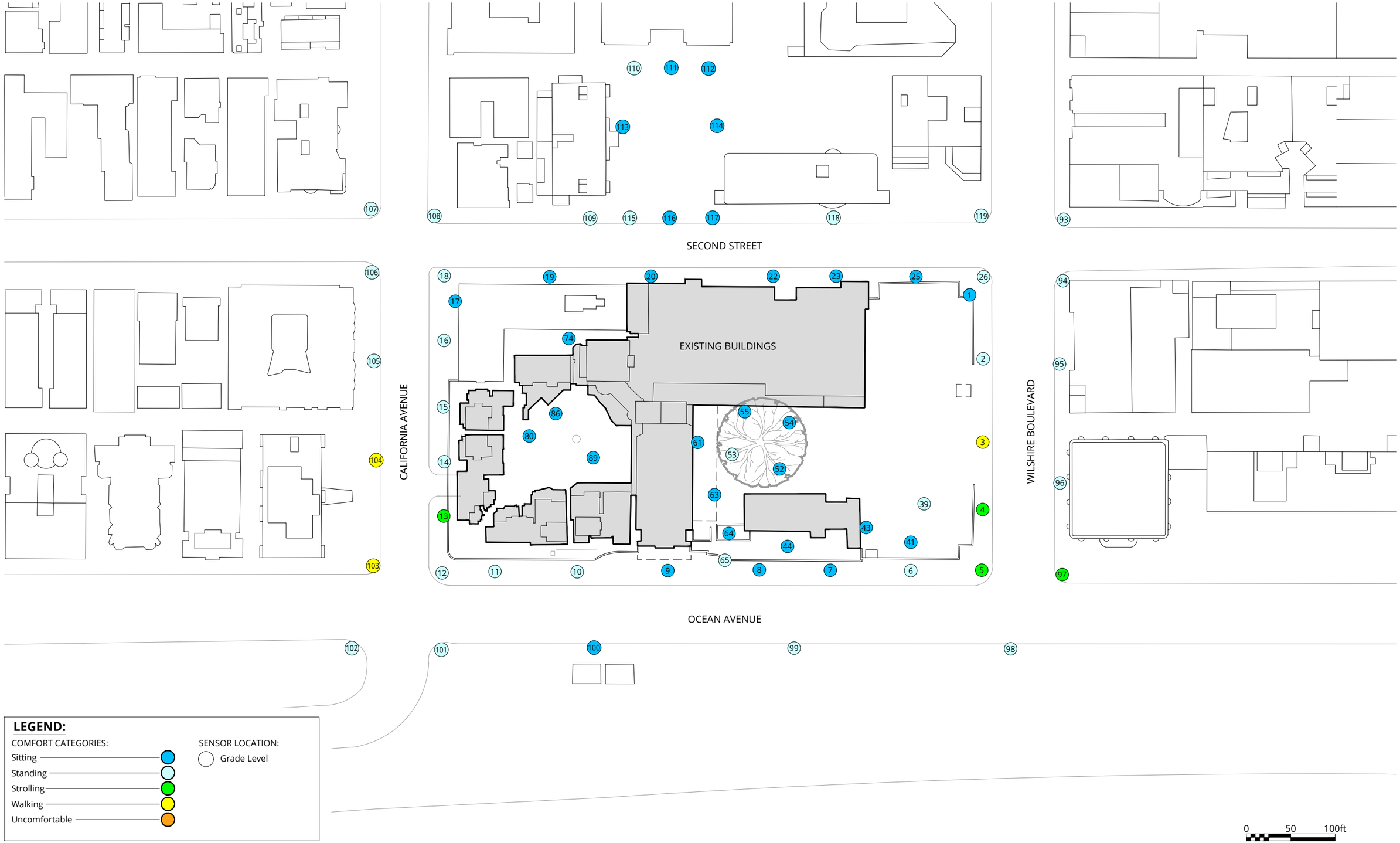


Pedestrian Wind Comfort Conditions
Proposed Configuration
Summer (May to October, 6:00 to 23:00)
Miramar Hotel Redevelopment - Santa Monica, CA

True North

Project #1703278

Drawn by: ARM	Figure: 1B
Approx. Scale:	1"=100'
Date Revised:	July 4, 2019



Pedestrian Wind Comfort Conditions

Existing Configuration
Winter (January to December, 0:00 to 23:00)
Miramar Hotel Redevelopment - Santa Monica, CA

True North

Project #1703278

Drawn by: ARM	Figure: 2A
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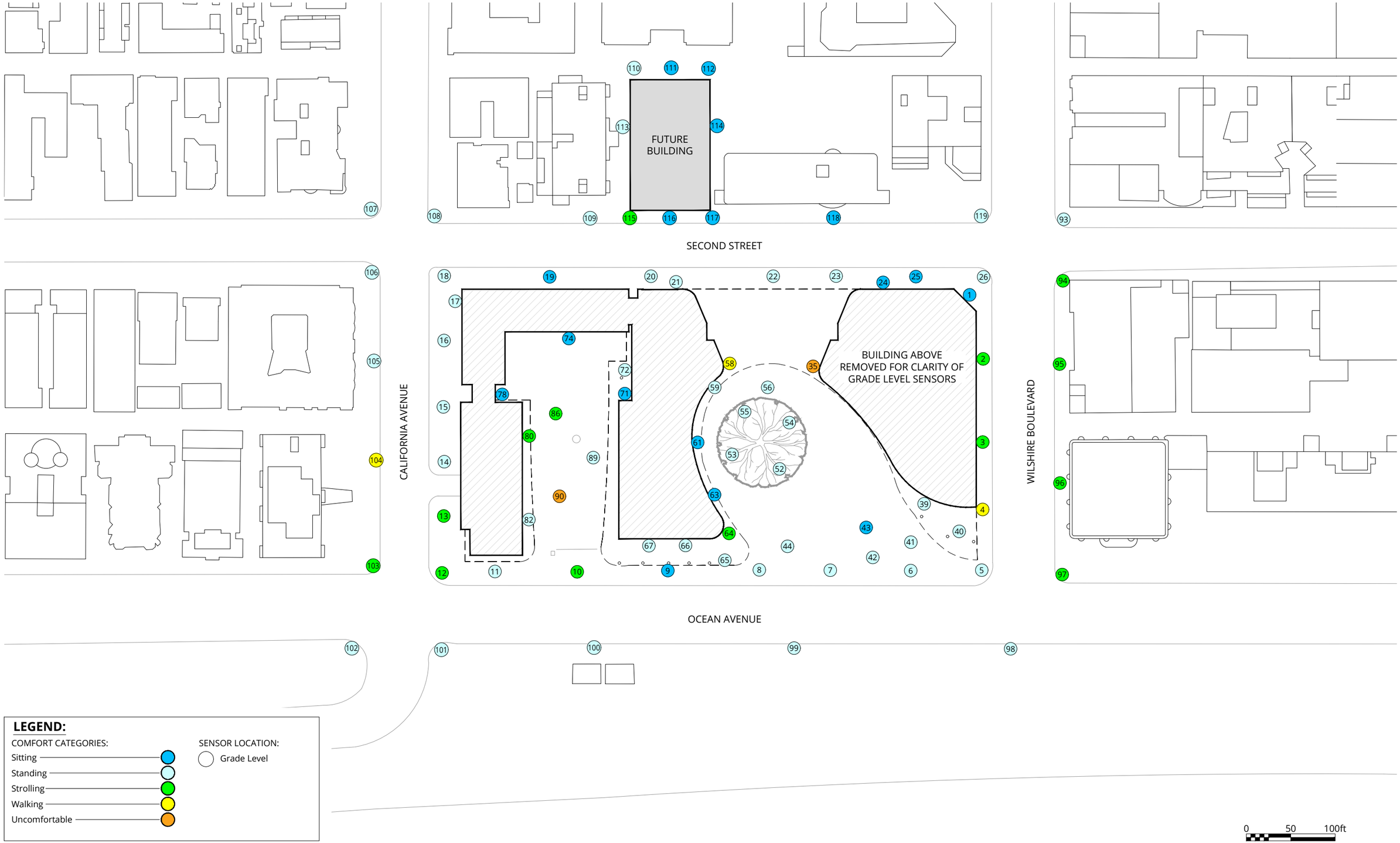
Date Revised:	July 4, 2019



Pedestrian Wind Comfort Conditions
Proposed Configuration
Winter (November to April, 6:00 to 23:00)
Miramar Hotel Redevelopment - Santa Monica, CA

True North

Project #1703278

Drawn by: ARM	Figure: 2B
Approx. Scale:	1"=100'
Date Revised:	July 4, 2019

TABLES

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours
Summer	May - October	6:00 - 23:00 for comfort
Winter	November - April	0:00 - 23:00 for safety

Configurations	
Existing	Without the proposed redevelopment
Proposed	With the proposed redevelopment

Note: a dash (-) indicates a covered sensor

Comfort Speed (mph)		Safety Speed (mph)	
(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
≤ 6	Sitting	≤ 56	Pass
7 - 8	Standing	> 56	Exceeded
9 - 10	Strolling		
11 - 12	Walking		
> 12	Uncomfortable		

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
1	Existing	6	Sitting	5	Sitting	22	Pass
	Proposed	3	Sitting	4	Sitting	24	Pass
2	Existing	10	Strolling	8	Standing	35	Pass
	Proposed	11	Walking	10	Strolling	30	Pass
3	Existing	14	Uncomfortable	12	Walking	39	Pass
	Proposed	10	Strolling	9	Strolling	35	Pass
4	Existing	12	Walking	10	Strolling	34	Pass
	Proposed	13	Uncomfortable	11	Walking	38	Pass
5	Existing	10	Strolling	10	Strolling	35	Pass
	Proposed	8	Standing	8	Standing	34	Pass
6	Existing	7	Standing	7	Standing	25	Pass
	Proposed	7	Standing	7	Standing	28	Pass
7	Existing	6	Sitting	6	Sitting	27	Pass
	Proposed	7	Standing	7	Standing	31	Pass
8	Existing	7	Standing	6	Sitting	33	Pass
	Proposed	10	Strolling	8	Standing	37	Pass
9	Existing	7	Standing	6	Sitting	27	Pass
	Proposed	5	Sitting	5	Sitting	26	Pass
10	Existing	9	Strolling	8	Standing	33	Pass
	Proposed	12	Walking	10	Strolling	37	Pass
11	Existing	7	Standing	7	Standing	28	Pass
	Proposed	8	Standing	7	Standing	31	Pass
12	Existing	8	Standing	8	Standing	29	Pass
	Proposed	11	Walking	10	Strolling	36	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours	Comfort Speed (mph)		Safety Speed (mph)	
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
Winter	November - April	0:00 - 23:00 for safety	≤ 6	Sitting	≤ 56	Pass
Configurations			7 - 8	Standing	> 56	Exceeded
Existing	Without the proposed redevelopment		9 - 10	Strolling		
Proposed	With the proposed redevelopment		11 - 12	Walking		
			> 12	Uncomfortable		
Note: a dash (-) indicates a covered sensor						

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
13	Existing	11	Walking	9	Strolling	33	Pass
	Proposed	12	Walking	10	Strolling	39	Pass
14	Existing	9	Strolling	8	Standing	35	Pass
	Proposed	10	Strolling	8	Standing	39	Pass
15	Existing	9	Strolling	8	Standing	37	Pass
	Proposed	9	Strolling	8	Standing	39	Pass
16	Existing	9	Strolling	8	Standing	35	Pass
	Proposed	9	Strolling	8	Standing	35	Pass
17	Existing	7	Standing	6	Sitting	30	Pass
	Proposed	8	Standing	7	Standing	32	Pass
18	Existing	8	Standing	8	Standing	34	Pass
	Proposed	10	Strolling	8	Standing	34	Pass
19	Existing	6	Sitting	6	Sitting	28	Pass
	Proposed	6	Sitting	6	Sitting	27	Pass
20	Existing	6	Sitting	6	Sitting	40	Pass
	Proposed	8	Standing	8	Standing	40	Pass
21	Existing	-	-	-	-	-	-
	Proposed	7	Standing	7	Standing	37	Pass
22	Existing	4	Sitting	5	Sitting	25	Pass
	Proposed	9	Strolling	8	Standing	35	Pass
23	Existing	4	Sitting	4	Sitting	22	Pass
	Proposed	7	Standing	7	Standing	27	Pass
24	Existing	-	-	-	-	-	-
	Proposed	2	Sitting	4	Sitting	24	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours	Comfort Speed (mph)		Safety Speed (mph)	
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
Winter	November - April	0:00 - 23:00 for safety	≤ 6	Sitting	≤ 56	Pass
Configurations			7 - 8	Standing	> 56	Exceeded
Existing	Without the proposed redevelopment		9 - 10	Strolling		
Proposed	With the proposed redevelopment		11 - 12	Walking		
			> 12	Uncomfortable		
Note: a dash (-) indicates a covered sensor						

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
25	Existing	6	Sitting	6	Sitting	24	Pass
	Proposed	3	Sitting	4	Sitting	22	Pass
26	Existing	8	Standing	7	Standing	31	Pass
	Proposed	9	Strolling	8	Standing	31	Pass
35	Existing	-	-	-	-	-	-
	Proposed	19	Uncomfortable	16	Uncomfortable	50	Pass
39	Existing	8	Standing	7	Standing	30	Pass
	Proposed	8	Standing	7	Standing	31	Pass
40	Existing	-	-	-	-	-	-
	Proposed	7	Standing	7	Standing	32	Pass
41	Existing	6	Sitting	6	Sitting	24	Pass
	Proposed	7	Standing	7	Standing	27	Pass
42	Existing	-	-	-	-	-	-
	Proposed	7	Standing	7	Standing	28	Pass
43	Existing	5	Sitting	4	Sitting	20	Pass
	Proposed	7	Standing	6	Sitting	27	Pass
44	Existing	7	Standing	6	Sitting	32	Pass
	Proposed	8	Standing	7	Standing	35	Pass
52	Existing	7	Standing	6	Sitting	25	Pass
	Proposed	8	Standing	7	Standing	30	Pass
53	Existing	8	Standing	7	Standing	30	Pass
	Proposed	9	Strolling	8	Standing	32	Pass
54	Existing	5	Sitting	4	Sitting	22	Pass
	Proposed	10	Strolling	8	Standing	32	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours	Comfort Speed (mph)		Safety Speed (mph)	
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
Winter	November - April	0:00 - 23:00 for safety	≤ 6	Sitting	≤ 56	Pass
Configurations			7 - 8	Standing	> 56	Exceeded
Existing	Without the proposed redevelopment		9 - 10	Strolling		
Proposed	With the proposed redevelopment		11 - 12	Walking		
			> 12	Uncomfortable		
Note: a dash (-) indicates a covered sensor						

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
55	Existing	6	Sitting	6	Sitting	22	Pass
	Proposed	7	Standing	7	Standing	25	Pass
56	Existing	-	-	-	-	-	-
	Proposed	7	Standing	7	Standing	29	Pass
58	Existing	-	-	-	-	-	-
	Proposed	14	Uncomfortable	12	Walking	42	Pass
59	Existing	-	-	-	-	-	-
	Proposed	7	Standing	7	Standing	27	Pass
61	Existing	6	Sitting	6	Sitting	22	Pass
	Proposed	7	Standing	6	Sitting	29	Pass
63	Existing	7	Standing	6	Sitting	29	Pass
	Proposed	7	Standing	6	Sitting	28	Pass
64	Existing	6	Sitting	5	Sitting	25	Pass
	Proposed	12	Walking	9	Strolling	39	Pass
65	Existing	9	Strolling	7	Standing	35	Pass
	Proposed	8	Standing	7	Standing	34	Pass
66	Existing	-	-	-	-	-	-
	Proposed	7	Standing	7	Standing	27	Pass
67	Existing	-	-	-	-	-	-
	Proposed	8	Standing	7	Standing	30	Pass
71	Existing	-	-	-	-	-	-
	Proposed	6	Sitting	6	Sitting	22	Pass
72	Existing	-	-	-	-	-	-
	Proposed	8	Standing	7	Standing	28	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours	Comfort Speed (mph)		Safety Speed (mph)	
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
Winter	November - April	0:00 - 23:00 for safety	≤ 6	Sitting	≤ 56	Pass
Configurations			7 - 8	Standing	> 56	Exceeded
Existing	Without the proposed redevelopment		9 - 10	Strolling		
Proposed	With the proposed redevelopment		11 - 12	Walking		
			> 12	Uncomfortable		
Note: a dash (-) indicates a covered sensor						

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
74	Existing	6	Sitting	5	Sitting	24	Pass
	Proposed	6	Sitting	6	Sitting	33	Pass
78	Existing	-	-	-	-	-	-
	Proposed	7	Standing	6	Sitting	26	Pass
80	Existing	6	Sitting	6	Sitting	24	Pass
	Proposed	11	Walking	9	Strolling	37	Pass
82	Existing	-	-	-	-	-	-
	Proposed	8	Standing	7	Standing	29	Pass
86	Existing	7	Standing	6	Sitting	27	Pass
	Proposed	11	Walking	9	Strolling	37	Pass
89	Existing	6	Sitting	6	Sitting	30	Pass
	Proposed	8	Standing	7	Standing	32	Pass
90	Existing	-	-	-	-	-	-
	Proposed	16	Uncomfortable	13	Uncomfortable	42	Pass
93	Existing	7	Standing	7	Standing	29	Pass
	Proposed	9	Strolling	8	Standing	33	Pass
94	Existing	10	Strolling	8	Standing	40	Pass
	Proposed	12	Walking	10	Strolling	42	Pass
95	Existing	9	Strolling	8	Standing	37	Pass
	Proposed	12	Walking	10	Strolling	39	Pass
96	Existing	9	Strolling	8	Standing	39	Pass
	Proposed	10	Strolling	9	Strolling	40	Pass
97	Existing	12	Walking	10	Strolling	39	Pass
	Proposed	12	Walking	10	Strolling	38	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours	Comfort Speed (mph)		Safety Speed (mph)	
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
Winter	November - April	0:00 - 23:00 for safety	≤ 6	Sitting	≤ 56	Pass
Configurations			7 - 8	Standing	> 56	Exceeded
Existing	Without the proposed redevelopment		9 - 10	Strolling		
Proposed	With the proposed redevelopment		11 - 12	Walking		
			> 12	Uncomfortable		
Note: a dash (-) indicates a covered sensor						

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
98	Existing	7	Standing	7	Standing	32	Pass
	Proposed	8	Standing	7	Standing	31	Pass
99	Existing	7	Standing	7	Standing	29	Pass
	Proposed	7	Standing	7	Standing	29	Pass
100	Existing	7	Standing	6	Sitting	27	Pass
	Proposed	8	Standing	7	Standing	30	Pass
101	Existing	8	Standing	7	Standing	30	Pass
	Proposed	8	Standing	7	Standing	32	Pass
102	Existing	7	Standing	7	Standing	32	Pass
	Proposed	7	Standing	7	Standing	31	Pass
103	Existing	14	Uncomfortable	12	Walking	42	Pass
	Proposed	13	Uncomfortable	10	Strolling	40	Pass
104	Existing	14	Uncomfortable	12	Walking	45	Pass
	Proposed	14	Uncomfortable	12	Walking	44	Pass
105	Existing	10	Strolling	8	Standing	33	Pass
	Proposed	9	Strolling	8	Standing	32	Pass
106	Existing	9	Strolling	8	Standing	32	Pass
	Proposed	8	Standing	7	Standing	32	Pass
107	Existing	8	Standing	7	Standing	33	Pass
	Proposed	8	Standing	7	Standing	32	Pass
108	Existing	8	Standing	7	Standing	30	Pass
	Proposed	8	Standing	7	Standing	30	Pass
109	Existing	9	Strolling	8	Standing	37	Pass
	Proposed	10	Strolling	8	Standing	37	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Seasons		Hours	Comfort Speed (mph)		Safety Speed (mph)	
Summer	May - October	6:00 - 23:00 for comfort	(20% Seasonal Exceedance)		(> 0.1% Annual Exceedance)	
Winter	November - April	0:00 - 23:00 for safety	≤ 6	Sitting	≤ 56	Pass
Configurations			7 - 8	Standing	> 56	Exceeded
Existing	Without the proposed redevelopment		9 - 10	Strolling		
Proposed	With the proposed redevelopment		11 - 12	Walking		
			> 12	Uncomfortable		
Note: a dash (-) indicates a covered sensor						

		Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
Location	Configuration	Speed (mph)	Rating	Speed (mph)	Rating	Speed (mph)	Rating
110	Existing	6	Sitting	7	Standing	34	Pass
	Proposed	7	Standing	7	Standing	30	Pass
111	Existing	6	Sitting	6	Sitting	26	Pass
	Proposed	6	Sitting	6	Sitting	27	Pass
112	Existing	7	Standing	6	Sitting	27	Pass
	Proposed	7	Standing	6	Sitting	27	Pass
113	Existing	6	Sitting	6	Sitting	27	Pass
	Proposed	7	Standing	7	Standing	30	Pass
114	Existing	6	Sitting	6	Sitting	29	Pass
	Proposed	5	Sitting	5	Sitting	23	Pass
115	Existing	10	Strolling	8	Standing	37	Pass
	Proposed	11	Walking	9	Strolling	36	Pass
116	Existing	6	Sitting	6	Sitting	32	Pass
	Proposed	7	Standing	6	Sitting	29	Pass
117	Existing	7	Standing	6	Sitting	30	Pass
	Proposed	6	Sitting	6	Sitting	25	Pass
118	Existing	8	Standing	7	Standing	30	Pass
	Proposed	6	Sitting	6	Sitting	25	Pass
119	Existing	7	Standing	7	Standing	29	Pass
	Proposed	8	Standing	7	Standing	29	Pass