

## **Appendix L**

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### Traffic Appendix

## **Appendix L.1**

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### Traffic Study

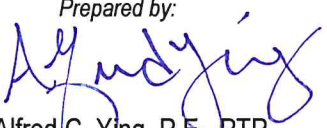
TRAFFIC IMPACT STUDY  
**222 WEST 2ND PROJECT**


City of Los Angeles, California  
December 20, 2018

*Prepared for:*  
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**c/o Tribune Real Estate Holdings, LLC**  
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#### APPENDIX

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- B. Traffic Count Data
- C. Proposed Project:
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  - CMA Data Worksheets – Weekday AM and PM Peak Hours
- D. Caltrans Analysis
- E. CMA Data Worksheets During Peak Building Construction Phase
  - Weekday AM and PM Peak Hours
- F. CMA Data Worksheets – Existing with Project with Mitigation
  - Weekday AM and PM Peak Hours

# TRAFFIC IMPACT STUDY 222 WEST 2ND PROJECT

City of Los Angeles, California  
December 20, 2018

## 1.0 INTRODUCTION

### 1.1 Traffic Study Overview

This traffic analysis has been conducted to identify and evaluate the potential traffic impacts of the proposed 222 West 2nd project (“proposed project” herein) on the surrounding street system. The proposed project site is located in the Civic Center District of the Central City Community Plan area of the City of Los Angeles, California. The 2.71-acre project site, which is bounded by South Broadway on the west, West 2nd Street on the north, South Spring Street on the east and an existing surface parking lot on the south, also is the future site of the Los Angeles County Metropolitan Transportation Authority (Metro) Regional Connector 2nd Street/Broadway rail station and portal.<sup>1</sup> The proposed 222 West 2nd project site and general vicinity are shown in **Figure 1-1**.

The traffic analysis follows City of Los Angeles (City) traffic study guidelines<sup>2</sup> and is consistent with traffic impact assessment guidelines set forth in the Los Angeles County Congestion Management Program (CMP)<sup>3</sup>. This traffic analysis evaluates potential project-related impacts at 32 key intersections in the vicinity of the project site. The study intersections were determined in consultation with City of Los Angeles Department of Transportation (LADOT) staff. The Critical Movement Analysis method was used to determine Volume-to-Capacity ratios and corresponding Levels of Service for all 32 study intersections. A review also was conducted of Metro freeway and intersection monitoring stations to determine if a CMP transportation impact assessment analysis is required for the proposed project. In addition, a screening analysis based on the Highway Capacity Manual (HCM) operational analysis methodologies was completed as it relates to the highway system and the ramp intersections under the State of California Department of Transportation (Caltrans) jurisdiction.

This study (i) presents existing traffic volumes, (ii) provides existing traffic volumes with the forecast traffic volumes from the proposed project, (iii) determines existing with project-related impacts; (iv) forecasts future cumulative baseline traffic volumes, (v) forecasts future cumulative traffic volumes with the proposed project, (vi) determines future forecast with project-related impacts, and (vii) recommends mitigation measures, where necessary.

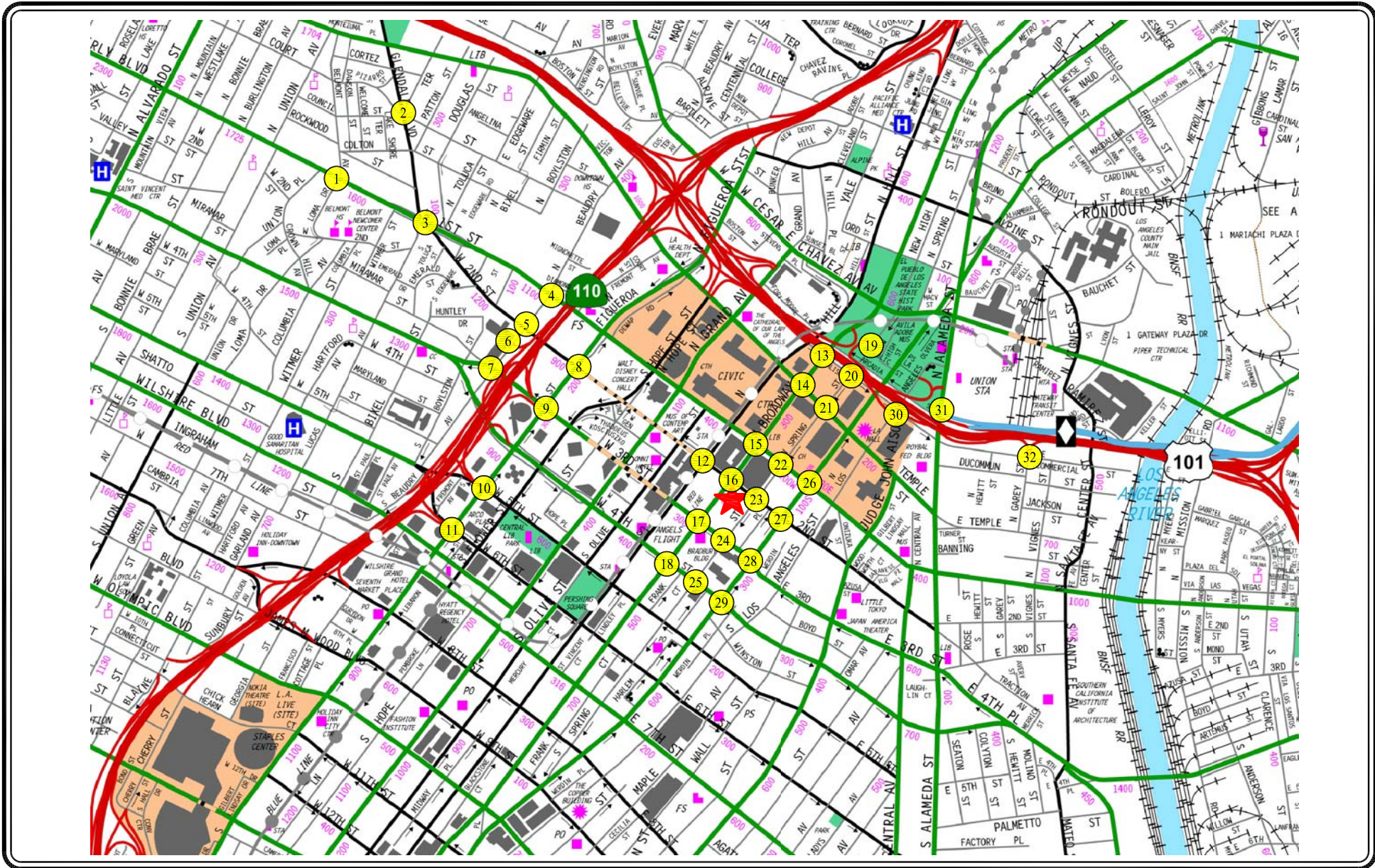
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<sup>1</sup> For ease of reference, the roadways in the Project vicinity may be referred to herein without a directional indicator (e.g., Broadway, 2nd Street, and Spring Street). Furthermore, directional references have been simplified (i.e., Broadway actually borders the project site to the northwest but is described herein as the west).

<sup>2</sup> *Transportation Impact Study Guidelines*, City of Los Angeles Department of Transportation, December 2016.

<sup>3</sup> *2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, October 2010.





NOT TO SCALE

MAP SOURCE: RAND MCNALLY & COMPANY



PROJECT SITE



STUDY INTERSECTION

FIGURE 1-1  
VICINITY MAP

## 1.2 Study Area

Upon coordination with LADOT staff, 32 study intersections were identified for evaluation during the weekday morning and afternoon peak hours. The study intersections provide both regional and local access to the study area and define the extent of the boundaries for this traffic impact analysis. Further discussion of the existing street system and study area is provided in Section 4.0.

The general location of the project in relation to the study locations and surrounding street system is presented in *Figure 1-1*. The traffic analysis study area is generally comprised of those locations that have the greatest potential to experience significant traffic impacts due to the proposed project, as defined by the City as Lead Agency under the California Environmental Quality Act (CEQA). In the traffic engineering practice, the study area generally includes those intersections that are:

- a. Immediately adjacent or in close proximity to the project site;
- b. In the vicinity of the project site that are documented to have current or projected future adverse operational issues; and
- c. In the vicinity of the project site that are forecast to experience a relatively greater percentage of project-related vehicular turning movements (e.g., at freeway ramp intersections).

The study intersections selected for analysis were based on the above criteria, the proposed 222 West 2nd project's calculated peak hour vehicle trip generation, the anticipated distribution of project vehicular trips and existing intersection/corridor operations. LADOT confirmed the appropriateness of the 32 study intersections when it entered into a traffic study Memorandum of Understanding (MOU) with the applicant for the proposed project. The 32 study intersections are identified in Table 4-1 of the MOU, which is attached to this report as **Appendix A**.

Further, in accordance with the "Freeway Impact Analysis Procedures" agreement between Caltrans District 7 and LADOT executed in October 2013 and amended in December 2015, the approved MOU included a freeway impact screening analysis to determine whether further review of the Caltrans freeway system would be required for the proposed project. As noted in the approved MOU, the amount of project-related traffic met the criteria requiring a focused analysis of State Route 101 and 110 Freeway mainline segments and nearby off-ramps. Accordingly, a supplemental analysis of Caltrans facilities was conducted using HCM methodologies.

## 1.3 Overview of Senate Bill 743 and VMT-Based Analyses

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg, 2013). Among other things, SB 743 creates a process to change the methodology to analyze transportation impacts under CEQA (Public Resources Code section 21000 and following), which could include analysis based on project vehicle miles traveled (VMT) rather than impacts to intersection Level of Service. On December 30, 2013, the State of California Governor's Office of Planning and Research (OPR) released a preliminary evaluation of alternative methods of transportation analysis. The intent of the original guidance documentation was geared first towards projects located within areas that are



designated as transit priority areas, to be followed by other areas of the State. OPR issued other draft discussion documents in March 2015 and January 2016, suggesting some new revisions to the state CEQA Guidelines. In November 2017, OPR submitted the proposed amendments to the CEQA Guidelines to the State's Natural Resources Agency (that include a proposed new Guidelines section 15064.3 which governs how VMT-based analyses of potential traffic impacts should be conducted). On January 26, 2018, the Natural Resources Agency published a Notice of Rulemaking, commencing the formal rulemaking process for the amendments to the CEQA Guidelines. The Natural Resources Agency's rulemaking process will entail additional public review and comment and may lead to further revisions. OPR then may update a technical advisory that accompanies the revised CEQA Guidelines, discussed further below, as appropriate. OPR has therefore not issued any final revisions to the state CEQA Guidelines to implement the CEQA traffic analysis component of SB 743; thus, the analysis in this study utilizes existing, long-established protocols in accordance with CEQA, the existing state CEQA Guidelines, and the City's CEQA Thresholds Guide. (See Public Resources Code section 21099(b).)

This is also consistent with the current City of Los Angeles traffic impact analysis procedures. In August 2014, Councilmember Mike Bonin introduced a motion directing the Department of City Planning (DCP) and LADOT to begin preparation for the shift to VMT analysis (CF 14-1169). DCP subsequently contracted with an outside consultant to develop the strategy and methodology in order to establish the tools necessary to bring the City into compliance with the state mandate. The City is currently in the process of conducting beta testing of the recommended VMT tools/metrics that will be used to conduct VMT analyses in traffic studies for projects. It is anticipated that in late 2018 to early 2019, City staff will present the CEQA Appendix G environmental checklist update to the City Council, which will likely lead to the adoption of new VMT-based significance thresholds and its subsequent incorporation into the City's CEQA Threshold Guide. Following adoption, projects must then comply with the updated transportation evaluation framework, thus bringing the City into compliance with the state mandate. The City's VMT tools/metrics had not been finalized at the time this traffic study was completed for inclusion in the proposed project's Draft EIR. Should the City finalize those tools/metrics prior to the City decision-makers' consideration of the proposed project's EIR and entitlements, this traffic study may be updated in consultation with LADOT to include a VMT analysis and a determination of whether the proposed project would result in significant impacts based on VMT-based significance thresholds. While any agency can immediately apply the proposed new CEQA Guidelines section 15064.3, a statewide application of that new section will not be required until July 1, 2020 at the earliest.

In addition to the VMT-based metrics that the City is working on, to better align with the State's multimodal transportation and environmental action goals, Caltrans is also pursuing VMT as a metric in determining project impacts, as described in Caltrans' *Local Development – Intergovernmental Review Program Interim Guidance* document (Revised November 2016) (LD-IGR Guidance). The LD-IGR Guidance was prepared as a result of recent legislation, planning guidance, and Caltrans' adoption of plans and policies that collectively promote reductions in greenhouse gas emissions, good community design, improved proximity to key destinations, and a safe, multimodal transportation system. The LD-IGR Guidance notes that Caltrans is currently



creating its statewide Transportation Analysis Guide (TAG) and updating its Transportation Impact Study Guide (TISG), and that they will focus transportation analysis on VMT impacts and the multimodal transportation networks, but that until the TAG-TISG is complete, the LD-IGR Guidance will remain in effect.

In addition, as the City's VMT-based significance thresholds are not yet finalized or adopted, and Caltrans has not yet developed its TISG, a review of OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (April 2018) was conducted for informational purposes. As outlined in OPR's draft guidelines, a development project that results in VMTs exceeding an applicable threshold of significance may indicate a significant impact. However, development projects that are located within one-half mile of either an existing major transit stop<sup>4</sup> or a stop along an existing high quality transit corridor<sup>5</sup> may be presumed to cause a less than significant transportation impact. Similarly, development projects that decrease VMTs in the project area compared to existing conditions may be considered to have a less than significant transportation impact. As the proposed 222 West 2nd project will be constructed directly atop Metro's Regional Connector 2nd Street/Broadway rail station and portal, direct application of these OPR draft guidelines may be presumed to result in a less than significant project impact with respect to VMT. However, this presumption would not apply if project specific or location specific information indicates that the project will still generate significant levels of VMT. According to the OPR draft guidelines, for example, the presumption might not be appropriate if the project:

- Has a floor area ratio of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the Lead Agency with input from the Metropolitan Planning Organization).

If these exceptions to the presumption might apply, the Lead Agency should conduct a detailed VMT analysis to determine whether the project would exceed VMT thresholds. For the 222 West 2nd project, none of the above exceptions would apply. First, the project has a floor area ratio of over 5.8:1, which is well over 0.75:1. Second, the project does not propose more parking for use by residents, customers, or employees of the project than required by the relevant jurisdiction (i.e., the City of Los Angeles). As described below, the project includes 628 vehicular parking spaces as required by the Los Angeles Municipal Code (LAMC), including bicycle parking and transit credit deductions, as well as compliance with Advisory Agency parking policies. All remaining parking spaces in the existing parking structure would continue to be available for use by others in the

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<sup>4</sup> Pub. Resources Code 21064.3: Major transit stop means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

<sup>5</sup> Pub. Resources Code 21155: A high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

downtown area for short-term use or long-term lease, similar to existing conditions. Finally, the project is consistent with the applicable Sustainable Communities Strategy, which is the 2016—2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). The project would support the 2016 RTP-SCS's overall land use pattern of reinforcing the trend of locating new housing and employment in High Quality Transit Areas (HQTAs) with the intention of reducing VMT and greenhouse gases. The project also would help increase the share of total trips that use transit for work and non-work trips.

## 2.0 PROJECT DESCRIPTION

The project site is located in the Civic Center District of the Central City Community Plan area of the City of Los Angeles, California. The project site lies at the northern end of the Broadway Theater and Entertainment District Community Design Overlay (CDO) area. The 2.71-acre project site, which is bounded by South Broadway on the west, West 2nd Street on the north, South Spring Street on the east and an existing surface parking lot on the south, also is the future site of the Metro Regional Connector 2nd Street/Broadway rail station and portal. The proposed 222 West 2nd project site and general vicinity are shown in *Figure 1-1*. An aerial photograph of the existing project site is contained in *Figure 2-1*.

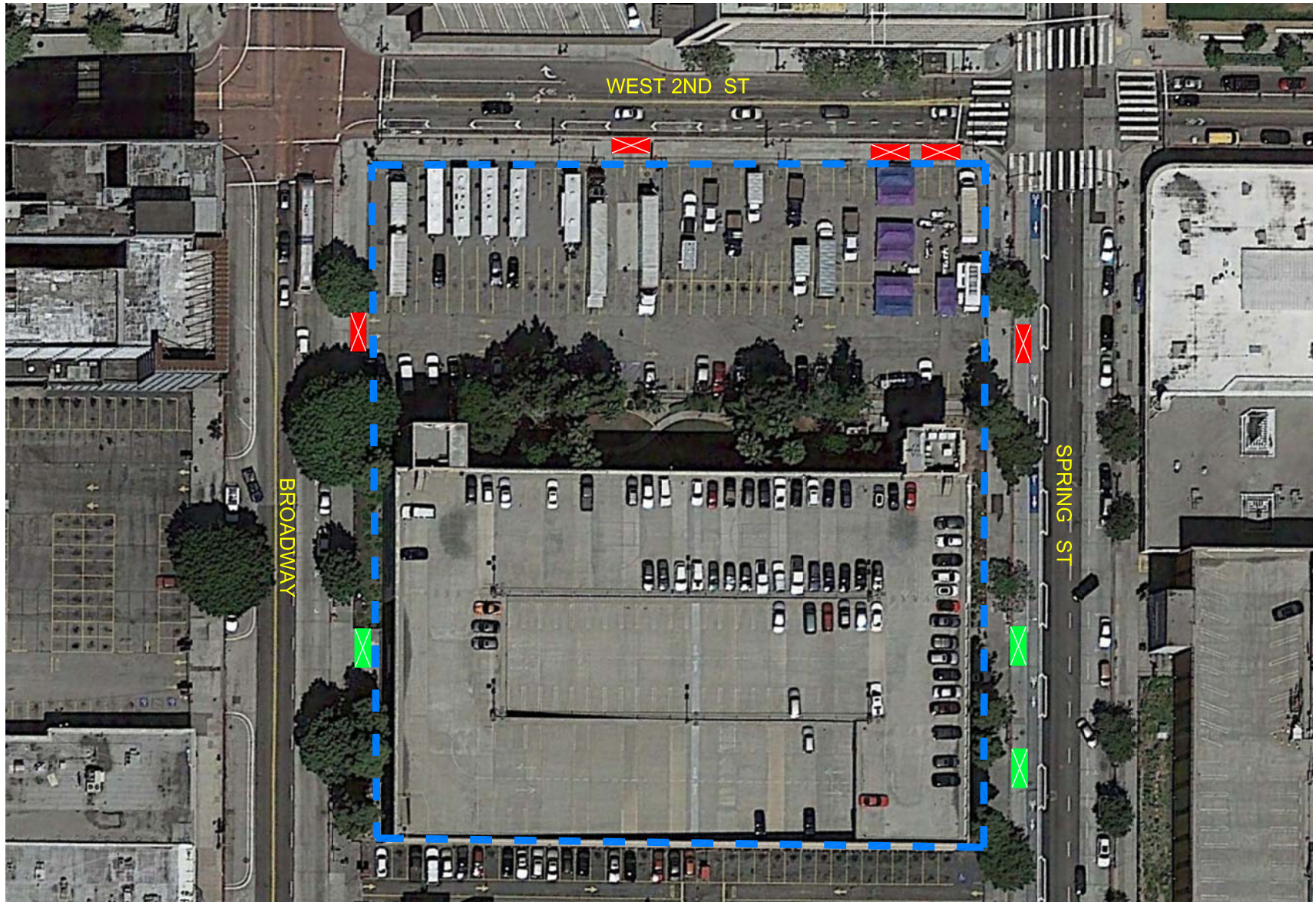
### 2.1 Project Location<sup>6</sup>

The Central City Community Plan area is located south of Sunset Boulevard/Cesar Chavez Avenue, north of the Santa Monica Freeway (Interstate 10), east of the Harbor Freeway (Interstate 110) and west of Alameda Street. It is bordered by the communities of Central City North, Silver Lake-Echo Park, Westlake, Southeast and South Central Los Angeles. The Central City Community Plan area is comprised of nine districts: Civic Center, Bunker Hill, Financial Core, Convention Center/Arena, South Park, Center City/Historic Core, Little Tokyo, Central City East, and South Markets. The neighborhoods and districts were originally defined with specific boundaries, but over time the boundaries have blurred as land uses changed and overlapped with adjoining uses. For this reason the neighborhoods and districts are used only to define in very general terms the areas of Central City. The Central City area is the historic, political, social, governmental and economic center of the City of Los Angeles. Major rail networks and six major freeways converge and interconnect in the plan area. Refer to *Figure 2-2* which shows the Central City Community Plan area and notes the nine districts, as well as the project site location.

The Civic Center District (Civic Center) straddles the City's original settlement and area of first expansion and extends from a former riverbed to hillside topographies. Federal, State, County and local government offices are situated in the Civic Center. The Civic Center has the second largest concentration of civic buildings in the country, located primarily along the Civic Center Mall north of First Street, generally from the Harbor Freeway to Alameda Street, and dominated by the historic Los Angeles City Hall. The Hollywood Freeway to the north of the Civic Center forms a strong edge to the district and forms a barrier between El Pueblo Historic Park and the Civic Center area. There are a number of facilities designed for all types of performance, cultural, and artistic uses. The Civic Center contains the Music Center at its western edge, which contains three performance venues. Additionally, the Civic Center also includes Grand Park, which is located between the Music Center and City Hall.

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<sup>6</sup> Source: *Central City Community Plan*; A Part of the General Plan-City of Los Angeles; adopted January 2003; <http://cityplanning.lacity.org>.



NOT TO SCALE

MAP SOURCE: GOOGLE EARTH



PROJECT SITE



EXISTING DRIVEWAY



EXISTING PARKING STRUCTURE DRIVEWAY  
(TO BE RETAINED AS PART OF PROJECT)

LINSCOTT, LAW & GREENSPAN, engineers

## AERIAL PHOTOGRAPH OF EXISTING PROJECT SITE

FIGURE 2-1

222 WEST 2ND PROJECT



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MAP SOURCE: CITY OF LOS ANGELES



NOT TO SCALE



PROJECT SITE

## FIGURE 2-2 CENTRAL CITY COMMUNITY PLAN AREA DISTRICTS

LINSCOTT, LAW & GREENSPAN, engineers

222 WEST 2ND PROJECT

## 2.2 Existing Project Site

The northern portion of the project site was previously developed with a surface parking lot and is currently in use as a staging area for construction of the Metro Regional Connector 2nd Street/Broadway rail station and portal. Pursuant to a right of entry agreement, Metro has had exclusive control and use of this area since March 2015 and will continue to use it as a construction staging/laydown site for the Regional Connector project until September 2021. At that time, control of this area (with the exception of Metro's portal area), will revert back to the Project Applicant. The surface parking lot previously included 99 vehicular parking spaces.

The southern portion of the project site contains a five-story, approximately 67-foot-tall parking structure that includes rooftop parking and two subterranean levels. The structure currently provides 1,460 vehicular spaces, which are used for parking by tenants of Los Angeles Times Square, located directly north of the project site across 2nd Street, including the Los Angeles Times, as well as other businesses, commuters, and residents in the immediate area. Public/visitor parking is also accommodated in the existing parking structure. Access to the parking structure is provided via one driveway on Broadway and two driveways on Spring Street.

The project site is well served by transit and is located approximately 700 feet from the Civic Center/Grand Park Metro Purple and Red Line station (located at the southwest corner of 1st Street and Hill Street). In addition, as previously mentioned, a portal and below-grade station for the Metro Regional Connector line is currently under construction on-site. The project site is also served by Metro Bus Lines 2, 4, 30, 33, 35, 40, 45, 68, 83, 84, 92, 302, 330, 728, 733, 745, and LADOT Dash Line D.

## 2.3 Proposed Project Description

The proposed project consists of the development of a 30-story, 449-foot-tall, mixed-use building with residential, retail and general office land use components. A summary of the proposed project's building gross floor area by land use type is provided in **Table 2-1**.

**Table 2-1**  
**Project Land Use Components**

Land Use	Size
General Office	534,044 GSF
Residential (Condominium) <sup>A</sup>	107 DU
Retail	7,200 GLSF

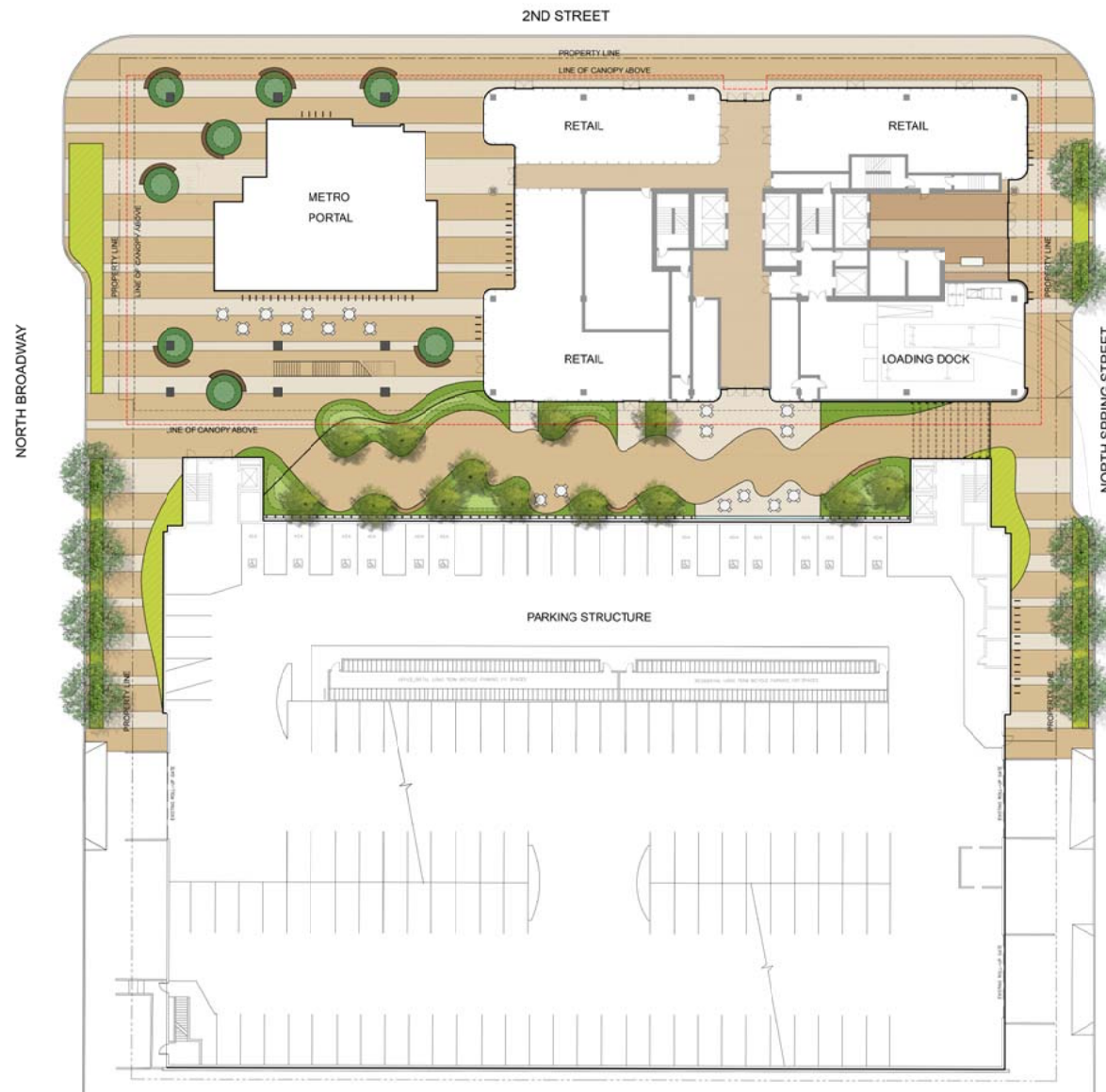
<sup>A</sup> Although the project's residential units may ultimately consist of either condominiums or apartment units, because the project proposes to subdivide the residential units for condominium purposes under proposed Vesting Tentative Tract Map No. 74320, they are shown here as condominiums.

The proposed project's land uses would be developed in a single building, with the ground floor frontage facing along 2nd Street east of the Metro portal and a portion of Spring Street. The existing parking structure and Metro portal take up the entirety of the Broadway ground floor street frontage. The ground floor site plan for the proposed project is depicted in *Figure 2-3*.

In general, the proposed project's land use components would be located in distinct areas of the new building. The ground floor would include commercial spaces fronting 2nd and Spring Streets, as well as the interior of the site (i.e., facing the Metro portal and the pedestrian paseo), with a residential lobby and loading area located along Spring Street. Office space is planned to be provided on levels 2 through 22, while the residential uses are planned to be on levels 23 through 30. The proposed residences would include 12 studios, 42 one-bedroom units, 40 two-bedroom units, and 13 three-bedroom units ranging from approximately 650 square feet to 1,630 square feet in size. In addition, a single basement level would house mechanical rooms and storage.

The Metro Regional Connector 2nd Street/Broadway rail station and portal would be located at the northwest corner of the project site. The at-grade portal would include ticket booths, kiosks, information signs, stairs, escalators, and elevators to serve the subterranean Metro station. The mixed-use building would be built above the Metro portal, with the new building serving as canopy over the station entrance. A plaza surrounding the portal would include planted areas, benches and café seating, and bicycle parking. The design of the plaza around the portal would be integrated and consistent with the paseo, thus creating a larger, public plaza at Broadway and 2nd Street that extends across the center of the site to Spring Street. Upon completion, the Metro Regional Connector would consist of a 1.9-mile underground light-rail system connecting the Metro Gold Line to the 7th Street/Metro Center station. The Regional Connector includes the 2nd Street/Broadway rail station, as well as two additional new stations in the Downtown area.

The existing five-level parking structure located on the southern portion of the project site would remain and provide the required vehicular parking and long-term bicycle parking for the proposed project. More specifically, the existing 1,460 parking spaces within the garage would be reconfigured to provide 1,436 vehicular spaces and 218 long-term bicycle parking spaces (plus an additional 68 short-term bicycle parking spaces to be provided outside and adjacent to the parking structure and the new building, as well as within the Metro plaza). The proposed project would require and provide 601 vehicular parking spaces per LAMC requirements and based on bicycle parking and transit credit deductions, plus 27 spaces of residential guest parking pursuant to Advisory Agency Parking Policy 2006-2. Accordingly, consistent with existing conditions, parking spaces would remain available for others in the downtown area to continue to use or lease, including, but not limited to, inhabitants of other downtown residential buildings and workers at the nearby Los Angeles Times buildings located on the north side of 2nd Street (the provision of on-site parking for such uses is subject to several off-site parking covenants recorded against the project site, requiring 69 parking spaces be provided for such buildings).



NOT TO SCALE

SOURCE: GENSLER

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 2-3  
GROUND FLOOR SITE PLAN

222 WEST 2ND PROJECT



Access to the parking structure would continue to occur via one existing driveway on Broadway and two existing driveways on Spring Street. In addition, one new driveway on Spring Street is proposed to access the loading area for the new building. Further discussion of the project's site access and circulation scheme is provided in Section 3.0.

## 2.4 Construction Phasing and Activities

Proposed project construction is expected to occur in one primary phase, with no overlap with construction of the Metro portal and station on-site. As previously discussed, the on-site portal and station are currently under construction, and the Metro Regional Connector line is forecast to open in year 2021. Construction of the proposed project is planned to begin in year 2022 and be completed by year 2025 (i.e., project build-out year 2025). Construction activities would occur in accordance with LAMC requirements, which prohibit construction between the hours of 9:00 PM and 7:00 AM Monday through Friday, 6:00 PM and 8:00 AM on Saturday, and at any time on Sunday. Construction activities would require approximately 7,000 cubic yards of grading, all of which would be exported off-site to Chiquita Canyon Landfill and/or Irwindale Landfill. The haul route to/from Chiquita Canyon Landfill is anticipated to follow segments of 2nd Street, Spring Street, 3rd Street, and Aliso Street in Downtown Los Angeles; 110 Freeway, U.S. 101 Freeway, State Route 170 Freeway, and I-5 Freeway; as well as Newhall Ranch Road, State Route 126, and Henry Mayo Drive in Castaic. Alternatively, the haul route to/from Irwindale Landfill would follow segments of 2nd Street, Spring Street, 4th Street, Los Angeles Street, El Monte Busway East, and Arcadia Street in Downtown; U.S. 101 Freeway and I-10 Freeway; and Vincent Drive in Irwindale.

## 2.5 Roadway Dedication and Widening

As described more fully below, the proposed project will not require street dedications on Broadway or Spring Street. A five-foot sidewalk easement will be provided on Broadway, and an eight and one-half foot sidewalk easement for a drop-off area will be provided on Spring Street, as described more fully below. A seven-foot sidewalk easement will be provided on 2nd Street, as described more fully below.

*Broadway* is designated as Modified Avenue II in the City's General Plan Mobility Element. This standard requires an 80-foot wide right-of-way with 56 feet of roadway within the right-of-way and an average sidewalk easement of five feet. Broadway currently has 80 feet of right-of-way and 56 feet of roadway. The City owns a five-foot wide parcel of land adjacent to the right-of-way along the southerly 120 feet of the project site, and this land could be used for the required sidewalk easement. Additionally, the middle 120 feet of the site frontage has already had five feet dedicated to provide for an increased sidewalk width. Only the northerly 120 feet of the project site's Broadway street frontage still requires a five-foot sidewalk easement to comply with the Mobility Element standard. The sidewalk easement would have an upper elevation of 20 feet above sidewalk grade and a lower elevation of 10 feet below sidewalk grade, except where any Metro station improvements exist.

*Spring Street* is also designated as Modified Avenue II in the Mobility Element. This standard requires an 80-foot wide right-of-way with 52 feet of roadway within the right-of-way. Spring Street currently has 80 feet of right-of-way and 52 feet of roadway. There is no sidewalk easement required on Spring Street. No dedication or widening of the roadway is required. The southerly 240 feet of the project site includes a five-foot dedication previously accepted by the City, so this portion of the street frontage is over-

dedicated. Through proposed Vesting Tentative Tract Map No. 74320, the Applicant is requesting that the excess right-of-way along the southerly 240 feet of Spring Street be merged into the tract since it is no longer needed for public right-of-way. Additionally, an eight-foot wide passenger loading area is proposed along Spring Street which would reduce the width of the sidewalk in the public right-of-way. An 8.5-foot wide sidewalk easement is proposed on the project site adjacent to the passenger loading area to accommodate the required 14-foot wide sidewalk envisioned by the Mobility Element. The sidewalk easement would have an upper elevation of 20 feet above sidewalk grade and a lower elevation of 10 feet below sidewalk grade, except where any Metro station improvements exist.

*Second Street* is designated as a Modified Avenue III in the Mobility Element. This designation calls for a 74-foot wide right-of-way (37-foot half right-of-way) with a 44-foot wide roadway (22-foot half roadway) within the right-of-way. Right-of-way and roadway width requirements are determined by the City on a half-width basis, as measured from a roadway's centerline. Currently, the existing half roadway width is 18 feet and the half right-of-way width is 30 feet along the project site frontage (south side) of Second Street. As a result, pursuant to the Mobility Element, generally a seven-foot dedication could be required to widen the existing half-roadway from 18 feet to 22 feet and to widen the existing sidewalk from 12 feet to 15 feet. Metro is still completing final design drawings for the 2nd/Broadway Station infrastructure, and the Project Applicant is coordinating with Metro on these issues. Due to below-ground and surface-level encroachments associated with the Metro station that is being constructed below 2nd Street and on the project site, it may not be feasible to provide the full street dedication along 2nd Street. However, Metro's construction of the new station and infrastructure may include widening the existing half-roadway from 18 feet to 21 feet and the existing sidewalk from 12 feet to 15 feet. Metro's project plans were still in process when the Project Applicant filed its entitlement applications and vesting tentative tract map with the City. The project proposes a seven-foot wide sidewalk easement along 2nd Street. The sidewalk easement would have an upper elevation of 20 feet above sidewalk grade and a lower elevation of 10 feet below sidewalk grade, except where any Metro station improvements exist. As of the date of this traffic study, roadway width and dedication issues are still being coordinated between Project Applicant, Metro, and the Bureau of Engineering.

## 3.0 SITE ACCESS AND CIRCULATION

### 3.1 Existing Vehicular Site Access

Prior to the use of the northern portion of the project site for staging and construction of the Metro Regional Connector rail station and portal, vehicular access to the project site was provided via a total of eight driveways including three driveways on 2nd Street, two driveways on Broadway, and three driveways on Spring Street. The existing southerly driveway on Broadway and existing two southerly driveways on Spring Street currently provide access to the parking structure that will remain as part of the proposed project. The three driveways on 2nd Street previously provided access the surface parking lot that extended along the south side of 2nd Street between Broadway and Spring Street. All three driveways on 2nd Street have been removed for the construction of the Metro Regional Connector 2nd Street/Broadway rail station and portal. In addition, the northerly driveway on Broadway as well as the northernmost driveway on Spring Street (both of which previously provided access to the surface parking lot) will also be removed as part of the Metro Regional Connector project. The locations of the site access points are shown in *Figure 2-1*.

### 3.2 Proposed Project Vehicular Site Access

The proposed site access for the 222 West 2nd project is displayed in *Figure 2-3*. Vehicular movements into and out of the proposed project site will be provided via a total of four driveways including one driveway on Broadway and three driveways on Spring Street. As noted in *Figure 2-1*, the existing parking structure driveways on Broadway and Spring Street will be retained as part of the proposed project. Descriptions of the proposed project vehicular site access are provided in the following paragraphs.

- *Broadway Parking Structure Driveway*

The Broadway parking structure driveway, which is located on the east side of Broadway approximately mid-way along the parking structure, is an existing driveway that would be retained as part of the proposed project. One inbound lane and one outbound lane are provided at this location, with gate control equipment provided for each direction. This project site driveway accommodates full access (i.e., left-turn and right-turn ingress and egress turning movements) for motorists accessing the parking structure. No changes to the design and configuration of the Broadway parking structure driveway are planned as part of the proposed project.

- *Spring Street Northerly Parking Structure Driveway*

The Spring Street northerly parking structure driveway, which is located on the west side of Spring Street approximately mid-way along the parking structure, is an existing driveway that would be retained as part of the proposed project. One inbound lane and one outbound lane are provided at the Spring Street northerly parking structure driveway with gate control equipment provided for each direction. This project site driveway accommodates restricted right-turn only access (i.e., right-turn ingress and egress turning movements) for motorists

accessing the parking structure since Spring Street is a one-way, southbound roadway. No changes to the design and configuration of the Spring Street northerly parking structure driveway are planned as part of the proposed project.

- *Spring Street Southerly Parking Structure Driveway*

The Spring Street southerly parking structure driveway, which is located on the west side of Spring Street near the southeast corner of the parking structure, is an existing driveway that would be retained as part of the proposed project. One inbound lane and one outbound lane are provided at the Spring Street southerly parking structure driveway with gate control equipment provided for each direction. This project site driveway accommodates restricted right-turn only access (i.e., right-turn ingress and egress turning movements) for motorists accessing the parking structure since Spring Street is a one-way, southbound roadway. It is noted that the Spring Street southerly parking structure driveway currently is reserved for monthly parkers. No changes to the design and configuration of the Spring Street southerly parking structure driveway are planned as part of the proposed project.

- *Loading/Service Driveway*

Loading and service activities will occur at a new project driveway on Spring Street that will be situated south of 2nd Street and north of the two existing parking structure driveways. Due to site limitations created by the construction of the Metro Regional Connector 2nd Street/Broadway rail station and portal, head-in and head-out maneuvering cannot be provided. As a result, back-in and head-out maneuvering is proposed at the loading/service driveway.

### 3.3 Pedestrian Access

The Civic Center area experiences a high level of pedestrian activity, particularly along the key corridors near the project site, such as Broadway, Spring Street and Main Street. Based on the existing level of pedestrian activity in the area, the proximity of the nearby the Federal, State, County and local government offices located within the Civic Center area and, more importantly, the future Metro Regional Connector 2nd Street/Broadway rail station and portal on the project site, it is anticipated that there will continue to be a high level of pedestrian activity in the area as well as to and from the proposed project site.

The proposed project is designed to encourage pedestrian activity and walking as a transportation mode with a Walkability score for the project site of approximately 95 (Walker's Paradise) out of 100.<sup>7</sup> As indicated in *Figure 2–3*, the proposed project is designed to provide connections to the adjacent public sidewalks and would include site enhancements to promote walkability. Walkability

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<sup>7</sup> Refer to <http://www.walkscore.com/>, which generates the walkability score for the project site. Walk Score calculates the walkability of an address by locating nearby stores, restaurants, schools, parks, etc. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for walking.

is a term describing the extent to which walking is readily available as a safe, connected, accessible and pleasant mode of transport. There are several criteria that are widely accepted as key aspects of the walkability of urban areas that should be satisfied. The underlying principle is that pedestrians should not be delayed, diverted, or placed in danger. The widely accepted characteristics of walkability are as follows:

- Connectivity: Can people walk from one place to another without encountering major obstacles, obstructions, or loss of connectivity?
- Convivial: Are pedestrian routes friendly and attractive, and perceived as such by pedestrians?
- Conspicuous: Are suitable levels of lighting, visibility and surveillance over its entire length provided, with high quality delineation and signage?
- Comfortable: Are high quality and well-maintained footpaths of suitable widths, attractive landscaping and architecture, shelter and rest spaces provided with a suitable allocation of roadspace to pedestrians?
- Convenient: Is walking a realistic travel choice, partly because of the impact of the other criteria set forth above, but also because walking routes are of a suitable length as a result of land use planning with minimal delays?

A review of the project site location and pedestrian walkway network indicates that these five primary characteristics are accommodated as part of the proposed project. The project site is accessible from nearby public bus and rail transit stops and will be situated atop the Metro Regional Connector 2nd Street/Broadway rail station and portal. The majority of pedestrian access to the project site is envisioned to occur via the existing public sidewalks provided along every street in the Downtown Los Angeles area. The project site is located within Downtown Los Angeles, which offers a wide variety of entertainment, retail and restaurant opportunities.

Proposed project features would include a landscaped passage or paseo located between the new building and the existing parking structure to the south that would form a pedestrian pathway from Broadway and the Metro portal across the site to Spring Street. This paseo would include canopy trees, a variety of shrubs and grasses, planted trellises, benches and café seating, and permeable paving. In addition, street trees and streetscape plantings would be introduced along Broadway and Spring Street in accordance with the City's standards and the Broadway Streetscape Master Plan.

Project signage could include general ground level and wayfinding pedestrian signage around the perimeter of the building and in the paseo, building identification signs, and other sign types. Wayfinding signs would be located at access points to the on-site parking garage, paseo, commercial and residential entries, corridors, and elevator lobbies. Metro signage would be integrated with the overall signage concept.

### 3.4 Bicycle Access

Bicycle access to the project site is facilitated by the City's bicycle roadway network. Walk Score also calculates a bike score based on the topography, number and proximity of bike lanes, etc., which generates a bike score for the project site of approximately 79 (Very Bikeable) out of 100.<sup>8</sup> Existing and proposed bicycle facilities (e.g., Class I Bicycle Path, Class II Bicycle Lanes, Class III Bicycle Routes, Proposed Bicycle Routes, Bicycle Friendly Streets, etc.) identified in the City's 2010 Bicycle Plan are located within an approximate one-mile radius from the project site.<sup>9</sup> It is important to note that the 2010 Bicycle Plan goals and policies have been folded into the Mobility Plan 2035 to reflect a commitment to a balanced, multi-modal viewpoint. The location of the City's bicycle enhanced network (low stress network) in close proximity to the project site and in the surrounding area is shown in **Figure 3-1**. The location of the City of Los Angeles bicycle lane network in close proximity to the project site and in the surrounding area is illustrated in **Figure 3-2**.

The Federal and State transportation systems recognize three primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), and Bicycle Routes (Class III). Bicycle Paths (Class I) are exclusive car free facilities that are typically not located within a roadway area. Bicycle Lanes (Class II) are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Bicycle Routes (Class III) are preferably located on collector and lower volume arterial streets.

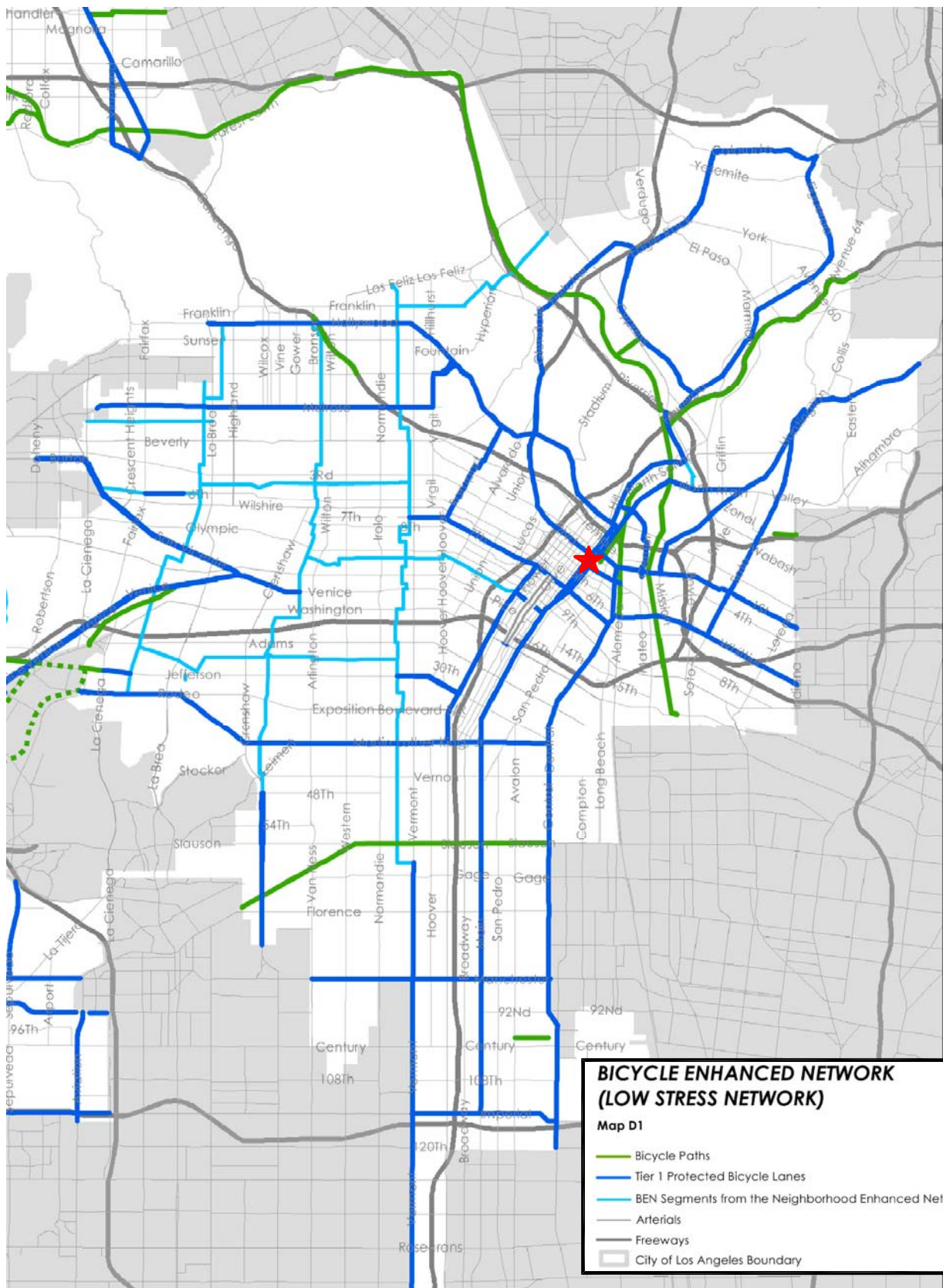
Use of bicycles as a transportation mode to and from the project site should be encouraged by the provision of ample and safe bicycle parking. The type of spaces and dimensions will be provided based on City Code requirements (refer to Los Angeles Municipal Code Sections 12.21.A.16 and 12.21 A.4(c)), as well as to meet the needs of a variety of bicycles. The bicycle spaces will be provided in a readily accessible location(s). Appropriate lighting will be provided to increase safety and provide theft deterrent during night-time parking. The short-term and long-term bicycle parking requirements of the Los Angeles Municipal Code will be more than satisfied both for the residential and commercial land use components of the proposed project.

It is noted that the existing five-level parking structure located on the southern portion of the project site would remain and provide the required vehicular parking and long-term bicycle parking for the proposed project. More specifically, the existing 1,460 parking spaces within the garage would be reconfigured to provide 1,436 vehicular spaces and 218 long-term bicycle parking spaces, plus an additional 68 short-term bicycle parking spaces to be provided outside and adjacent to the parking structure and the new building for the proposed project. **Table 3-1** summarizes the City's bicycle parking requirements as well as the number of bicycle parking spaces proposed to be provided by the project. In addition, Metro may provide additional bicycle parking within the Metro plaza.

<sup>8</sup> Refer to <http://www.walkscore.com/>, which generates the bike score for the project site. Walk Score calculates the bike score of an address by locating nearby bicycling facilities as well as connections to bus/rail transit routes and stops. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for bicycling.

<sup>9</sup> Sources: City of Los Angeles Mobility Plan 2035 (2015), and City of Los Angeles Bicycle Parking Plan; [www.labikeplan.org](http://www.labikeplan.org). As noted in the Mobility Plan 2035, the 2010 Bicycle Plan and policies have been folded into the Mobility Plan to reflect a commitment to a balanced, multi-modal viewpoint.





NOT TO SCALE

MAP SOURCE: CITY OF LOS ANGELES MOBILITY PLAN 2035

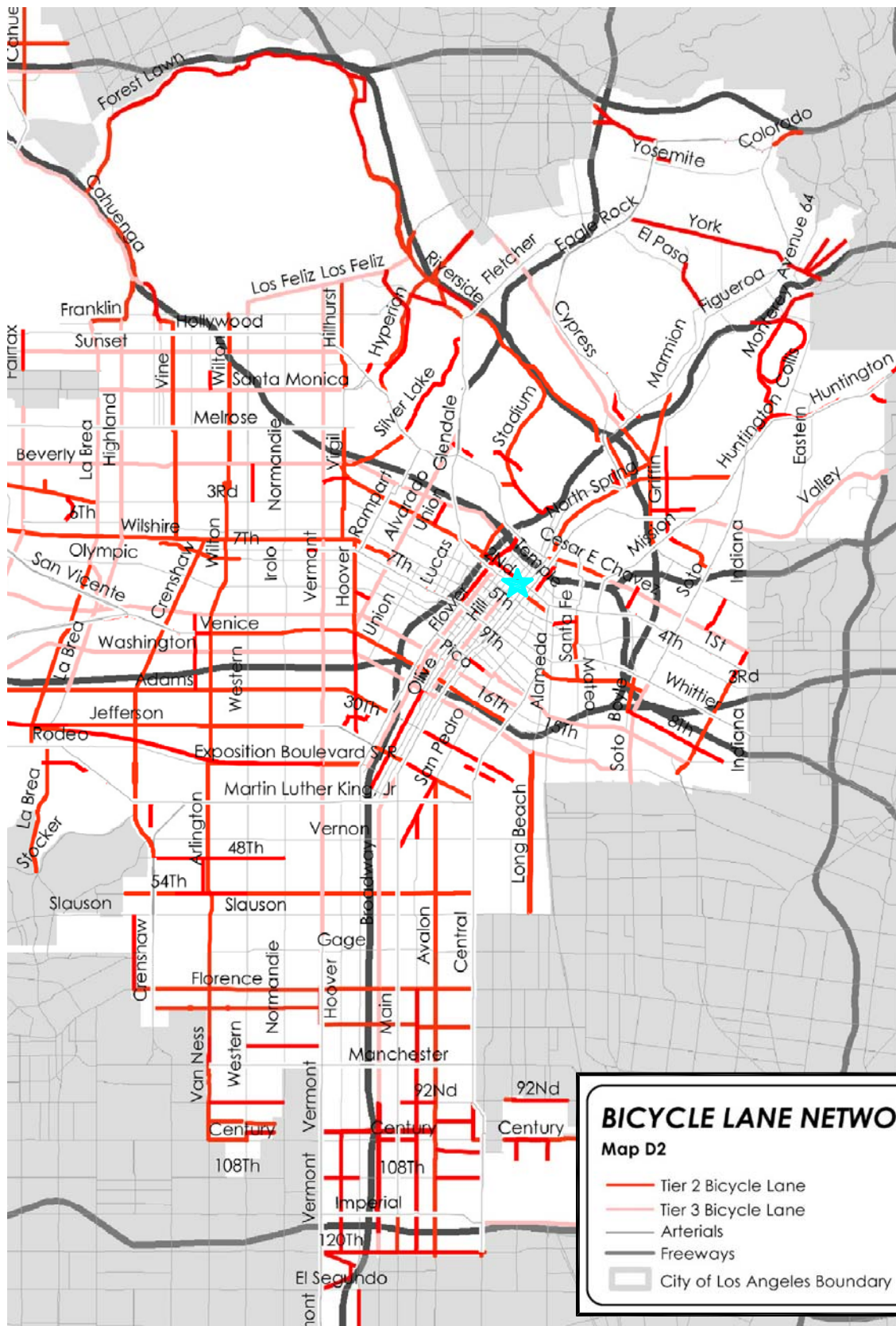


PROJECT SITE

# FIGURE 3-1 CITY OF LOS ANGELES BICYCLE ENHANCED NETWORK (LOW STRESS NETWORK)

LINSCOTT, LAW & GREENSPAN, engineers

222 WEST 2ND PROJECT



## BICYCLE LANE NETWORK

Map D2

- Tier 2 Bicycle Lane
- Tier 3 Bicycle Lane
- Arterials
- Freeways
- City of Los Angeles Boundary



NOT TO SCALE

MAP SOURCE: CITY OF LOS ANGELES MOBILITY PLAN 2035



PROJECT SITE

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## FIGURE 3-2 CITY OF LOS ANGELES BICYCLE LANE NETWORK

222 WEST 2ND PROJECT



Table 3-1  
SUMMARY OF BICYCLE PARKING

CODE REQUIRED BICYCLE PARKING				
Land Use	Size	Type of Parking	Parking Ratio [1]	Number of Code Required Spaces
Office	534,044 SF	Long-Term	2 /10,000 SF	107
		Short-Term	1 /10,000 SF	53
Residential	107 DU	Long-Term	1 /DU	107
		Short-Term	0.1 /DU	11
Retail	7,200 SF	Long-Term	5 /10,000 SF	4
		Short-Term	5 /10,000 SF	4
Total Number of Long-Term Bicycle Parking Spaces [A]				218
Total Number of Short-Term Bicycle Parking Spaces [B]				68
Total Number of Bicycle Parking Spaces ([A])+[B])				286

PROVIDED BICYCLE PARKING		
Location	Type of Parking	Number of Spaces
Existing Parking Garage	Long-Term	218
Outside Building	Short-Term	68
Total Number of Bicycle Parking Spaces		286

[1] Source: City of Los Angeles Municipal Code Section 12.21.A.16.(a) "Bicycle Parking and Shower Facilities"

## 4.0 EXISTING STREET SYSTEM

### 4.1 Regional Highway System

Regional vehicular access to the project site is provided by the U.S. 101 (Hollywood) Freeway. Additional freeways providing indirect access to the project site include the I-10 (Santa Monica) Freeway and State Route 110/I-110 (Pasadena/Harbor) Freeway. Brief descriptions of the Hollywood Freeway, Pasadena/Harbor Freeway and Santa Monica Freeway are provided in the following paragraphs.

*U.S. 101 (Hollywood) Freeway* is generally a north-south oriented freeway connecting downtown Los Angeles to the San Fernando Valley within the City of Los Angeles region. In the project vicinity, the U.S. 101 Freeway alignment runs in a northwest to southeast direction. Four mainline travel lanes are provided in each direction on the U.S. 101 Freeway. Within the general project area, on and/or off-ramps are provided at Broadway-Aliso Street, Spring Street, Los Angeles Street, and Alameda Street.

*SR-110/I-110 (Pasadena/Harbor) Freeway* is a major north-south oriented freeway connecting Pasadena to the north with the San Pedro area to the south. The SR-110/I-110 Freeway generally contains four mainline freeway lanes in each direction in the project vicinity. The Harbor Freeway Transitway located south of the project site and downtown Los Angeles, includes two elevated express lanes in each direction (which requires the use of a FasTrak Flex transponder). Within the general project area, on and/or off-ramps are provided at 3rd Street, 4th Street, 5th Street, and 6th Street.

*I-10 (Santa Monica) Freeway* is a major east-west oriented freeway connecting Santa Monica to the west to the Inland Empire to the east. The I-10 Freeway generally contains four mainline freeway lanes in each direction along with auxiliary lanes in the Downtown area. Within the general project area in the eastbound direction on the I-10 Freeway, off-ramps are provided at Grand Avenue and Maple Street. In the westbound direction on the I-10 Freeway, off-ramps are provided at Los Angeles Street and Hoover Street/20th Street.

### 4.2 Roadway Classifications

The City utilizes the roadway categories recognized by regional, state, and federal transportation agencies. There are four categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.

- *Arterial* roadways are major streets (e.g., Boulevard and Avenue designations) that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and minor arterials. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Minor arterials are typically two-to-four lane streets that service local and commute traffic.
- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. Collector roadways connect local streets to arterials and are typically designed with two through travel lanes (i.e., one through travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.
- *Local* roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.
- *Alleys* are common throughout the Downtown area as well as throughout the City. Alleys parallel to major and secondary highways provide an essential service function, enable limitations on curb cuts, and assist traffic flow on arterial streets.

### 4.3 Local Street System

The list of 32 study intersections selected for analysis of potential impacts related to the proposed project was based on consultation with LADOT staff and input received from Caltrans. The list of study intersections is presented in **Table 4-1** and the study locations are shown in **Figure 1-1**. Thirty-one of the 32 study intersections are currently controlled by traffic signals. The existing roadway configurations and intersection controls at the study intersections are displayed in **Figure 4-1** and descriptions of the existing roadways (e.g., number of travel lanes, median type, and speed limit) are provided in **Table 4-2**.

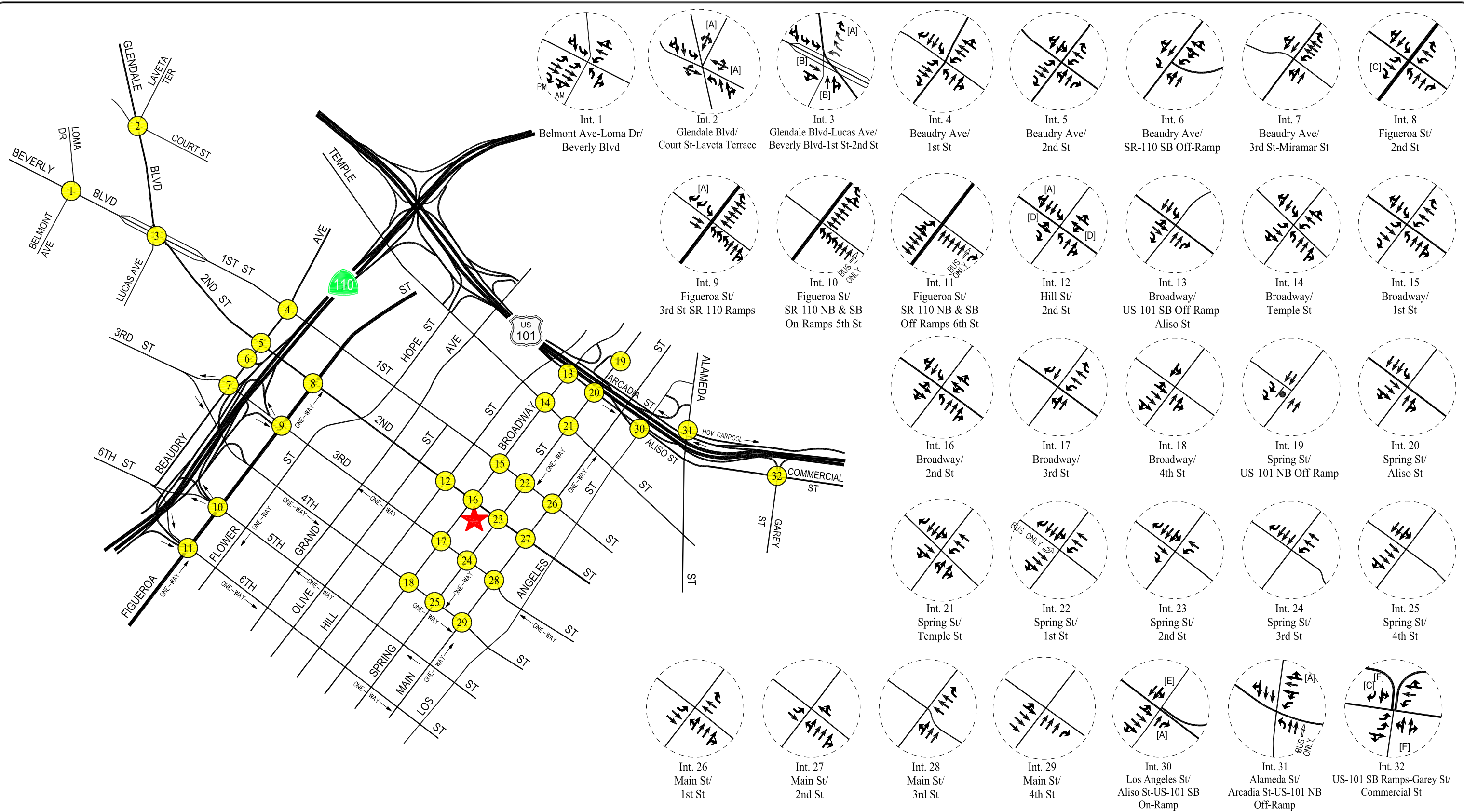
### 4.4 Transit Services

Extensive public bus and rail transit service is provided within the project study area. Public bus transit service is currently provided by Metro, Foothill Transit, LADOT DASH Transit Service, Orange County Transportation Authority, and Torrance Transit Service. The Metro Blue, Expo, Silver, and Red lines also are provided in close proximity to the project site. Metro's nearest Purple/Red line station is the Civic Center/Grand Park station, which is located approximately two blocks away from the project site. Further, as noted previously, the project site also would house the Metro Regional Connector 2nd Street/Broadway rail station and portal, which are currently under construction. Walk Score calculates a transit score based on the number and proximity of bus and

Table 4-1  
LIST OF STUDY INTERSECTIONS

NO.	INTERSECTION	TRAFFIC CONTROL	JURISDICTION(S)
1	Belmont Avenue-Loma Drive/Beverly Boulevard	Signalized	City of Los Angeles
2	Glendale Boulevard/Court Street-Laveta Terrace	Signalized	City of Los Angeles
3	Glendale Blvd.-Lucas Ave./Beverly Blvd.-1st St.-2nd St.	Signalized	City of Los Angeles
4	Beaudry Avenue/1st Street	Signalized	City of Los Angeles
5	Beaudry Avenue/2nd Street	Signalized	City of Los Angeles
6	Beaudry Avenue/SR-110 SB Off-Ramp	Signalized	City of Los Angeles/ Caltrans
7	Beaudry Avenue/3rd Street-Miramar Street	Signalized	City of Los Angeles
8	Figueroa Street/2nd Street	Signalized	City of Los Angeles
9	Figueroa Street/3rd Street-SR-110 Ramps	Signalized	City of Los Angeles/ Caltrans
10	Figueroa Street/SR-110 NB and SB On-Ramps-5th Street	Signalized	City of Los Angeles/ Caltrans
11	Figueroa Street/SR-110 NB and SB Off-Ramps-6th Street	Signalized	City of Los Angeles/ Caltrans
12	Hill Street/2nd Street	Signalized	City of Los Angeles
13	Broadway/US-101 SB Off-Ramp-Aliso Street	Signalized	City of Los Angeles/ Caltrans
14	Broadway/Temple Street	Signalized	City of Los Angeles
15	Broadway/1st Street	Signalized	City of Los Angeles
16	Broadway/2nd Street	Signalized	City of Los Angeles
17	Broadway/3rd Street	Signalized	City of Los Angeles
18	Broadway/4th Street	Signalized	City of Los Angeles
19	Spring Street/US-101 NB Off-Ramp	Un-signalized	City of Los Angeles/ Caltrans
20	Spring Street/Aliso Street	Signalized	City of Los Angeles
21	Spring Street/Temple Street	Signalized	City of Los Angeles
22	Spring Street/1st Street	Signalized	City of Los Angeles
23	Spring Street/2nd Street	Signalized	City of Los Angeles
24	Spring Street/3rd Street	Signalized	City of Los Angeles
25	Spring Street/4th Street	Signalized	City of Los Angeles
26	Main Street/1st Street	Signalized	City of Los Angeles
27	Main Street/2nd Street	Signalized	City of Los Angeles
28	Main Street/3rd Street	Signalized	City of Los Angeles
29	Main Street/4th Street	Signalized	City of Los Angeles
30	Los Angeles Street/Aliso Street-US-101 SB On-Ramp	Signalized	City of Los Angeles/ Caltrans
31	Alameda Street/Arcadia Street-US-101 NB Off-Ramp	Signalized	City of Los Angeles/ Caltrans
32	US-101 SB Ramps-Garey St./Commercial Street	Signalized	City of Los Angeles/ Caltrans

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PROJECT SITE

[A] NO RIGHT-TURN ON RED

[B] NO LEFT-TURNS

[C] OVERLAP PHASE



STOP SIGN

[D] NO LEFT-TURNS (7 AM-7 PM)

[E] NO LEFT-TURNS (7-9 AM & 4-6 PM)

[F] SPLIT PHASE OPERATION

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 4-1  
EXISTING LANE CONFIGURATIONS

222 WEST 2ND PROJECT

Table 4-2  
EXISTING ROADWAY DESCRIPTIONS

Roadway	Classification [1]	Travel Lanes		Median Types [4]	Speed Limit
		Direction [2]	No. Lanes [3]		
Belmont Avenue (Beverly Blvd to Rockwood St)	Collector Street	NB-SB	2	N/A	25
Loma Drive	Collector Street	NB-SB	2	N/A	25
Glendale Boulevard	Modified Boulevard II	NB-SB	4	2WLT/N/A	35
Lucas Avenue	Avenue II	NB-SB	2	N/A	25
Beaudry Avenue (6th St to 1st St)	Avenue II	NB-SB	3 to 4 [5]	N/A	25
Beaudry Avenue (1st St to Temple St)	Avenue I	NB-SB	4	2WLT	25
Figueroa Street (Wilshire Blvd to Temple St)	Boulevard II	NB-SB	4 to 5 [6],[7],[8] [15],[16]	N/A	35
Hill Street (Olympic Blvd to US 101 Fwy)	Modified Avenue II	NB-SB	4 [9]	2WLT/N/A	25
Broadway (I-10 Fwy to Temple St)	Modified Avenue II	NB-SB	3 to 4 [15]	N/A	25
Broadway (Temple St to Cesar E. Chavez Ave)	Avenue II	NB-SB	3 to 4 [15]	N/A	25
Spring Street (1st St to Cesar E. Chavez Ave)	Avenue I	SB	3 [15],[16]	N/A	25
Spring Street (9th St to 1st St)	Modified Avenue II	SB	3 [11],[15]	N/A	25
Main Street (1st St to Temple St)	Modified Avenue I	NB	4 [15]	N/A	25
Main Street (9th St to 1st St)	Avenue II	NB	3 [12],[15]	N/A	25
Los Angeles Street (2nd St to Temple St)	Modified Avenue I	NB-SB	4 [15]	RMI/N/A	25
Los Angeles Street (Temple St to Alameda St)	Avenue I	NB-SB	4 [15]	RMI/N/A	25
Alameda Street	Avenue I	NB-SB	4 to 6 [16]	2WLT/RMI	35
Garey Street	Collector Street	NB-SB	2	N/A	25
Beverly Boulevard (Alvarado St to Beaudry Ave)	Boulevard II	EB-WB	4 to 6 [13],[14]	2WLT/N/A	35
Court Street	Collector Street	EB-WB	2	N/A	25
Laveta Terrace	Local Street	EB-WB	2	N/A	25
1st Street (Beaudry Ave to Hill St)	Boulevard II	EB-WB	4	N/A	35
1st Street (Hill St to Judge John Aiso St)	Modified Boulevard II	EB-WB	4	N/A	35
2nd Street (Glendale Blvd to Figueroa St)	Avenue II	EB-WB	3 to 4 [15]	2WLT/N/A	25
2nd Street (Figueroa St to Judge John Aiso St)	Modified Avenue III	EB-WB	3 [15]	N/A	25
3rd Street (Alvarado St to Huntley Dr)	Avenue II	EB-WB	4 [13]	2WLT	35
3rd Street (Huntley Dr to Figueroa St)	Avenue II	EB	2 [13]	N/A	25
3rd Street (Figueroa St to Flower St)	Modified Boulevard II	WB	3	N/A	25
3rd Street (Flower St to Hope St)	Modified Avenue II	WB	2 to 3	N/A	25
3rd Street (Hope St to Los Angeles St)	Modified Avenue III	WB	3 to 2 [14]	N/A	25
4th Street (Boylston St to Figueroa St)	Avenue II	EB	2	N/A	25
4th Street (Figueroa St to Hope St)	Modified Avenue I	EB	1	N/A	25

Table 4-2 (Continued)  
EXISTING ROADWAY DESCRIPTIONS

Roadway	Classification [1]	Travel Lanes		Median Types [4]	Speed Limit
		Direction [2]	No. Lanes [3]		
4th Street (Hope St to Grand Ave)	Modified Boulevard II	EB	1 to 4	N/A	25
4th Street (Grand Ave to Olive St)	Modified Avenue I	EB	4	N/A	25
4th Street (Olive St to Hill St)	Modified Avenue II	EB	4	N/A	25
4th Street (Hill St to Los Angeles St)	Modified Avenue III	EB	4 [10]	N/A	25
4th Street (Los Angeles St to San Pedro St)	Avenue III	EB	4 [10]	N/A	25
5th Street (SR 110 Fwy to Figueroa St)	Modified Avenue I	WB	4 to 2	N/A	25
5th Street (Figueroa St to Flower St)	Avenue I	WB	4 to 2	N/A	25
5th Street (Flower St to Olive St)	Modified Avenue II	WB	5	N/A	25
5th Street (Hill St to Los Angeles St)	Modified Avenue III	WB	4	N/A	25
6th Street (Alvarado St to SR 110 Fwy)	Avenue II	EB-WB	4	2WLT/N/A	25
6th Street (SR 110 Fwy to Flower St)	Modified Avenue I	EB	2 to 4	N/A	25
6th Street (Flower St to Los Angeles St)	Modified Avenue III	EB	4	N/A	25
Temple Street (Rampart Blvd to Broadway)	Avenue II	EB-WB	4	N/A	25
Temple Street (Broadway to Alameda St)	Modified Avenue II	EB-WB	4	N/A	25
Aliso Street	Local Street	EB	2	N/A	25
Arcadia Street	Local Street	WB	3	N/A	25
Commercial Street	Collector Street	EB-WB	3 to 2	N/A	25

Notes:

- [1] Roadway classifications obtained from the *City of Los Angeles Mobility Plan 2035*, Adopted January 20, 2016.
- [2] Direction of roadways in the project area: NB-SB - north and south bound; and EB-WB - east- and west-bound.
- [3] Number of lanes in both directions on the roadway. Variations in number of travel lanes due to time restricted on-street parallel parking are noted below.
- [4] Median type of the road: RMI - Raised Median Island; 2WLT - 2-Way Left-Turn Lane; and N/A-Not Applicable.
- [5] Tow Away No Parking 4 PM-6 PM in the northbound direction.
- [6] Tow Away No Parking 8 AM-6 PM in the southbound direction.
- [7] Tow-Away No Stopping 7 AM-5 PM in the northbound direction.
- [8] Tow-Away No Parking 7 AM-9 AM and 3 PM-7 PM in the southbound direction.
- [9] Tow-Away No Stopping 7 AM-9 AM and 4 PM-7 PM in the southbound direction.
- [10] Tow-Away No Stopping 7 AM-9 AM and 4 PM-6 PM in the westbound direction.
- [11] Tow-Away No Stopping 7 AM-9 AM and 4 PM-7 PM in the southbound direction.
- [12] Tow Away No Stopping 4 PM-6 PM in the northbound direction.
- [13] Tow Away No Stopping 4 PM-6 PM in the westbound direction.
- [14] Tow-Away No Stopping 7 AM-9 AM and 4 PM-6 PM in the eastbound direction.
- [15] Bike Lane
- [16] Bus Lane

rail routes, which generates a transit score of approximately 100 (Rider's Paradise) out of 100 for the project site.<sup>10</sup> A summary of the existing transit service, including the transit route, destinations and peak hour headways is presented in **Table 4-3**. The existing public transit routes in the project site vicinity are illustrated in **Figure 4-2**.

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<sup>10</sup> Refer to <http://www.walkscore.com/>, which generates the transit score for the project site. Walk Score calculates the transit score of an address by locating nearby bus/rail transit routes and stops. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for using transit service.



Table 4-3  
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Metro 2/302	Pacific Palisades to Downtown Los Angeles via Westwood, Beverly Hills, West Hollywood, Mid City, Hollywood, Silver Lake and Echo Park	Broadway, Hill Street, 4th Street, 3rd Street, 2nd Street, 1st Street, Temple Street, Arcadia Street.	EB WB	3 6	6 4
Metro 4	Santa Monica to Downtown Los Angeles via West Los Angeles, Century City, West Hollywood, Hollywood, Silver Lake and Echo Park	Broadway, Hill Street, 4th Street, 3rd Street, 2nd Street, 1st Street, Temple Street	EB WB	6 5	7 5
Metro 14	Beverly Hills to Downtown Los Angeles via West Hollywood, Fairfax Village, Larchmont and Koreatown	Beaudry Avenue, 1st Street	EB WB	12 11	9 9
Metro 20	Santa Monica to Downtown Los Angeles via Westwood, Park La Brea, Hancock Park and Koreatown	Figueroa Street, Wilshire Boulevard	EB WB	5 9	10 6
Metro 28	Century City to Eagle Rock via Miracle Mile, Koreatown, Downtown Los Angeles, Cypress Park and Glassell Park	Spring Street, Broadway, 4th Street, 1st Street, Temple Street, Arcadia Street	EB WB	5 6	5 7
Metro 30/330	West Hollywood to East Los Angeles via Beverly Hills, Mid City, Downtown Los Angeles and Boyle Heights	Broadway, Spring Street, 4th Street, 3rd Street, 1st Street	EB WB	12 8	9 10
Metro 37	Culver City to Historic South Central via West Adams, Jefferson Park, North University Park and Downtown Los Angeles	Beaudry Avenue, 1st Street	EB WB	11 7	8 9
Metro 40	Redondo Beach to Downtown Los Angeles via Hawthorne, Inglewood, Hyde Park and Leimert Park	Broadway, Spring Street, Main Street, Alameda Street, 1st Street	NB SB	5 5	4 6
Metro 45	Rosewood to Lincoln Heights via South Los Angeles, Downtown Los Angeles and Chinatown	Broadway, Spring Street, 4th Street, 3rd Street, 2nd Street, 1st Street, Temple Street	NB SB	11 6	6 9
Metro 55/355	Compton to Downtown Los Angeles via Willowbrook, Watts and South Los Angeles	Figueroa Street, Spring Street, Main Street, 5th Street, 4th Street, 3rd Street, 2nd Street	NB SB	8 4	5 7

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (Commuter Express/Dash), Foothill Transit, Orange County Transit Authority (OCTA), Antelope Valley Transit Authority, Big Blue Bus, Commerce Municipal Bus Lines, Gardena Transit, Montebello Bus Lines, City of Santa Clarita Transit, and Torrance Transit websites, 2016.

Table 4-3 (Continued)  
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Metro 60	Long Beach to Downtown Los Angeles via Compton, Lynwood, South Gate, Huntington Park and Vernon	Figueroa Street, 6th Street, 5th Street, 4th Street, 3rd Street, 2nd Street	NB SB	10 9	10 11
Metro 68	Montebello to Downtown Los Angeles via Monterey Park, East Los Angeles and Boyle Heights	Spring Street, Main Street, 4th Street, 3rd Street, 2nd Street, 1st Street, Temple Street	EB WB	4 4	4 5
Metro 70	El Monte to Downtown Los Angeles via Rosemead, Alhambra, City Terrace and USC Medical Center	Broadway, Spring Street, 1st Street, Temple Street, Arcadia Street	EB WB	5 6	5 5
Metro 71	City Terrace to Downtown Los Angeles via Cal State Los Angeles and USC Medical Center	Spring Street, 1st Street, Temple Street, Arcadia Street	EB WB	4 4	2 2
Metro 76	El Monte to Downtown Los Angeles via San Gabriel, Alhambra, Lincoln Heights and Chinatown	Spring Street, 1st Street, Temple Street, Arcadia Street	EB WB	5 5	5 5
Metro 78/79/378	Arcadia to Downtown Los Angeles via Temple City, San Marino, Alhambra, South Pasadena and El Sereno	Spring Street, Main Street, 1st Street, Temple Street, Arcadia Street	EB WB	6 12	9 7
Metro 81	South Los Angeles to Eagle Rock via Exposition Park, Downtown Los Angeles, Cypress Park and Highland Park	Hill Street, 2nd Street	NB SB	9 7	6 7
Metro 83	Eagle Rock to Downtown Los Angeles via Highland Park, Cypress Park and Union Station	Broadway, Spring Street, 1st Street, Temple Street, Aliso Street, Arcadia Street	NB SB	2 3	3 2
Metro 92	Burbank to Downtown Los Angeles via Glendale and Echo Park	Spring Street, Main Street, 4th Street, 3rd Street, 2nd Street, 1st Street, Temple Street	NB SB	4 3	4 4
Metro 96	Burbank to Downtown Los Angeles via Griffith Park, Silver Lake and Chinatown	Broadway, Spring Street, 1st Street, Temple Street, Arcadia Street	NB SB	2 2	2 2

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (Commuter Express/Dash), Foothill Transit, Orange County Transit Authority (OCTA), Antelope Valley Transit Authority, Big Blue Bus, Commerce Municipal Bus Lines, Gardena Transit, Montebello Bus Lines, City of Santa Clarita Transit, and Torrance Transit websites, 2016.

Table 4-3 (Continued)  
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Metro 442	Hawthorne to Downtown Los Angeles via Inglewood and South Los Angeles	Broadway, 1st Street	NB SB	2 0	0 1
Metro 487/489	El Monte to MacArthur Park via Arcadia, Sierra Madre, San Marino, San Gabriel and Downtown Los Angeles	Broadway, Spring Street, 1st Street, Temple Street	EB WB	2 7	6 2
Metro 728 Rapid	Century City to Downtown Los Angeles via Beverly Hills, Miracle Mile and Koreatown	Spring Street, 4th Street, 1st Street, Arcadia Street	EB WB	5 7	5 5
Metro 745 Rapid	Harbor Gateway to Downtown Los Angeles via South Los Angeles	Broadway, Spring Street, 4th Street, 3rd Street, 1st Street, Temple Street	NB SB	9 6	6 7
Metro 770 Rapid	El Monte to Downtown Los Angeles via Rosemead, Monterey Park, East Los Angeles and Boyle Heights	Spring Street, Temple Street, Arcadia Street	EB WB	5 6	6 5
Metro Gold Line	Azusa to East Los Angeles via Duarte, Monrovia, Sierra Madre, Pasadena, South Pasadena, Highland Park, Cypress Park, Chinatown, Union Station and Little Tokyo	Union Station, Little Tokyo/Arts District, Mariachi Plaza	NB SB	11 11	11 11
Metro Purple Line	Union Station to Koreatown via Downtown Los Angeles	Pershing Square	EB WB	12 12	12 12
Metro Red Line	Union Station to North Hollywood via Koreatown, East Hollywood, Hollywood and Universal City	Pershing Square	EB WB	12 12	12 12
Metro Silver Line	El Monte to San Pedro via Downtown Los Angeles, Gardena, Harbor Gateway, Carson and Wilmington	Spring Street, Temple Street	NB SB	15 15	12 13
Commuter Express 409	Sylmar to Downtown Los Angeles via San Fernando, Sun Valley, Tujunga, North Glendale, La Canada-Flintridge, Montrose and Glendale	Broadway, Temple Street	NB SB	0 3	4 0

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (Commuter Express/Dash), Foothill Transit, Orange County Transit Authority (OCTA), Antelope Valley Transit Authority, Big Blue Bus, Commerce Municipal Bus Lines, Gardena Transit, Montebello Bus Lines, City of Santa Clarita Transit, and Torrance Transit websites, 2016.

Table 4-3 (Continued)  
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Commuter Express 419	Chatsworth to Downtown Los Angeles via Northridge, Granada Hills and Mission Hills	Hill Street, Temple Street	EB WB	3 0	0 4
Commuter Express 422	Thousand Oaks to Downtown Los Angeles via Westlake Village, Agoura Hills, Woodland Hills, Warner Center and Van Nuys	Broadway, Temple Street	EB WB	0 3	3 0
Commuter Express 423	Thousand Oaks to University of Southern California via Westlake Village, Agoura Hills, Agoura, Calabasas, Woodland Hills, and Encino	Broadway, Temple Street	EB WB	5 0	0 5
Commuter Express 431	Westwood to Downtown Los Angeles via Century City, Rancho Park, West Los Angeles and Palms	Spring Street, 1st Street	EB WB	2 0	0 2
Commuter Express 437	Venice to Downtown Los Angeles via Marina Del Rey, Mar Vista, and Culver City	Spring Street, 1st Street	EB WB	3 0	0 2
Commuter Express 438	Redondo Beach to Downtown Los Angeles via Hermosa Beach, Manhattan Beach and El Segundo	Spring Street, Temple Street	NB SB	6 0	0 6
Commuter Express 448	Rancho Palos Verdes to Downtown Los Angeles via Rolling Hills Estates, Lomita, Harbor City and Wilmington	Spring Street, Temple Street	NB SB	3 0	0 3
Commuter Express 534	Westwood to Downtown Los Angeles via West Los Angeles and Century City	Spring Street, 1st Street	EB WB	0 2	2 0
Dash Route A	Little Tokyo to City West	Figuroa Street, Broadway, Spring Street, Main Street, 4th Street, 2nd Street, 1st Street	EB WB	8 8	8 8
Dash Route B	Chinatown to Financial District	Spring Street, Main Street, Temple Street	NB SB	7 7	7 7

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (Commuter Express/Dash), Foothill Transit, Orange County Transit Authority (OCTA), Antelope Valley Transit Authority, Big Blue Bus, Commerce Municipal Bus Lines, Gardena Transit, Montebello Bus Lines, City of Santa Clarita Transit, and Torrance Transit websites, 2016.

Table 4-3 (Continued)  
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Dash Route D	Union Station to South Park	Spring Street, Main Street, 4th Street, 3rd Street, 2nd Street, 1st Street	NB SB	12 12	12 12
Dash Route F	Financial District to Exposition Park via University of Southern California	Figueroa Street, 6th Street, 5th Street, 4th Street	EB WB	6 6	6 6
Foothill Transit 493	Diamond Bar to Downtown Los Angeles via Industry and Puente Hills Mall	Spring Street, 1st Street	EB WB	0 6	6 0
Foothill Transit 495	Industry to Downtown Los Angeles via Cal State Los Angeles, USC Medical Center and Union Station	Spring Street, 1st Street	EB WB	0 3	3 0
Foothill Transit 496	Azusa to Downtown Los Angeles via Irwindale, Cal State Los Angeles, USC Medical Center and Union Station	Spring Street, 1st Street	EB WB	0 2	2 0
Foothill Transit 497	Chino Hills to Downtown Los Angeles via Industry, El Monte, Cal State Los Angeles and USC Medical Center	Spring Street, 1st Street	EB WB	0 4	4 0
Foothill Transit 498	Azusa to Downtown Los Angeles via Covina, West Covina, Cal State Los Angeles and USC Medical Center	Spring Street, 1st Street	EB WB	0 7	8 0
Foothill Transit 499	San Dimas to Downtown Los Angeles via Cal State Los Angeles and USC Medical Center	Spring Street, 1st Street	EB WB	0 6	5 0
Foothill Transit 699	Montclair to Downtown Los Angeles via Pomona, Cal State Los Angeles, USC Medical Center and Union Station	Spring Street, 1st Street	EB WB	0 9	7 0
OCTA 701	Huntington Beach to Downtown Los Angeles via Garden Grove and Los Alamitos	Spring Street, 1st Street	NB SB	1 0	0 2

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (Commuter Express/Dash), Foothill Transit, Orange County Transit Authority (OCTA), Antelope Valley Transit Authority, Big Blue Bus, Commerce Municipal Bus Lines, Gardena Transit, Montebello Bus Lines, City of Santa Clarita Transit, and Torrance Transit websites, 2017.

Table 4-3 (Continued)  
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
OCTA 721	Fullerton to Downtown Los Angeles	Spring Street, Main Street, 5th Street	NB SB	1 1	1 2
Antelope Valley 785	Lancaster to Downtown Los Angeles via Palmdale	Spring Street, Temple Street	NB SB	0 2	3 0
Big Blue Bus 10	Santa Monica to Downtown Los Angeles via West Los Angeles and Palms	Main Street, Alameda Street	EB WB	3 4	4 4
Commerce Bus Line	Citadel Outlets to Downtown Los Angeles	Los Angeles Street, 1st Street	EB WB	0 1	2 0
Gardena Bus Line	Redondo Beach Metro Station to Downtown Los Angeles via Hawthorne, Torrance and Gardena	Main Street, 1st Street	NB SB	2 2	2 2
Montebello Bus 90	Whittier to Downtown Los Angeles via Pico Rivera, Montebello and East Los Angeles	Spring Street, 3rd Street	EB WB	2 3	3 2
Santa Clarita 794	Santa Clarita to Downtown Los Angeles via Burbank	Union Station	NB SB	1 0	0 1
Santa Clarita 799	Santa Clarita to Downtown Los Angeles	Figueroa Street, Spring Street, Main Street, 5th Street, 1st Street, Temple Street	NB SB	0 4	4 0
Torrance Transit 4	Pacific Coast Highway to Downtown Los Angeles via Torrance, Carson, Hawthorne and South Los Angeles	Figueroa Street, Spring Street, Main Street, Aliso Street, Arcadia Street	NB SB	1 0	0 2
Total				561	545

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (Commuter Express/Dash), Foothill Transit, Orange County Transit Authority (OCTA), Antelope Valley Transit Authority, Big Blue Bus, Commerce Municipal Bus Lines, Gardena Transit, Montebello Bus Lines, City of Santa Clarita Transit, and Torrance Transit websites, 2017.

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MAP SOURCE: METROPOLITAN TRANSPORTATION AUTHORITY (METRO) WEBSITE



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## FIGURE 4-2 EXISTING TRANSIT ROUTES

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## 5.0 TRAFFIC COUNTS

Due to extensive ongoing construction affecting roadways and intersections in the immediate vicinity of the project site, it was determined in consultation with LADOT staff that use of historical count data (ranging from year 2009 to year 2015) would be necessary for some of the study intersections. However, for those locations where historical count data were not available, new traffic counts were conducted in year 2016. All of the historical and new count data have been adjusted by a one percent (1.0%) per year ambient traffic growth factor to reflect existing year 2017 traffic conditions. Additionally, the traffic count database was reviewed and balanced to ensure traffic flow consistency between the study locations.<sup>11</sup>

All of the manual counts of vehicular turning movements for each of the study intersections were conducted during the weekday morning (AM) and afternoon (PM) commute periods to determine the peak hour traffic volumes. The manual counts were conducted by traffic count subconsultants at the study intersections from 7:00 to 10:00 AM to determine the weekday AM peak commute hour, and from 3:00 to 6:00 PM to determine the weekday PM peak commute hour. It is noted that all of the traffic counts were conducted when local schools were in session.<sup>12</sup> Traffic volumes at the study intersections show the morning and afternoon peak periods typically associated with peak commute hours in the metropolitan area.

The existing weekday AM and PM peak commute period manual counts of turning vehicles at the study intersections are summarized in **Table 5-1**, including the date the count data was collected. As shown in **Table 5-1**, the overall AM peak hour generally occurs between 8:00 AM and 9:00 AM while the overall PM peak hour generally occurs between 5:00 PM and 6:00 PM. The existing traffic volumes at the study intersections during the weekday AM and PM peak commute hours are shown in **Figures 5-1** and **5-2**, respectively. Summary data worksheets of the manual traffic counts of the study intersections, including the sources of historical count data, are contained in **Appendix B**.

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<sup>11</sup> Since the traffic counts were conducted over a period of several years, an additional review was performed for those study intersections located in close proximity of each other. This review was conducted to ensure consistent traffic flow/peak hour traffic volumes between intersections. Each of the turning movements at these closely spaced study intersections were carefully reviewed and, if necessary, were adjusted upward and balanced accordingly to ensure consistent traffic flow.

<sup>12</sup> Local schools in the general study area include, but are not limited to: Los Angeles Unified School District (LAUSD) schools, University Prep Value High School, Loyola Law School, LA Trade-Technical College, Santee Education Complex, Orthopaedic Medical Magnet High School, Immaculate Conception School, Fashion Institute of Design and Merchandising (FIDM), and University of Southern California (USC).

Table 5-1  
EXISTING TRAFFIC VOLUMES [1]  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME [2]	BEGAN	VOLUME [2]
1	Belmont Avenue-Loma Drive/ Beverly Boulevard	09/15/2016	NB SB EB WB	7:30	148 188 1,310 935	5:00	47 105 1,012 1,145
2	Glendale Boulevard/ Court Street-Laveta Terrace	09/15/2016	NB SB EB WB SW	7:30	642 1,414 15 64 6	4:15	1,161 907 14 43 11
3	Glendale Boulevard-Lucas Avenue/ Beverly Boulevard-1st St-2nd St	08/28/2012	NB SB EB WB NW	8:00	242 1,797 269 358 34	5:00	704 688 163 935 138
4	Beaudry Avenue/ 1st Street	02/03/2015	NB SB EB WB	8:00	365 1,254 761 748	5:00	1,446 450 773 1,378
5	Beaudry Avenue/ 2nd Street	08/28/2012	NB SB EB WB	8:00	427 948 1,256 381	5:00	1,515 407 658 902
6	Beaudry Avenue/ SR-110 SB Off-Ramp	12/15/2010	NB SB EB WB	7:15	447 1,229 4 487	4:45	1,453 655 114 322
7	Beaudry Avenue/ 3rd Street-Miramar Street	06/16/2015	NB SB EB WB	9:00	176 1,537 0 1,771	5:00	1,147 904 0 1,191
8	Figueroa Street/ 2nd Street	04/22/2009	NB SB EB WB	7:45	975 817 1,080 361	5:00	2,529 540 837 569
9	Figueroa Street/ 3rd Street-SR-110 Ramps	04/30/2009	NB SB EB WB	8:00	1,167 1,120 463 1,072	5:00	3,449 720 61 1,940
10	Figueroa Street/ SR-110 NB and SB On-Ramps- 5th Street	07/28/2016	NB SB EB WB	7:45	1,804 0 0 1,589	5:00	2,757 0 0 1,984

[1] Counts obtained from various sources and other previously prepared traffic studies in the area. Refer to Appendix B.

[2] Counts adjusted by 1% per year to reflect 2017 conditions.

Table 5-1 (Continued)  
EXISTING TRAFFIC VOLUMES [1]  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME [2]	BEGAN	VOLUME [2]
11	Figueroa Street/ SR-110 NB and SB Off-Ramps- 6th Street	07/28/2016	NB SB EB WB	8:15	1,756 0 2,540 0	4:45	2,568 0 1,472 0
12	Hill Street/ 2nd Street	04/28/2009	NB SB EB WB	7:45	405 1,132 928 510	5:00	845 1,033 645 619
13	Broadway/ US-101 SB Off-Ramp-Aliso Street	03/18/2014	NB SB EB WB	7:45	393 1,104 461 0	4:30	1,024 776 427 0
14	Broadway/ Temple Street	03/18/2014	NB SB EB WB	8:00	442 1,049 638 771	4:45	978 794 816 875
15	Broadway/ 1st Street	04/22/2009	NB SB EB WB	7:45	576 900 692 938	5:00	1,002 728 1,363 831
16	Broadway/ 2nd Street	04/28/2009	NB SB EB WB	7:45	719 789 649 416	4:45	1,159 649 683 532
17	Broadway/ 3rd Street	08/04/2014	NB SB EB WB	7:15	451 402 0 1,533	4:45	757 425 0 1,144
18	Broadway/ 4th Street	08/07/2014	NB SB EB WB	8:00	553 381 908 0	4:45	871 405 1,478 0
19	Spring Street/ US-101 NB Off-Ramp	09/15/2016	NB SB EB WB	7:45	34 705 62 0	3:45	47 383 108 0
20	Spring Street/ Aliso Street	03/18/2014	NB SB EB WB	8:15	68 1,690 466 0	4:45	106 716 503 0

[1] Counts obtained from various sources and other previously prepared traffic studies in the area. Refer to Appendix B.

[2] Counts adjusted by 1% per year to reflect 2017 conditions.

Table 5-1 (Continued)  
EXISTING TRAFFIC VOLUMES [1]  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME [2]	BEGAN	VOLUME [2]
21	Spring Street/ Temple Street	03/18/2014	NB SB EB WB	8:15	75 1,735 778 684	5:00	109 615 869 895
22	Spring Street/ 1st Street	03/19/2013	NB SB EB WB	8:00	0 1,396 611 776	5:00	0 622 1,105 756
23	Spring Street/ 2nd Street	04/28/2009	NB SB EB WB	8:00	0 1,220 681 457	4:45	0 540 663 590
24	Spring Street/ 3rd Street	05/02/2013	NB SB EB WB	8:00	0 1,276 0 1,788	5:00	0 974 0 1,459
25	Spring Street/ 4th Street	05/27/2009	NB SB EB WB	8:00	0 1,504 815 0	4:30	0 1,338 1,567 0
26	Main Street/ 1st Street	03/27/2013	NB SB EB WB	8:00	594 0 648 772	5:00	1,684 0 1,002 765
27	Main Street/ 2nd Street	04/22/2009	NB SB EB WB	8:00	680 0 416 369	5:00	1,676 0 529 506
28	Main Street/ 3rd Street	03/05/2013	NB SB EB WB	8:00	1,040 0 0 2,403	5:00	2,686 0 0 1,456
29	Main Street/ 4th Street	11/29/2011	NB SB EB WB	8:00	818 0 952 0	5:00	2,567 0 1,808 0
30	Los Angeles Street/ Aliso Street - US-101 SB On-Ramp	06/06/2012	NB SB EB WB	7:45	382 647 551 0	4:45	1,214 251 1,017 0

[1] Counts obtained from various sources and other previously prepared traffic studies in the area. Refer to Appendix B.

[2] Counts adjusted by 1% per year to reflect 2017 conditions.

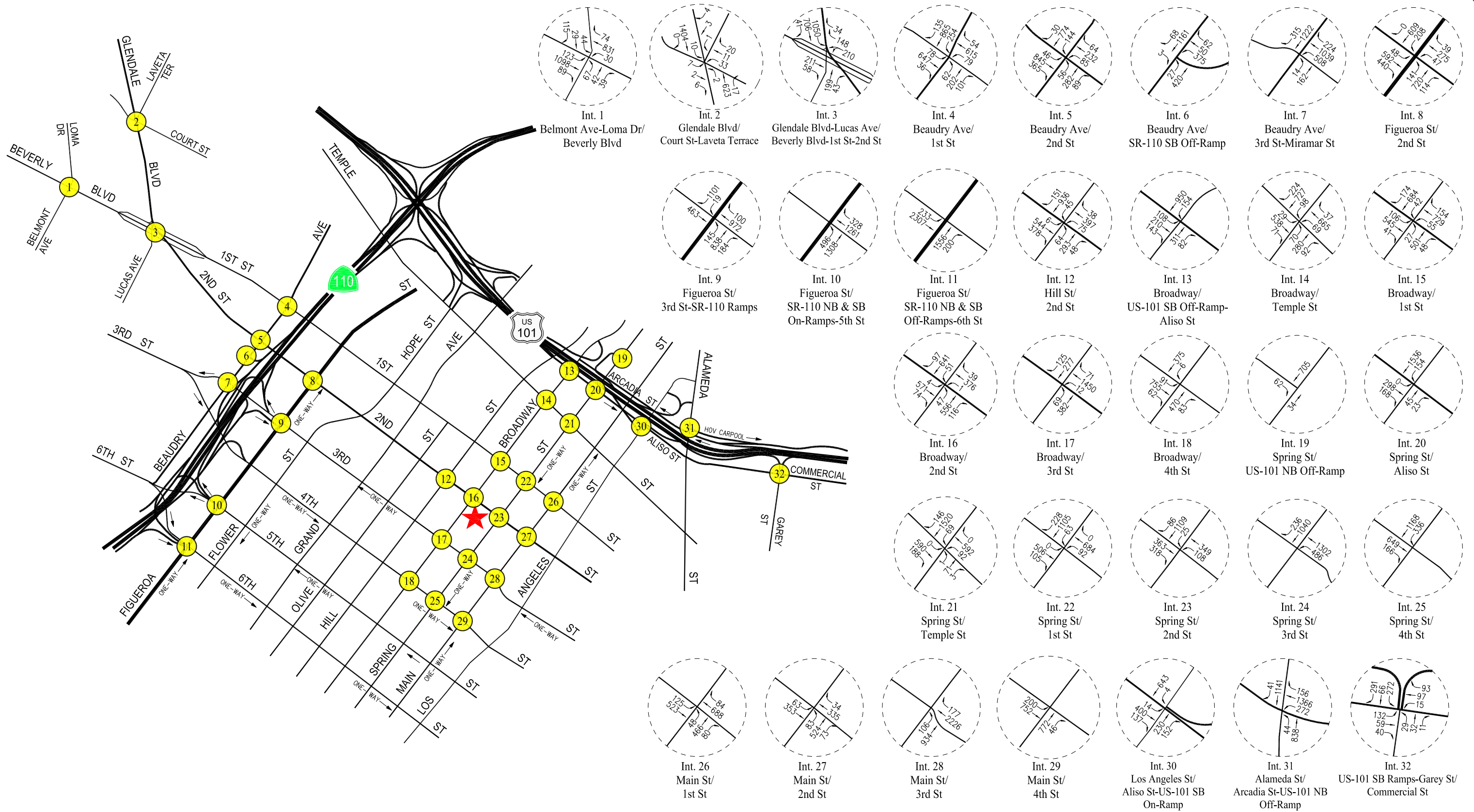
Table 5-1 (Continued)  
EXISTING TRAFFIC VOLUMES [1]  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME [2]	BEGAN	VOLUME [2]
31	Alameda Street/ Arcadia Street - US-101 NB Off-Ramp	06/10/2014	NB	7:00	882	4:00	1,725
			SB		1,182		917
			EB		0		0
			WB		1,794		918
32	US-101 SB Ramps-Garey Street/ Commercial Street	09/15/2016	NB	8:15	72	5:00	474
			SB		629		299
			EB		231		285
			WB		205		364

[1] Counts obtained from various sources and other previously prepared traffic studies in the area. Refer to Appendix B.

[2] Counts adjusted by 1% per year to reflect 2017 conditions.

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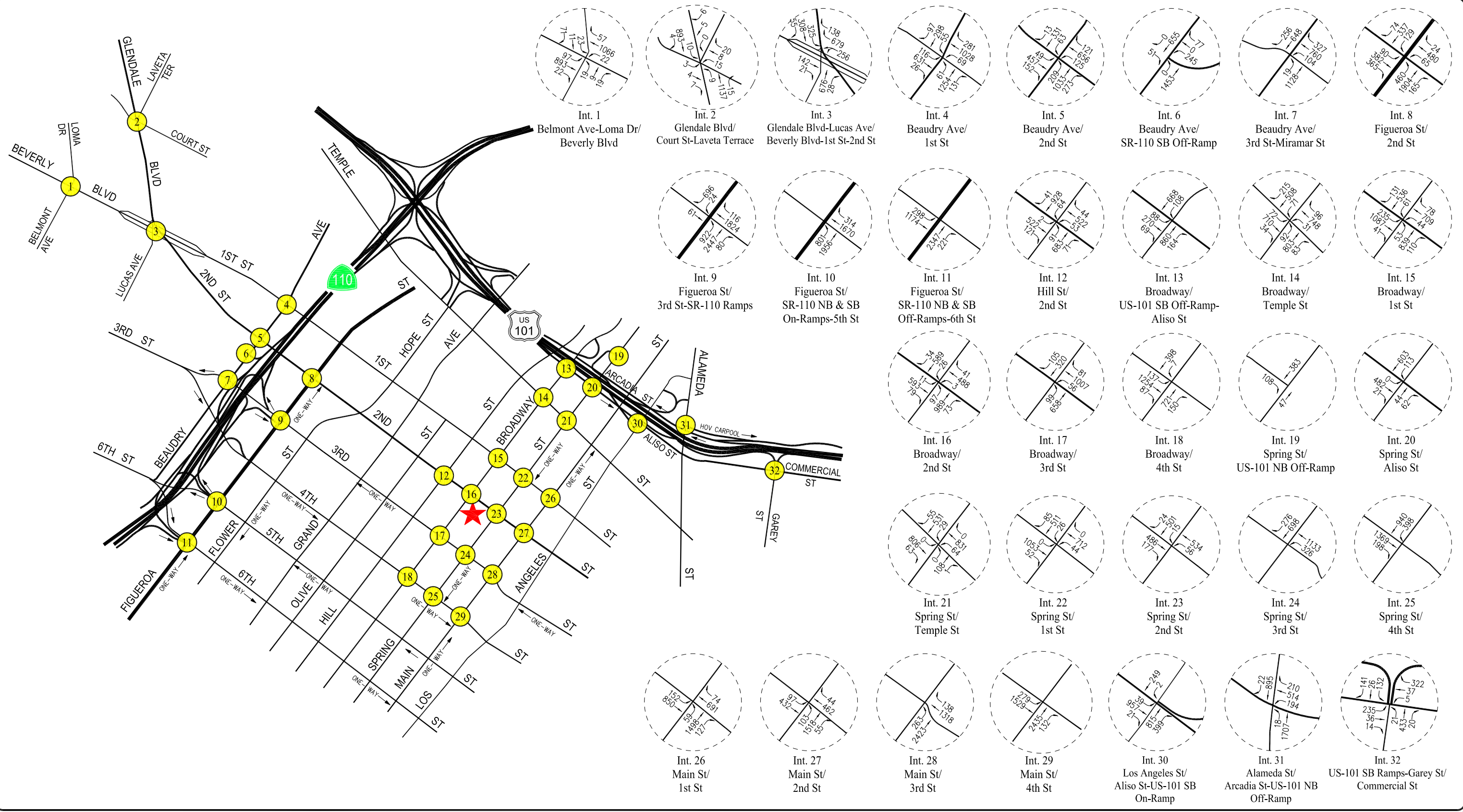
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**FIGURE 5-1**  
**EXISTING TRAFFIC VOLUMES**  
WEEKDAY AM PEAK HOUR  
222 WEST 2ND PROJECT

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**FIGURE 5-2**  
**EXISTING TRAFFIC VOLUMES**  
WEEKDAY PM PEAK HOUR  
222 WEST 2ND PROJECT



## 6.0 CUMULATIVE DEVELOPMENT PROJECTS

The forecast of future pre-project conditions was prepared in accordance to procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provide two options for developing the future traffic volume forecast:

“(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or

(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.”

Accordingly, this traffic analysis provides a highly conservative estimate of future pre-project traffic volumes as it incorporates both the “A” and “B” options outlined in the CEQA Guidelines for purposes of developing the forecast.

### 6.1 Related Projects

A forecast of on-street traffic conditions prior to occupancy of the proposed project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area (i.e., within an approximate 1.5-mile radius from the project site). With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impacts of all ongoing development. The related projects research was based on information on file with both LADOT and LADCP. For LADOT, a list of related projects was obtained from LADOT for the approximately 1.5-mile radius from the project site. For LADCP, the research included, but was not limited to, a review of proposed development projects within the Central City and Central City North community plan areas, proposed development projects within an approximate 1.5-mile radius from the project site for which EIRs are being or have been prepared (as shown on the Major Projects section of LADCP’s website), and LADCP’s bi-weekly case filing reports. In addition, related projects lists from recently approved Memorandums of Understanding (MOU) and traffic studies in the project vicinity were also reviewed. The list of related projects in the project site area is presented in **Table 6-1**. The location of the related projects is shown in **Figure 6-1**.

As discussed previously, due to extensive on-going construction activities affecting roadways and intersections in the immediate project vicinity, it was determined in consultation with LADOT that use of historical count data would be necessary for some of the study intersections included as part of this traffic study. As a result, **Table 6-1** includes several projects that are already built (i.e.,

Table-6-1  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
1	Built	Blossom Plaza 900 North Broadway	Condominium Retail Restaurant	223 DU 25,000 GLSF 15,000 GSF	[1]	2,767	66	89	155	105	79	184
2	Built	Ava Little Tokyo 200 South Los Angeles Street	Condominium Apartment Retail	570 DU 280 DU 50,000 GLSF	[1]	4,331	59	189	248	187	147	334
3	Under Construction	454 East Commercial Street	Bus Maintenance Facility	2 Acres	[1]	300	22	8	30	9	1	10
4	Proposed	Tenten Wilshire Expansion 1027 West Wilshire Boulevard	Condominium Retail Office	356 DU 5,000 GLSF 5,000 GSF	[3]	5,457	113	248	361	286	217	503
5	Built	Vibiana Lofts 225 South Los Angeles Street	Condominium Retail	300 DU 3,400 GLSF	[1]	1,910	88	136	224	75	52	127
6	Proposed	215 West 9th Street	Condominium Retail	210 DU 9,000 GLSF	[1]	1,140	14	56	70	64	38	102
7	Proposed	1101 North Main Street	Condominium	318 DU	[1]	1,102	(9)	80	71	75	12	87
8	Under Construction	Amacon Project 1133 South Hope Street	Apartment Retail	208 DU 5,069 GLSF	[1]	1,543	20	74	94	91	50	141
9	Proposed	Megatoys 905 East 2nd Street	Condominium Retail	320 DU 18,716 GLSF	[1]	1,207	(6)	70	64	69	23	92
10	Under Construction	Park Fifth 427 West 5th Street, 437 South Hill Street	Condominium Restaurant	660 DU 13,742 GLSF	[3]	4,707	71	273	344	279	158	437
11	Proposed	1115 South Hill Street	Condominium Restaurant	172 DU 6,850 GSF	[1]	543	(45)	40	(5)	50	(7)	43
12	Under Construction	1102 West 6th Street	Apartment Retail	649 DU 39,996 GLSF	[1]	4,200	61	195	256	232	155	387
13	Proposed	1130 West Wilshire Boulevard	Office Day Care High-Turnover Restaurant Quality Restaurant	88,224 GSF 20 Students 248 GSF 5,375 GSF	[1]	964	92	12	104	28	61	89
14	Built	Metro Bus Maintenance & Operations 920 North Vignes Street	Bus Maintenance Facility	[1]	[1]	2,277	33	52	85	57	31	88
15	Under Construction	Glass Tower Project 1050 South Grand Avenue	Condominium Retail Restaurant	151 DU 3,472 GLSF 2,200 GSF	[1]	1,084	15	54	69	64	35	99

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
16	Proposed	Embassy Tower 848 South Grand Avenue	Condominium Retail	420 DU 38,500 GLSF	[1]	3,882	66	144	210	212	165	377
17	Proposed	Beverly + Lucas Project 1430 West Beverly Boulevard	Apartment Retail	243 DU 3,500 GLSF	[1]	780	13	49	62	47	25	72
18	Under Construction	Wilshire Grand Redevelopment Project 900 West Wilshire Boulevard	Hotel General Office Retail/Restaurant	889 Rooms 369,300 GSF 34,776 GSF	[4]	4,472	407	146	553	135	378	513
19	Proposed	Barlow Hospital Replacement & MP 2000 Stadium Way	Condominium Hospital Retail	800 DU 56 Beds 15,000 GLSF	[1]	4,486	61	238	299	242	137	379
20	Proposed	1435 West 3rd Street	Apartment Retail	122 DU 3,500 GLSF	[1]	711	11	42	53	41	25	66
21	Proposed	Grand Avenue Project 100 & 225 South Grand Avenue	Condominium Apartment Office Retail	1,432 DU 357 DU 681,000 GSF 449,000 GLSF	[1] [5]	20,362	909	530	1,439	994	1,305	2,299
22	Under Construction	Metropolis Mixed-Use 899 South Francisco Street	Hotel Condominium Retail/Restaurant Office	480 Rooms 836 DU 46,000 GSF 988,225 GSF	[3] [6]	8,010	307	318	625	387	512	899
23	Proposed	LA Civic Center Office 150 North Los Angeles Street	Office Retail Child Care	712,500 GSF 35,000 GLSF 2,500 GSF	[1]	13,534	930	118	1,048	435	942	1,377
24	Proposed	1300 South Hope Street	Apartment Retail	419 DU 42,200 GLSF	[1]	4,280	88	105	193	136	102	238
25	Under Construction	928 South Broadway	Apartment Live/Work Retail Office	662 DU 11 DU 47,000 GLSF 34,824 GSF	[1]	4,715	21	229	250	272	109	381
26	Under Construction	1200 South Grand Avenue	Apartment Retail	640 DU 45,000 GLSF	[1]	4,886	92	148	240	181	134	315
27	Proposed	Valencia Project 1501 West Wilshire Boulevard	Apartment Retail Restaurant	218 DU 6,000 GLSF 1,500 GSF	[1]	1,163	(11)	18	7	38	23	61
28	Proposed	1329 West 7th Street	Apartment	87 DU	[1]	662	16	37	53	39	22	61
29	Under Construction	Topaz Mixed-Use 534-552 South Main Street 539-547 South Los Angeles Street	Apartment Retail Restaurant Fast-Food Restaurant	160 DU 18,000 GLSF 3,500 GSF 3,500 GSF	[1]	2,213	52	75	127	87	58	145

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
30	Under Construction	840 South Olive Street	Condominium Restaurant Retail	303 DU 9,680 GSF 1,500 GLSF	[1]	3,071	81	166	247	174	96	270
31	Built	770 South Grand Avenue	Apartment Retail Restaurant	700 DU 27,000 GLSF 5,000 GSF	[1]	5,245	88	185	273	275	202	477
32	Under Construction	Santa Fe Freight Yard Redevelopment 950 East 3rd Street	Apartment Retail/Restaurant School	635 DU 30,062 GLSF 532 Students	[1]	6,372	162	177	339	245	213	458
33	Proposed	201 South Broadway	Mixed Office/Retail Restaurant	27,675 GSF	[1]	700 [7]	(40)	(41)	(81)	53	17	70
34	Proposed	The City Market 1057 South San Pedro Street ENV-2012-3003-EIR	Office Retail Cinema Apartment Hotel Condominium	549,141 GSF 224,862 GLSF 744 Seats 877 DU 210 Rooms 68 DU	[3] [8]	15,890 [7]	837	434	1,271	632	957	1,589
35	Under Construction	400 South Broadway	Apartment Retail Bar	450 DU 6,904 GLSF 5,000 GSF	[3]	3,292	50	187	237	193	112	305
36	Under Construction	1001 South Olive Street	Apartment Restaurant	225 DU 5,000 GSF	[9]	1,581	22	79	101	94	51	145
37	Proposed	Camden Arts Mixed-Use 1525 East Industrial Street	Apartment Retail Restaurant Office	328 DU 6,400 GLSF 5,700 GSF 27,300 GSF	[1]	2,288	58	73	131	86	69	155
38	Proposed	920 South Hill Street	Apartment Retail	239 DU 5,400 GLSF	[1]	1,476	23	84	107	87	50	137
39	Proposed	955 South Broadway	Apartment Retail	163 DU 6,406 GLSF	[1]	1,275	21	72	93	74	43	117
40	Under Construction	801 South Olive Street	Apartment Restaurant Retail	363 DU 7,500 GSF 2,500 GLSF	[1]	2,557	33	129	162	140	83	223
41	Under Construction	1212 South Flower Street	Condominium Retail	730 DU 7,873 GLSF	[1]	3,956	78	233	311	229	121	350
42	Under Construction	820 South Olive Street 825 South Hill Street	Apartment Retail	589 DU 4,500 GLSF	[1]	3,309	63	202	265	195	106	301

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
43	Proposed	Sunset Everett Mixed-Use 1185 West Sunset Boulevard	Apartment Condominium Single-Family Residential	214 DU 6 DU 6 DU	[1]	2,474	70	131	201	105	70	175
44	Proposed	601 South Main Street	Condominium Retail	452 DU 25,000 GLSF	[1]	2,686	36	144	180	152	87	239
45	Proposed	2051 East 7th Street	Apartment Retail Restaurant	320 DU 15,000 GLSF 5,000 GSF	[3]	2,310	17	127	144	145	64	209
46	Under Construction	Herald Examiner 1111 South Broadway & 156 West 11th Street & 1201 South Main Street	Apartment Retail Office	391 DU 49,000 GLSF 39,725 GSF	[10]	5,198	144	176	320	258	274	532
47	Proposed	South Park Site 1 1120 South Grand Avenue	Apartment Retail	666 DU 20,600 GLSF	[1]	2,730	42	127	169	136	93	229
48	Under Construction	South Park Site 4 1230 South Olive Street	Apartment Retail	360 DU 6,400 GLSF	[1]	2,114	31	126	157	127	69	196
49	Under Construction	1247 South Grand Avenue	Apartment Retail	115 DU 4,610 GLSF	[11]	763	10	41	51	42	25	67
50	Proposed	Legal Aid Foundation of Los Angeles 1550 West 8th Street	Office	33,957 GSF	[1]	230	29	4	33	6	26	32
51	Proposed	Variety Arts Mixed-Use 940 South Figueroa Street	Theater Restaurant Bar	1,942 Seats 10,056 GSF 5,119 GSF	[1]	2,237	5	4	9	99	35	134
52	Under Construction	La Plaza Cultura Village 527 North Spring Street	Apartment Retail Specialty Retail Restaurant	345 DU 23,000 GLSF 21,000 GLSF 11,000 GSF	[1]	3,585	49	118	167	189	131	320
53	Proposed	1036 South Grand Avenue	Restaurant	7,149 GSF	[1]	492	2	3	5	27	14	41
54	Proposed	Coca Cola 963 East 4th Street	Office Retail Restaurant	78,600 GSF 25,000 GLSF 20,000 GSF	[1]	2,512	106	22	128	113	138	251
55	Proposed	1335 West 1st Street	Apartment Retail	102 DU 3,463 GLSF	[1]	714	10	40	50	42	24	66
56	Proposed	459 South Hartford Avenue	Apartment	101 DU	[1]	361	15	15	30	22	22	44
57	Proposed	401 North Boylston Street	Apartment	121 DU	[1]	561	8	35	43	34	18	52

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
58	Proposed	1800 East 7th Street	Apartment Restaurant Retail	122 DU 4,605 GSF 3,245 GLSF	[3]	1,536	42	74	116	74	46	120
59	Proposed	1150 West Wilshire Boulevard	Apartment Restaurant	80 DU 4,589 GSF	[1]	511	(22)	26	4	39	(5)	34
60	Under Construction	737 South Spring Street	Apartment Pharmacy/Drug Store	320 DU 25,000 GSF	[1]	3,942	72	141	213	167	116	283
61	Proposed	520 South Mateo Street CPC-2016-3853	Apartment Office Retail Restaurant	600 DU 30,000 GSF 15,000 GLSF 15,000 GSF	[3]	4,995	157	220	377	274	223	497
62	Proposed	1218 West Ingraham Street	Apartment	80 DU	[1]	532	8	33	41	33	17	50
63	Proposed	Palmetto & Mateo 555 South Mateo Street	Retail	153,000 GLSF	[1]	4,300	5	30	35	220	205	425
64	Under Construction	732 South Spring Street	Apartment Pharmacy/Drug Store	400 DU 15,000 GSF	[1]	3,409	59	152	211	164	104	268
65	Proposed	340 South Hill Street	Apartment Restaurant	428 DU 2,894 GSF	[3]	2,253	36	129	165	133	75	208
66	Proposed	1145 West 7th Street ENV-2015-2800-MND	Condominium Retail	241 DU 7,291 GLSF	[1]	1,084	4	66	70	67	35	102
67	Proposed	540 South Santa Fe Avenue	Office	89,825 GSF	[1]	726	90	12	102	17	81	98
68	Proposed	360 South Alameda Street	Apartment Office Restaurant	55 DU 6,300 GSF 2,500 GSF	[1]	670	25	33	58	35	26	61
69	Proposed	118 South Astronaut Ellison S Onizuka Street	Apartment	77 DU	[1]	97	(1)	20	19	19	6	25
70	Proposed	Kaiser Permanente Los Angeles Medical Center Expansion 765 West College Street	Medical Office Inpatient Facility	100,000 GSF 62 Beds	[12]	3,422	178	48	226	78	198	276
71	Proposed	Stadium Way & Chavez Ravine Apartments 959 East Stadium Way	Apartment	158 DU	[1]	1,051	16	65	81	64	34	98
72	Proposed	700 West Cesar Chavez Avenue	Apartment Retail	299 DU 8,000 GLSF	[1]	1,511	7	89	96	99	54	153
73	Proposed	Clinic at 7th & Wall 649 South Wall Street	Medical Office Assisted Living	66 Emp 55 Beds	[1]	104	24	5	29	3	24	27
74	Proposed	Metro Emergency Security Operations Center 410 North Center Street	Office	110,000 GSF	[1]	1,165	87	0	87	0	79	79

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
75	Proposed	500 South Mateo Street	Restaurant	12,882 GSF	[1]	1,052	48	41	89	50	31	81
76	Proposed	Medallion Phase 2 300 South Main Street	Apartment Retail Restaurant	471 DU 5,190 GLSF 27,780 GSF	[1]	4,691	143	243	386	257	153	410
77	Proposed	Alexan South Broadway 850 South Hill Street	Apartment Retail Restaurant	300 DU 3,500 GLSF 3,500 GSF	[1]	1,970	28	106	134	116	65	181
78	Proposed	340 North Patton Street	Apartment	44 DU	[1]	267	4	16	20	17	8	25
79	Proposed	Alameda Hotel 400 South Alameda Street	Hotel Restaurant Retail	66 Rooms 2,130 GSF 840 GLSF	[1]	508	19	17	36	23	14	37
80	Under Construction	Apex II 700 West 9th Street	Apartment Retail	341 DU 11,687 GLSF	[3]	2,624	37	146	183	143	95	238
81	Proposed	649 South Olive Street	Hotel	241 Rooms	[1]	1,674	6	44	50	63	60	123
82	Proposed	Sapphire Mixed-Use 1111 West 6th Street	Apartment Retail	362 DU 25,805 GLSF	[1]	587	(71)	117	46	104	(51)	53
83	Proposed	Grand Residences 1233 South Grand Avenue	Condominium Restaurant	161 DU 3,000 GSF	[13]	1,116	23	62	85	62	33	95
84	Proposed	675 South Bixel Street	Hotel Apartment Retail	126 Rooms 422 DU 4,874 GLSF	[1]	3,461	74	173	247	184	116	300
85	Proposed	740 South Hartford Avenue	Apartment	80 DU	[1]	479	7	30	37	29	15	44
86	Proposed	Lifan Tower 1235 West 7th Street	Condominium Retail	304 DU 5,699 GLSF	[1]	1,725	23	95	118	100	54	154
87	Proposed	940 South Hill Street	Apartment Restaurant	232 DU 14,000 GLSF	[1]	1,881	20	80	100	115	53	168
88	Proposed	1322 Linwood Avenue	Apartment	84 DU	[1]	449	5	30	35	28	14	42
89	Proposed	1340 South Olive Street	Apartment Retail Restaurant	156 DU 5,000 GLSF 10,000 GSF	[1]	1,700	51	82	133	89	57	146
90	Proposed	1334 South Flower Street	Apartment Retail/Restaurant	188 DU 10,096 GLSF	[1]	1,038	(3)	63	60	67	22	89
91	Proposed	929 East 2nd Street	Retail Other	37,974 GLSF 71,078 GSF	[3]	2,153	68	12	80	105	96	201



Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
92	Proposed	633 South Spring Street	Hotel Restaurant Bar	176 Rooms 8,430 GSF 5,290 GSF	[1]	2,045	83	33	116	97	99	196
93	Proposed	Luxe Hotel 1020 South Figueroa Street	Hotel Condominium Retail	300 Rooms 435 DU 58,959 GLSF	[1]	6,583	204	274	478	312	227	539
94	Under Construction	1200 South Figueroa Street	Residential Restaurant Retail	648 DU 20,000 GSF 28,000 GLSF	[14]	5,717	79	158	237	170	113	283
95	Proposed	701 South Hill Street	Apartment Retail	124 DU 8,500 GLSF	[15] [16]	825 363	13 5	50 3	63 8	50 15	27 17	77 32
96	Proposed	525 South Spring Street	Apartment Retail	360 DU 9,400 GLSF	[15] [16]	2,394 401	37 6	147 3	184 9	145 17	78 18	223 35
97	Proposed	Case Hotel 1106 South Broadway	Hotel	151 Rooms	[17]	1,234	47	33	80	46	45	91
98	Built	425 West 11th Street	Office	500 Employees	[18]	1,660	211	29	240	39	191	230
99	Proposed	Freehand Hotel 416 West 8th Street	Hotel	200 Rooms	[17]	1,634	63	43	106	61	59	120
100	Under Construction	The Bloc 700 South Flower Street	Office Retail Restaurant Theater	737,710 GSF 260,000 GLSF 50,000 GSF 800 Seats	[18] [16] [19] [20]	8,137 11,102 6,358 1,408	1,013 155 298 4	138 95 243 4	1,151 250 541 8	187 463 296 42	912 502 197 14	1,099 965 493 56
101	Proposed	1728 West 7th Street	Restaurant/Bar	13,100 GSF	[1]	362	(30)	(40)	(70)	50	14	64
102	Proposed	Olympic Tower 815 West Olympic Boulevard	Hotel Retail Condominium Office Conference Center	373 Rooms 65,074 GLSF 374 DU 33,498 GSF 10,801 GSF	[21]	4,423	166	170	336	189	185	374
103	Proposed	LA Gateway Project 1025 Olympic Boulevard ENV-2016-4889-EIR	Apartment Restaurant Retail	1,367 DU 20,000 GSF 20,000 GLSF	[3]	5,216	86	297	383	283	115	398
104	Under Construction	Oceanwide Plaza 1101 South Flower Street	Condominium Hotel Retail Restaurant	504 DU 183 Rooms 120,583 GLSF 46,000 GSF	[22] [23] [17] [23] [16] [23] [19] [23]	2,928 1,495 5,149 5,849	38 57 72 273	184 40 44 224	222 97 116 497	176 56 215 272	86 54 232 181	262 110 447 453
105	Proposed	Los Angeles Sports and Entertainment District Figueroa Street & 11th Street DIR-2005-7453-SPP-M3	Office Convention Center	601,800 GSF 250,000 GSF	[5] [23] [24] [5] [23]	5,136 2,050 [7]	708 Nom.	96 Nom.	804 Nom.	129 51	631 154	760 205

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
106	Built	Hall of Justice 211 West Temple Street	Government Building Parking Structure	1,600 Emp. 1,000 Spaces	[25]	1,052	128	24	152	45	101	146
107	Built	418 South Spring Street	High-Rise Condominium Hotel Retail Health Club Bar	96 DU 122 Rooms 10,000 GLSF 2,000 GSF 3,500 GSF	[25]	2,202	26	128	154	123	61	184
108	Proposed	1013 North Everett Street	Apartment	49 DU	[1]	310	5	19	24	19	9	28
109	Proposed	708 North Hill Street	Apartment Retail	162 DU 5,000 GLSF	[1]	980	16	57	73	57	33	90
110	Proposed	211 West Alpine Street	Apartment Retail	122 DU 7,500 GLSF	[1]	566	9	42	51	37	18	55
111	Proposed	130 South Beaudry Avenue	Apartment	220 DU	[1]	1,159	8	76	84	76	29	105
112	Proposed	College Station Mixed-Use 129 W. College Street, 924 N. Spring Street	Condominium Retail	770 DU 51,592 GLSF	[3]	6,677	87	299	386	360	231	591
113	Proposed	Urban View Lots 495 South Hartford Avenue	Apartment	218 DU	[1]	1,033	16	63	79	62	34	96
114	Proposed	1316 West Court Street	Apartment	60 DU	[1]	745	11	46	57	45	24	69
115	Proposed	8th & Figueroa Mixed-Use 744 South Figueroa Street	Apartment Retail	438 DU 7,500 GLSF	[1]	2,972	38	148	186	176	94	270
116	Proposed	1201 North Broadway	Apartment Office	118 DU 8,800 GSF	[1]	682	(9)	49	40	48	8	56
117	Proposed	1346-1354 West Court Street ENV-2016-4030-CE	Apartment	43 DU	[1]	286	4	18	22	17	10	27
118	Proposed	433 South Main Street	Condominium Mixed-Use	161 DU 6,900 GSF	[3]	1,859	85	147	232	66	48	114
119	Proposed	Downtown LA Hotel 926 West James M. Woods Boulevard	Hotel	247 Rooms	[1]	1,562	59	42	101	59	56	115
120	Proposed	JMF Tower 333 West 5th Street	Condominium Hotel Restaurant	100 DU 200 Rooms 27,500 GSF	[3]	5,712	233	214	447	259	184	443
121	Proposed	Times Mirror Square 202 West 1st Street	Apartment Office Supermarket Restaurant	1,127 DU 285,088 GSF 50,000 GSF 75,589 GSF	[26]	8,535	94	341	435	294	38	332

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
122	Under Construction	888 South Hope Street	Apartment	526 DU	[15]	3,498	54	214	268	212	114	326
123	Under Construction	Sofia Los Angeles 1106 West 6th Street	Apartment Retail	606 DU 25,000 GLSF	[15] [16]	4,030 1,068	62 15	247 9	309 24	244 45	132 48	376 93
124	Proposed	Ferrante 1000 West Temple Street	Apartment Retail	1,500 DU 30,000 GLSF	[15] [16]	9,975 1,281	153 18	612 11	765 29	605 53	325 58	930 111
125	Proposed	640 South Alameda Street, 1206 East 6th Street ENV-2016-3758-EIR	Apartment Condominium Hotel Office Retail School Art Space	1,305 DU 431 DU 412 Rooms 253,514 GSF 127,609 GLSF 29,316 GSF 22,429 GSF	[3]	23,975	1,199	1,369	2,568	1,246	1,133	2,379
126	Proposed	1300 South Figueroa Street CPC-2017-746-GPA	Hotel	1,024 Rooms	[17]	9,134	398	288	686	351	366	717
127	Proposed	Budokan of Los Angeles 237-249 South Los Angeles Street	Sports Center	63,000 GSF	[27]	2,131	85	44	129	85	88	173
128	Proposed	King's Arch 537 South Broadway	Office	45,000 GSF	[18]	496	62	8	70	11	56	67
129	Proposed	Title Insurance Building 433 South Spring Street	Office	320,000 GSF	[24]	3,178	427	58	485	74	363	437
130	Proposed	Subway Terminal Retail 417 South Hill Street	Retail/Office	130,000 GLSF	[16]	5,551	78	47	125	231	251	482
131	Proposed	405 South Hewitt Street CPC-2017-469-GPA	Office Retail Restaurant	255,500 GSF 4,970 GLSF 9,940 GSF	[3]	4,006	366	75	441	100	322	422
132	Proposed	333 South Alameda Street CPC-2017-552-GPA	Apartment Retail	994 DU 99,300 GLSF	[3]	8,445	134	260	394	390	329	719
133	Proposed	The San Pedro Towers 600-628 S. San Pedro St, 611-615 S. Crocker St, 518-522 E. 6th St CPC-2017-589-GPA	Affordable Housing Manager Apartment Retail Office	298 DU 5 DU 3,136 GLSF 16,773 GSF	[28]	636	38	25	63	30	37	67
134	Proposed	1000 South Hill Street ENV-2016-4711-EAF	Apartment Retail	498 DU 8,707 GLSF	[15] [16]	3,312 372	51 5	203 3	254 8	201 15	108 17	309 32
135	Proposed	1011 North Broadway ENV-2015-2040-EAF	Hotel	92 Rooms	[17]	821	36	26	62	31	33	64

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
136	Proposed	1018 West Ingraham Street ENV-2017-979-EAF	Apartment Retail	43 DU 7,400 GLSF	[3] [15] [3] [16]	286 316	4 4	18 3	22 7	18 13	9 14	27 27
137	Proposed	1100 East 5th Street ENV-2016-3727-EIR, VTT-74549	Apartment Office Restaurant Retail	220 DU 20,021 GSF 19,609 GSF 9,250 GLSF	[3]	2,583	79	119	198	133	74	207
138	Proposed	1100 South Main Street ENV-2016-3825-EAF	Apartment Retail	379 DU 25,810 GLSF	[3]	385	9	103	112	78	14	92
139	Proposed	1625 West Palo Alto Street	Hotel	88 Rooms	[3]	727	28	19	47	27	26	53
140	Proposed	1219 South Hope Street ENV-2017-1701-EAF	Hotel Restaurant	75 Rooms 7,700 GSF	[3]	1,592	70	53	123	69	52	121
141	Proposed	1246 West Court Street ENV-2017-1126-EAF	Apartment	54 DU	[15]	359	6	22	28	21	12	33
142	Proposed	1307 West 7th Street DIR-2015-3777-SPP-DB-1A	Apartment Retail	76 DU 6,035 GLSF	[15] [16]	505 258	8 4	31 2	39 6	31 11	16 11	47 22
143	Proposed	1322 West Maryland Street DIR-2016-3116-DB-SPP	Apartment Retail	47 DU 760 GLSF	[15] [16]	313 32	5 1	19 0	24 1	19 1	10 2	29 3
144	Proposed	1323 South Grand Avenue ENV-2016-4147-EAF	Apartment Retail	284 DU 6,300 GLSF	[15] [16]	1,889 269	29 4	116 2	145 6	114 11	62 12	176 23
145	Proposed	656 South Stanford Avenue	Apartment	82 DU	[3]	545	8	34	42	33	18	51
146	Proposed	The Weingart Towers 554-562 South San Pedro Street, 555-561 South Crocker Street ENV-2017-615-EAF	Affordable Housing Manager Apartment Retail Office Dining Room/Flex Space	378 DU 4 DU 1,758 GLSF 4,410 GSF 5,932 GSF	[28]	629	30	29	59	31	32	63
147	Proposed	601 South Central Avenue ENV-2016-4820-EAF	Apartment Retail	236 DU 12,000 GLSF	[15] [16]	1,569 512	24 7	96 5	120 12	95 22	51 23	146 45
148	Proposed	640 South Santa Fe Avenue DIR-2016-3858-SPR	Office	107,127 GSF	[18]	1,182	147	20	167	27	133	160
149	Proposed	641 South Imperial Street ENV-2017-740-EAF	Apartment Office	140 DU 14,749 GSF	[3] [15] [3] [18]	931 163	14 20	57 3	71 23	57 4	30 18	87 22
150	Proposed	643 North Spring Street ENV-2017-97-EAF	Apartment Retail	203 DU 21,049 GLSF	[3]	1,610	61	122	183	38	91	129

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
151	Proposed	668 South Alameda Street VTT-74537	Apartment Office Retail Supermarket Restaurant	475 DU 43,000 GSF 9,000 GLSF 15,000 GSF 17,000 GSF	[3]	4,002	107	182	289	216	145	361
152	Proposed	676 South Mateo Street VTT-74550	Apartment Retail	172 DU 23,025 GLSF	[3]	2,163	93	152	245	134	88	222
153	Proposed	755 South Los Angeles Street ENV-2016-4963-EAF	Office Retail Restaurant	60,243 GSF 16,694 GLSF 26,959 GSF	[3]	2,482	110	57	167	105	100	205
154	Proposed	940 East 4th Street ENV-2017-611-EAF	Apartment Retail Office	93 DU 14,248 GLSF 6,000 GSF	[3]	788	14	37	51	44	31	75
155	Proposed	1410 South Flower Street ENV-2016-2477-MND	Apartment Retail	152 DU 1,184 GLSF	[15] [16]	1,011 51	16 1	62 0	78 1	61 2	33 2	94 4
156	Proposed	845 South Olive Street ENV-2016-4864-MND	Apartment Retail Restaurant	208 DU 810 GLSF 1,620 GSF	[3]	1,305	25	76	101	77	42	119
157	Proposed	330 South Alameda Street ENV-2016-3335-EIR	Apartment Office Retail	186 DU 10,415 GSF 11,925 GLSF	[3]	1,662	36	76	112	91	65	156
158	Proposed	527 South Colyton Street ENV-2016-3400-EIR	Condominium Retail Art Production Space	310 DU 11,375 GLSF 11,736 GSF	[3]	3,121	155	167	322	154	178	332
159	Proposed	Fashion District Residences 212-230 East 7th Street, 701-739 South Maple Avenue ENV-2016-3685-MND	Apartment Retail Restaurant	452 DU 6,802 GLSF 6,802 GSF	[15] [16] [19]	3,006 290 865	46 4 41	185 3 33	231 7 74	182 12 40	98 13 27	280 25 67
160	Proposed	755 South Wall Street ENV-2016-3991-EIR	Apartment Retail Event Space Office Restaurant	323 DU 4,400 GLSF 125 persons 53,200 GSF 4,420 GSF	[3]	2,499	108	82	190	164	141	305
161	Proposed	1101 East 5th Street, 445-457 South Colyton Street ENV-2016-4476-EIR	Live/Work Retail Restaurant Hotel Art Uses	129 DU 26,979 GLSF 31,719 GSF 113 Rooms 13,771 GSF	[3]	4,674	130	140	270	157	69	226
162	Proposed	1045 South Olive Street ENV-2016-4630-EIR	Apartment	800 DU	[15]	5,320	82	326	408	322	174	496

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
163	Proposed	Figueroa Centre 913 South Figueroa Street ENV-2017-174-EIR	Hotel Apartment Retail	220 Rooms 200 DU 94,080 GLSF	[3]	7,145	143	162	305	315	290	605
164	Proposed	8th, Grand & Hope Tower 754 South Hope Street ENV-2017-506-EIR	Apartment Retail	409 DU 7,329 GLSF	[15] [16]	2,720 313	42 4	167 3	209 7	165 13	89 14	254 27
165	Proposed	1340 South Hill Street ENV-2017-1213-EAF	Apartment	233 DU	[3]	1,755	11	103	114	108	30	138
166	Proposed	670 Mesquit Street ENV-2017-249-EIR	Apartment Hotel Office Retail Restaurant Event Space Gym Grocery	308 DU 236 Rooms 944,055 GSF 79,240 GLSF 89,576 GSF 93,617 GSF 62,148 GSF 56,912 GSF	[29]	26,489	1,513	451	1,964	698	1,316	2,014
167	Proposed	1030-1380 N. Broadway, 1251 N. Spring St ENV-2016-4064-EIR	Apartment Retail	920 DU 21,406 GLSF	[15] [16]	6,118 914	94 13	375 8	469 21	371 38	199 41	570 79
168	Under Construction	Alameda Square 777 South Alameda Street	Office Retail	1,300,000 GSF 250,000 GLSF	[24] [16]	14,339 10,675	1,785 149	243 91	2,028 240	329 445	1,608 483	1,937 928
169	Proposed	1248 South Figueroa Street	Hotel Restaurant	1,162 Rooms 13,145 GSF	[3]	5,720	192	125	317	203	212	415
170	Proposed	215 West 14th Street	Apartment Retail	154 DU 10,700 GLSF	[3]	1,481	22	67	89	81	54	135
171	Proposed	1745 East 7th Street	Apartment Retail	57 DU 6,000 GLSF	[3]	635	9	25	34	34	24	58
172	Under Construction	354 South Spring Street	Apartment Restaurant	212 DU 15,280 GSF	[15] [19]	1,410 1,943	22 91	86 74	108 165	85 91	46 60	131 151
173	Proposed	Alameda District Plan	Residential Office Retail Hotel Restaurant Museum	22 DU 7,443,200 GSF 645,000 GLSF 750 Rooms 20,000 GSF 70,000 GSF	[3]	25,312	862	527	1,389	734	1,042	1,776
<b>TOTAL</b>						<b>603,923</b>	<b>20,936</b>	<b>21,804</b>	<b>42,740</b>	<b>27,281</b>	<b>26,685</b>	<b>53,966</b>

Table-6-1 (Continued)  
RELATED PROJECTS LIST AND TRIP GENERATION [1]

- [1] Source: City of Los Angeles Department of Transportation (LADOT) and Department of City Planning (LADCP), except as noted below The peak hour traffic volumes were forecast based on trip data provided by LADOT and by applying trip rates as provided in the ITE "Trip Generation Manual", 9th Edition, 2012.
- [2] Trips are one-way traffic movements, entering or leaving.
- [3] Project description and trip generation forecasts obtained from third party research.
- [4] Source: Planning Department's Modification of the Wilshire Grand Vesting Tentative Tract Map No. 71141-M1, September 21, 2016.
- [5] Description listed constitutes the remaining allowable development under this project.
- [6] Source: "Metropolis Master Plan Project - Traffic Analysis Update Phase 2", from Tomas Carranza, Senior Transportation Engineer, to Blake Lamb, City Planner, May 9, 2014.
- [7] Daily trip volumes are not provided. PM peak hour volume was estimated to represent 10% of the daily totals.
- [8] Source: "Traffic Assessment for the Proposed Development Project Located at 1057 South San Pedro Street", from Tomas Carranza, Senior Transportation Engineer, to Karen Hoo, City Planner, November 6, 2013.
- [9] Source: "Traffic Assessment for the Proposed Development Project Located at 1001 South Olive Street", from Tomas Carranza, Senior Transportation Engineer, to Karen Hoo, City Planner, September 10, 2013.
- [10] Source: "Updated Traffic Assessment for the South Park Residential Sites and Herald Examiner Building Renovation Project", from Tomas Carranza, Senior Transportation Engineer, to Karen Hoo, City Planner, January 24, 2014.
- [11] Source: "Grand Avenue/Pico Boulevard Project Traffic Impact Analysis", prepared by Kunzman Associates, Inc., January 27, 2014.
- [12] Source: "Kaiser Permanente Los Angeles Medical Center Expansion Traffic Impact Study", prepared by LLG Engineers, June 4, 2015.
- [13] Source: "Grand Residences Draft Traffic Impact Study", prepared by LLG Engineers, February 4, 2016.
- [14] Sources: "Los Angeles Sports and Entertainment District Specific Plan Determination and Findings", Michael J. LoGrande, Director of Planning, November 12, 2014; "L.A. Entertainment District EIR Traffic Study", prepared by The Mobility Group with Kaku Associates, January 2001. Daily and AM Peak Hour trips were forecast using the following ITE trip generation average rates: Land Use Code 222 (High-Rise Apartment), Land Use Code 931 (Quality Restaurant), and Land Use Code 820 (Shopping Center).
- [15] ITE Land Use Code 220 (Apartment) trip generation average rates.
- [16] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
- [17] ITE Land Use Code 310 (Hotel) trip generation average rates.
- [18] ITE Land Use Code 710 (General Office Building) trip generation average rates.
- [19] ITE Land Use Code 932 (High-turnover [Sit-Down] Restaurant) trip generation average rates.
- [20] ITE Land Use Code 443 (Movie Theater without Matinee) trip generation average rates.
- [21] Source: "Olympic Tower Project Traffic Impact Study", prepared by LLG Engineers, October 27, 2016.
- [22] ITE Land Use Code 232 (High-Rise Condo./Townhouse) trip generation average rates.
- [23] Source: "Los Angeles Sports and Entertainment District Specific Plan", DIR-2005-7453-SPP-M3, January 2015
- [24] ITE Land Use Code 710 (General Office Building) trip generation equation rates.
- [25] Source: "Transportation Study for the Wilshire Grand Redevelopment Project", prepared by Gibson Transportation, Inc., April 2010.
- [26] Source: "Times Mirror Square", LADOT Transportation Impact Study Memorandum of Understanding, dated March 30, 2017.
- [27] ITE Land Use Code 495 (Recreational Community Center) trip generation average rates.
- [28] Source: Transportation Impact Study Memorandum of Understanding (MOU), Weingart Projects, prepared by LLG Engineers, dated October 4, 2017.
- [29] Source: Notice of Preparation (NOP) ENV-2017-249-EIR, dated April 25, 2017.





MAP SOURCE: RAND MCNALLY & COMPANY



LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 6-1  
LOCATION OF RELATED PROJECTS

222 WEST 2ND PROJECT



currently occupied and/or operational). These built projects remain on the related projects list since they were not operational at the time that the older traffic counts were conducted (i.e., the counts for study intersection(s) located near the respective projects' location). In other words, because these built related projects were not completed at the time that the older traffic count data was obtained, their corresponding peak hour vehicle trip generation was not accounted for. As such, to be conservative and ensure a more accurate accounting of traffic conditions, these projects have been included as part of the related projects list.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*<sup>13</sup>, or they were obtained from other traffic studies and/or lists of related projects recently approved by the City. The related projects' respective traffic generation for the weekday AM and PM peak hours, as well as on a daily basis for a typical weekday, is summarized in *Table 6-1*. The related projects traffic volumes were distributed and assigned to the street system based on the projects' locations in relation to the study intersections, their proximity to major traffic corridors, proposed land uses, nearby population and employment centers, etc. The distribution of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours are displayed in *Figures 6-2* and *6-3*, respectively.

## 6.2 Downtown Transit / Infrastructure Projects

Several transit and/or infrastructure projects are proposed or under construction within the greater Downtown Los Angeles area. While the projects discussed below and others like them could be expected to result in greater trip reductions than what occur today, no trip reductions have been assumed in this traffic analysis for existing uses so as to provide a conservative review of potential traffic impacts. Some of the relevant projects are as follows:

### Regional Connector Transit Project

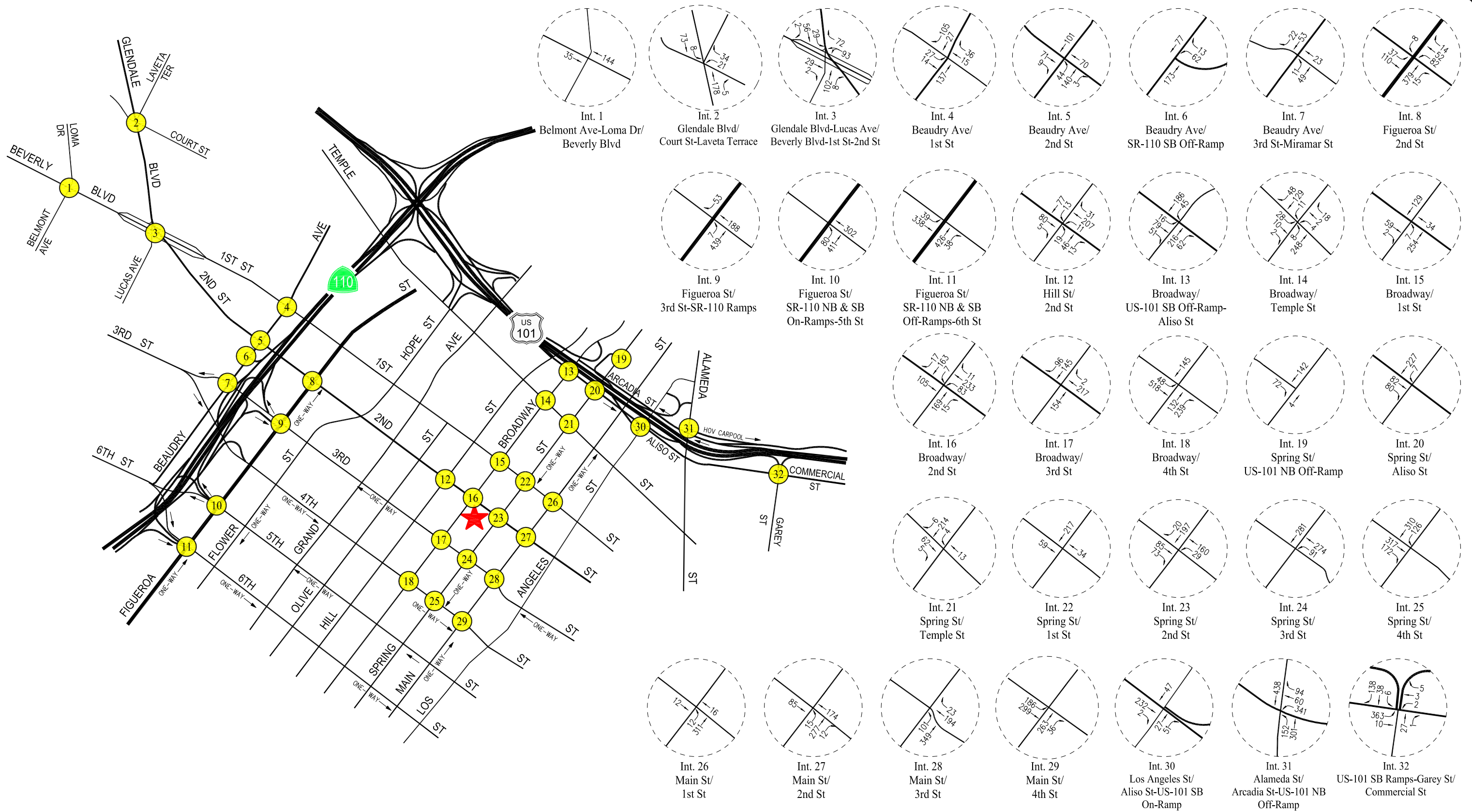
As summarized on the Metro website, the Regional Connector project will extend from Metro's Little Tokyo/Arts District Station to the 7<sup>th</sup> Street/Metro Center in Downtown Los Angeles. This will allow transit passengers to access the Gold, Blue, Expo, Red and Purple lines. The addition will extend 1.9 miles and will serve Little Tokyo, the Arts District, Civic Center (i.e., at the project site), the Historic Core, Broadway, Grand Avenue, Bunker Hill, Flower Street as well as the Financial District.

This new extension will provide a one-seat ride for travel across Los Angeles County by allowing passengers to travel between Azusa and Long Beach and between East Los Angeles and Santa Monica without having to transfer lines. The forecast opening year of the Regional Connector Transit project is currently 2021.

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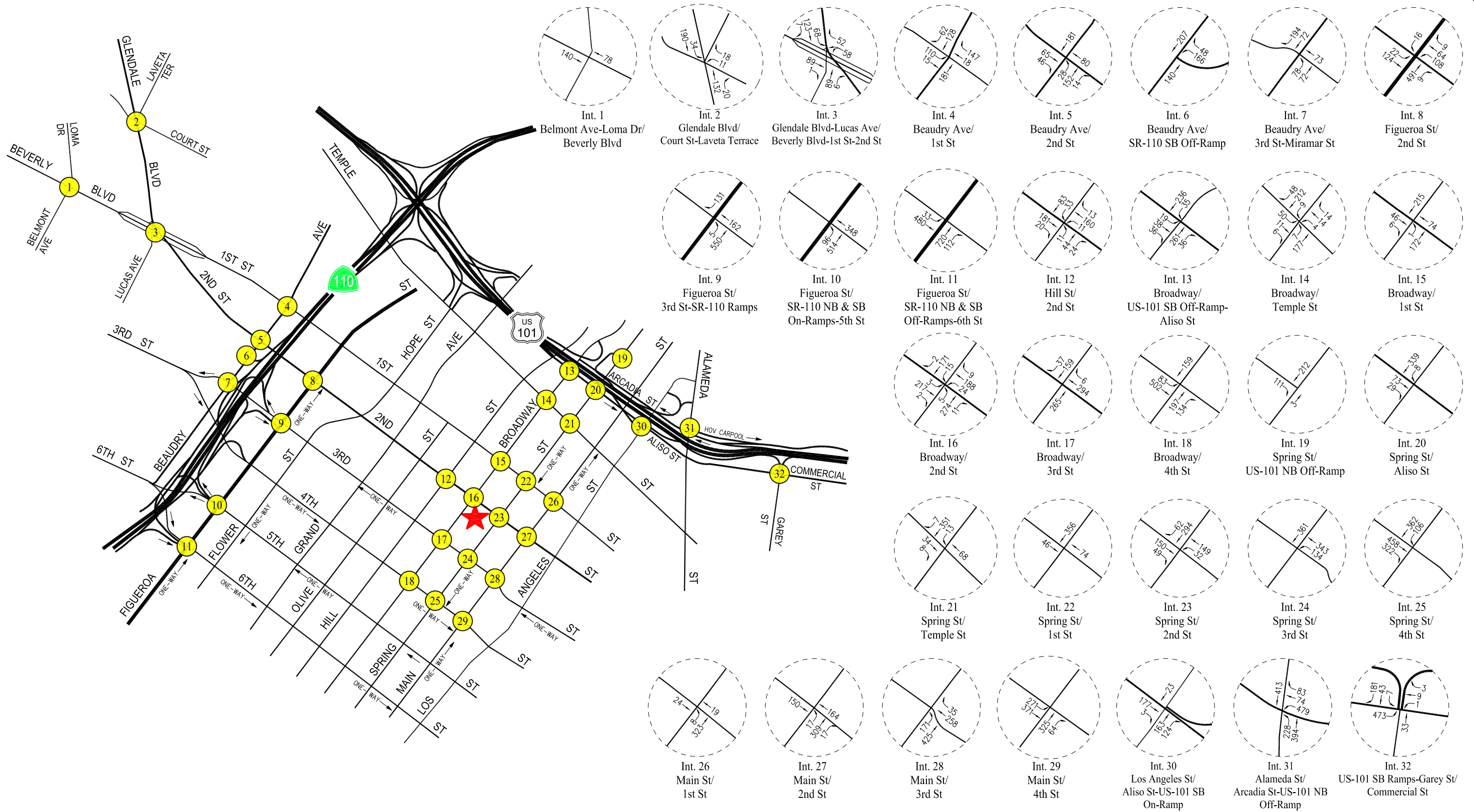
<sup>13</sup> Institute of Transportation Engineers *Trip Generation Manual*, 9<sup>th</sup> Edition, Washington, D.C., 2012.

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**FIGURE 6-2**  
**RELATED PROJECTS TRAFFIC VOLUMES**  
WEEKDAY AM PEAK HOUR  
222 WEST 2ND PROJECT

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**FIGURE 6-3**  
**RELATED PROJECTS TRAFFIC VOLUMES**  
WEEKDAY PM PEAK HOUR  
222 WEST 2ND PROJECT

## Downtown Los Angeles Historic Streetcar Project

The restoration of the Historic Streetcar Service in Downtown Los Angeles is expected to revive a service that previously spanned over 600 miles of the Los Angeles area during the first half of the 1900's. The approved alignments closely follow the early alignments that traversed the historic Downtown core. The service would increase mobility and improve connectivity by linking residential and employment hubs, shopping districts, civic resources, cultural institutions, landmarks and entertainment venues for those who live, work, and visit Downtown. The Historic Streetcar project is also intended to connect patrons to a regional network of transit options including local and regional bus lines, and Metro Rail lines including the Regional Connector Transit project. The Historic Streetcar has obtained the necessary funding and is anticipated to be complete and operational in December 2020<sup>1415</sup>.

## The Figueroa Streetscape (My Figueroa) Project

The overarching goal of this project is to provide enhancements to street trees, street lighting, street furniture and signage, provide more restricted parking and loading areas, incorporate transit platforms primarily along both sides of Figueroa Street (from 7<sup>th</sup> Street to Martin Luther King Jr. Boulevard) to the extent possible, implement sidewalk extensions to minimize pedestrian crossings times and introduce protected bike lanes or bicycle tracks to encourage bicycling as a viable transportation mode and alternative to the use of single occupancy automobiles. Improvements also are proposed along 11<sup>th</sup> Street (from Figueroa Street to Broadway) and Martin Luther King Jr. Boulevard (from Figueroa Street to Vermont Avenue) to enhance pedestrian and bicycle linkages in Downtown Los Angeles. The My Figueroa project is currently under construction and is expected to be completed in year 2019.

### 6.3 Ambient Traffic Growth Factor

Horizon year background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown related projects in the study area as well as account for typical growth in traffic volumes due to the development of projects outside the study area. Ambient traffic growth in the Downtown Los Angeles area (i.e., included in Regional Statistical Area 23 (RSA 23) that includes Downtown LA), which is presented in the *2010 Congestion Management Program*, indicates existing traffic volumes are expected to increase at an annual rate of approximately 0.20 percent (0.20%) per year between years 2010 and 2025. An annual growth rate of one percent (1.0%) until the year 2025 (i.e., the anticipated project build-out year) was selected for this analysis in consultation with LADOT during the scoping process. Therefore, application of this one percent (1.0%) ambient growth factor in addition to the forecast traffic generated by the related projects allows for a conservative forecast of future traffic volumes in the project study area as incorporation of both (i.e., an ambient traffic growth rate and a detailed list of cumulative development projects) is expected to overstate potential future traffic

<sup>14</sup> Los Angeles Streetcar, "Project Info, Funding," <http://streetcar.la/project-info/funding/>, accessed February 15, 2018.

<sup>15</sup> Los Angeles Streetcar, "Project Info, Timeline," <http://streetcar.la/project-info/timeline/>, accessed February 15, 2018.

volumes. The cumulative development projects should already be incorporated as part of the growth rate projection per the adopted, local and regional planning documents (i.e., which account for the future population, housing, and employment [socio-economic data] projections). Further, as described in Section 6.0 herein, CEQA only requires that one of these two approaches be employed in developing the future traffic volume forecasts.

## 7.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed project, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (i.e., Levels of Service) conditions at the selected key intersections using existing and expected future traffic volumes without and with forecast project traffic. The significance of the project's impacts can then be identified based on the current City traffic impact analysis guidelines and the need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

### 7.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates provided in the ITE *Trip Generation Manual*, 9<sup>th</sup> Edition publication were utilized to forecast project traffic generation for the proposed project. Traffic volumes expected to be generated by the proposed project were based upon the following ITE trip generation average rates:

- ITE Land Use Code 710: General Office Building
- ITE Land Use Code 220: Apartment
- ITE Land Use Code 820: Shopping Center

As outlined in Section 2.3, Proposed Project Description, the residential component of the proposed project could ultimately consist of condominium units or apartment units. In order to allow for such future flexibility, the trip generation analysis used the ITE trip rates for the apartment land use category for the project's residential component, as apartment units generally generate greater traffic volumes than condominium units. This results in a more conservative assessment of potential project-related traffic impacts.



In addition, the ITE manual contains trip rates for a variety of land uses (including office buildings, shopping centers, residential units, etc.), which have been derived based on traffic counts conducted at numerous existing sites. However, the traffic count data submitted to ITE are for free-standing sites generally located in suburban locations, which generally do not reflect the trip generation characteristics for projects located in urban areas such as the City's transit oriented district (TOD) areas, including the Civic Center. Thus, the trip rates provided in the ITE *Trip Generation Manual* (derived from traffic counts at suburban projects) would be expected to overstate the trip generation potential of projects located within the downtown Los Angeles area, including the proposed project.

As stated on page 1 of the ITE *Trip Generation Manual, 9<sup>th</sup> Edition, User's Guide*: "Data were primarily collected at suburban locations having little or no transit service, nearby pedestrian amenities, or travel demand management (TDM) programs. At specific sites, the user may wish to modify trip generation rates presented in this document to reflect the presence of public transportation service, ridesharing, or other TDM measures; enhanced pedestrian and bicycle trip-making opportunities; or other special characteristics of the site or surrounding area. When practical, the user is encouraged to supplement the data in this document with local data that have been collected at similar sites." The area adjacent to the project site provides public transportation service, as well as enhanced pedestrian and bicycle trip-making opportunities. Accordingly, as encouraged by ITE, additional trip generation data was reviewed at existing development sites in urban areas similar to Los Angeles. Two recent research efforts by the Transportation Research Board<sup>16</sup> (the "TRB Report") and California Department of Transportation<sup>17</sup> (the "Caltrans Report") were conducted for purposes of evaluating the trip generation characteristics at development sites located in urban areas in close proximity to transit stations/hubs.

The TRB Report evaluated trip generation at 17 TOD sites in four urbanized areas of the country: Philadelphia/Northeast New Jersey; Portland, Oregon; metropolitan Washington, D.C.; and the San Francisco – East Bay area. All of the 17 TOD sites studied were residential developments. Driveway traffic counts conducted at the TOD sites in the TRB Report were compared to the forecast trip generation that would be calculated using applicable and unadjusted trip rates from the ITE *Trip Generation Manual*. Based on the traffic count data collected at the TODs, the TRB Report concluded the following:

- Daily (24-hour): 44% fewer vehicle trips at TODs as compared to ITE trip rates
- AM peak hour: 49% fewer vehicle trips at TODs as compared to ITE trip rates
- PM peak hour: 48% fewer vehicle trips at TODs as compared to ITE trip rates

The Caltrans Report evaluated trip generation at eight urban infill sites located in close proximity to transit stations and/or transit hubs in the Berkeley and San Diego areas (thus considered TOD sites

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<sup>16</sup> TCRP [Transit Cooperative Research Program] Report 128 – *Effects of TOD on Housing, Parking, and Travel* published by the Transportation Research Board in 2008.

<sup>17</sup> *Trip-Generation Rates for Urban Infill Land Uses in California* prepared for Caltrans by the Association of Bay Area Governments in April 2008.

for purposes of this analysis). All of the eight TOD sites studied were residential developments. Driveway traffic counts conducted at the TOD sites in the Caltrans Report were compared to the forecast trip generation that would be calculated using applicable and unadjusted trip rates from the *ITE Trip Generation Manual*<sup>18</sup>. Based on the traffic count data collected at the TOD sites, the Caltrans report concluded the following:

- AM peak hour: 61% fewer vehicle trips at TOD sites as compared to ITE trip rates
- PM peak hour: 60% fewer vehicle trips at TOD sites as compared to ITE trip rates

It is therefore demonstrated in the TRB and Caltrans Reports that vehicular trip generation is substantially reduced at TOD sites as compared to what would otherwise be forecast through use of the ITE trip rates (derived from studies of generally suburban and stand-alone development projects). Further, it is reasonable to conclude that travel related to the sites studied in the TRB and Caltrans Reports were comprised of a mixture of trips by walking, bicycling, and taking public transit, with reduced emphasis on travel by the automobile. Also, as the sites studied by TRB and Caltrans were residential projects, it is reasonable to assume that the sites studied in the TRB and Caltrans Reports were passively managed from a traffic management standpoint. That is; travelers used travel modes other than the automobile based on convenience and/or cost savings.

For the proposed project, it is reasonable to conclude that its design and location in Downtown Los Angeles near numerous transit lines and multimodal corridors, as well as the incorporation of Metro's Regional Connector 2nd Street/Broadway rail station and portal within the project site, would result in a significant reduction in vehicle trips as compared to the trip forecasts that would otherwise be calculated using the applicable and unadjusted ITE trip rates in a passively managed traffic management condition. An actively managed site could be expected to yield additional trip reductions. In addition, internal capture refers to those trips made internal to the site between land uses in a mixed-use development. When combined within a mixed-use development, land uses tend to interact, and thus attract a portion of each other's trip generation (e.g., an office patron would patronize the retail space, a resident may also patronize the retail space, etc.).

LADOT encourages project applicants to design and construct transit-friendly projects that create safe and walkable site design and facilities that connect project patrons to and from transit stations and stops. The City's transportation impact study guidelines contain provisions for vehicle trip generation adjustments to account for the above factors. For example, developments above or adjacent to a Metro Rail, Metrolink, or Orange Line station may qualify for a maximum 25% trip generation adjustment. This maximum adjustment reflects the determination by LADOT that the project will, as examples, provide wider sidewalks along streets fronting the project through sidewalk easements, improve lighting and provide safety improvements to provide for a safer pedestrian environment, include paseos and implement transit enhancements (e.g., provide transit shelter enhancements), provide bicycle amenities for people traveling by bicycle, etc.

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<sup>18</sup> Assuming application of ITE Land Use Code 220 (Apartment) for the multi-family residential land use.

Based on consultation with LADOT staff and review of the above TRB and Caltrans Reports, conservative adjustments were made to the project trip generation forecasts to account for transit usage, bicycle usage, walking and internal capture. A separate walk/bike adjustment was conservatively not applied to the retail component since the adjustment would have resulted in only a nominal trip reduction during the AM and PM peak hours due to the small size of the planned retail component. LADOT has approved incorporation of the following trip generation adjustments and determined that they are consistent with the City's transportation impact study guidelines:

- 25 percent (25%) transit adjustment applied to the office, residential, and retail components
- 5 percent (5%) walk/bike adjustment was applied to the office and residential components
- 5 percent (5%) internal capture adjustment applied to the residential component and 20 percent (20%) internal capture adjustment applied to the retail component.

The trip generation rates and forecast of the vehicular trips anticipated to be generated by the proposed project are presented in **Table 7-1**. The project trip generation forecast was submitted for review and approval by LADOT staff. As summarized in *Table 7-1*, the proposed project is expected to generate 560 trips (467 inbound trips and 93 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 541 trips (118 inbound trips and 423 outbound trips). Over a 24-hour period, the proposed project is forecast to generate 4,006 trips (approximately 2,003 inbound trips and 2,003 outbound trips) during a typical weekday.

## 7.2 Project Traffic Distribution and Assignment

Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., Hill Street, Broadway, Spring Street, Temple Street, 1st Street, 2nd Street, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- Ingress/egress scheme planned for the proposed project;
- Nearby population and employment centers; and
- Input from LADOT staff.

Table 7-1  
PROJECT TRIP GENERATION [1]

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
<u>Proposed Project</u>								
General Office [3]	534,044 GSF	4,690	643	88	731	115	562	677
- Less Transit/HOV Adjustment (25%) [4]		(1,172)	(161)	(22)	(183)	(29)	(141)	(170)
- Less Walk/Bike Adjustment (5%) [5]		<u>(176)</u>	<u>(24)</u>	<u>(3)</u>	<u>(27)</u>	<u>(4)</u>	<u>(21)</u>	<u>(25)</u>
Subtotal		3,342	458	63	521	82	400	482
Apartment [6]	107 DU	712	11	44	55	43	23	66
- Less Internal Capture Adjustment (5%) [7]		(36)	(1)	(2)	(3)	(2)	(1)	(3)
- Less Transit/HOV Adjustment (25%) [4]		(170)	(3)	(11)	(14)	(10)	(6)	(16)
- Less Walk/Bike Adjustment (5%) [5]		<u>(26)</u>	<u>0</u>	<u>(2)</u>	<u>(2)</u>	<u>(2)</u>	<u>(1)</u>	<u>(3)</u>
Subtotal		480	7	29	36	29	15	44
Retail [8]	7,200 GLSF	308	4	3	7	13	14	27
- Less Internal Capture (20%) [7]		(62)	(1)	(1)	(2)	(3)	(3)	(6)
- Less Transit/HOV Adjustment (25%) [4]		<u>(62)</u>	<u>(1)</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(3)</u>	<u>(6)</u>
Subtotal		184	2	1	3	7	8	15
NET INCREASE		4,006	467	93	560	118	423	541

[1] Source: ITE "Trip Generation Manual", 9th Edition, 2012.

[2] Trips are one-way traffic movements, entering or leaving.

[3] ITE Land Use Code 710 (General Office Building) trip generation equation rates.

- Daily Trip Rate:  $\ln(T) = 0.76 \ln(X) + 3.68$  trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate:  $\ln(T) = 0.80 \ln(X) + 1.57$  trips/1,000 SF of floor area; 88% inbound/12% outbound
- PM Peak Hour Trip Rate:  $(T) = 1.12 (X) + 78.48$  trips/1,000 SF of floor area; 17% inbound/83% outbound

[4] Per LADOT policy, a transit trip adjustment of 25% is assumed because the project site is located directly above the new Metro Regional Connector's 2nd Street/Broadway station.

[5] A 5% walk/bike adjustment factor was assumed, consistent with other similar projects approved in downtown Los Angeles.

[6] ITE Land Use Code 220 (Apartment) trip generation average rates.

- Daily Trip Rate: 6.65 trips/dwelling unit; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.51 trips/dwelling units; 20% inbound/80% outbound
- PM Peak Hour Trip Rate: 0.62 trips/dwelling units; 65% inbound/35% outbound

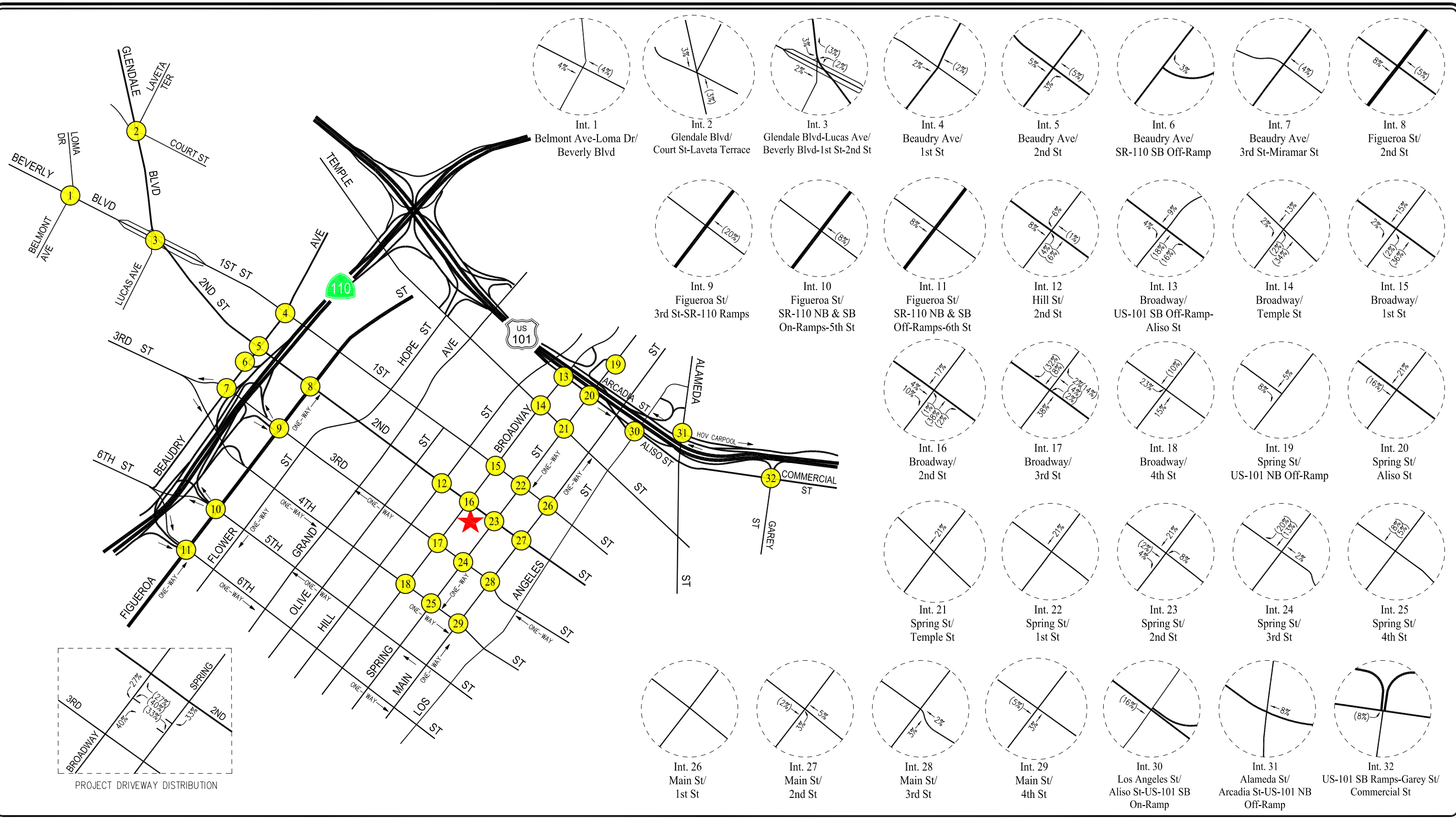
[7] A 5% and a 20% internal capture trip reduction factors were applied to the residential and retail components of the project, respectively, to reflect the internal trip making between proposed land uses. The trip reduction factors were derived based on data provided in Chapter 6 of the "Trip Generation Handbook", Third Edition, August 2014, ITE.

[8] ITE Land Use Code 820 (Shopping Center) trip generation average rates.

- Daily Trip Rate: 42.7 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.96 trips/1,000 SF of floor area; 62% inbound/38% outbound
- PM Peak Hour Trip Rate: 3.71 trips/1,000 SF of floor area; 48% inbound/52% outbound

The general, directional traffic distribution pattern for the proposed project are presented in **Figure 7-1**. The forecast weekday AM and PM peak hour project traffic volumes at the study intersections associated with the proposed project are presented in **Figures 7-2** and **7-3**, respectively. The traffic volume assignments presented in **Figures 7-2** and **7-3** reflect the traffic distribution characteristics shown in **Figure 7-1** and the project traffic generation forecasts presented in **Table 7-1**.

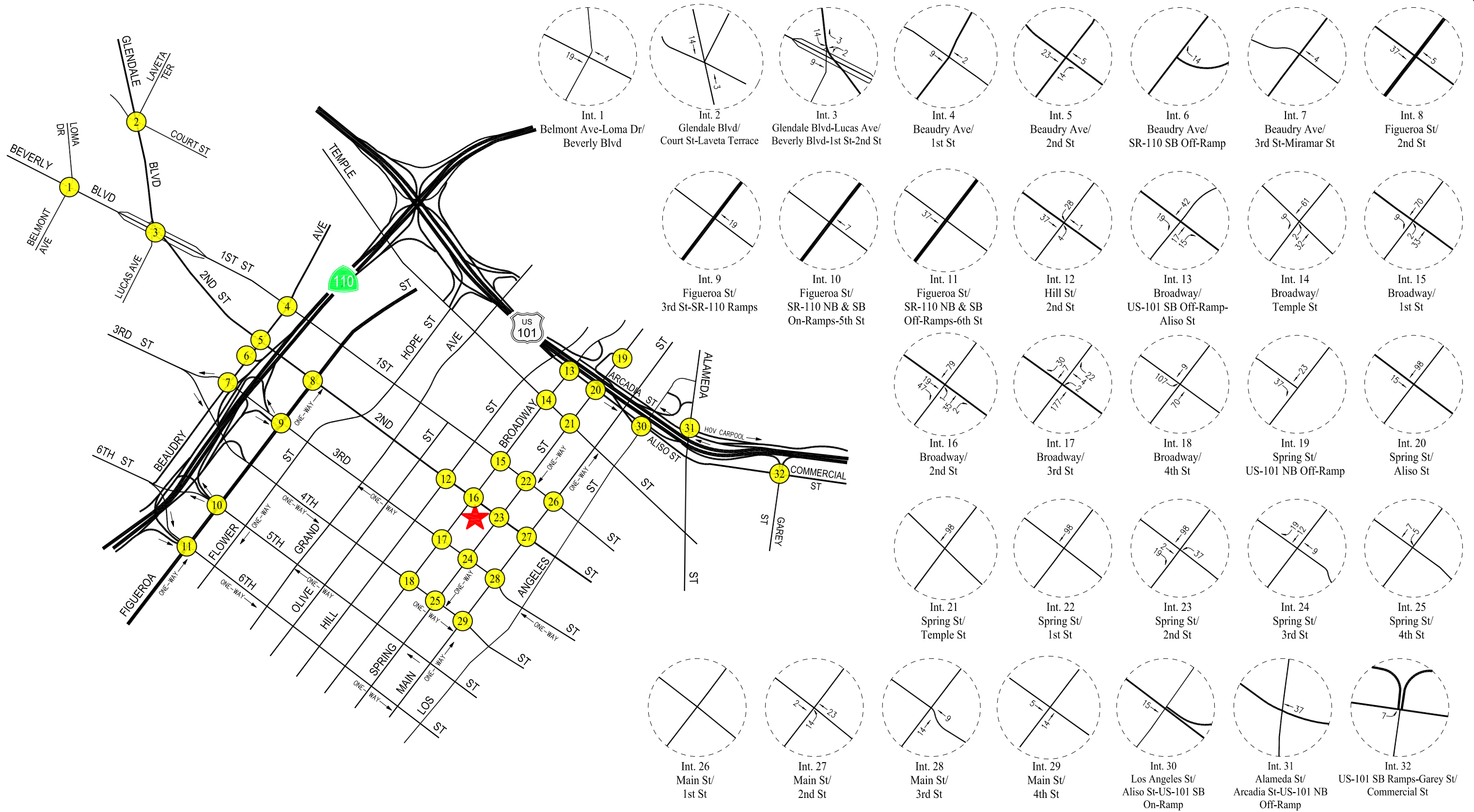
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★ PROJECT SITE  
XX = INBOUND PERCENTAGE  
(XX) = OUTBOUND PERCENTAGE

FIGURE 7-1  
PROJECT TRIP DISTRIBUTION

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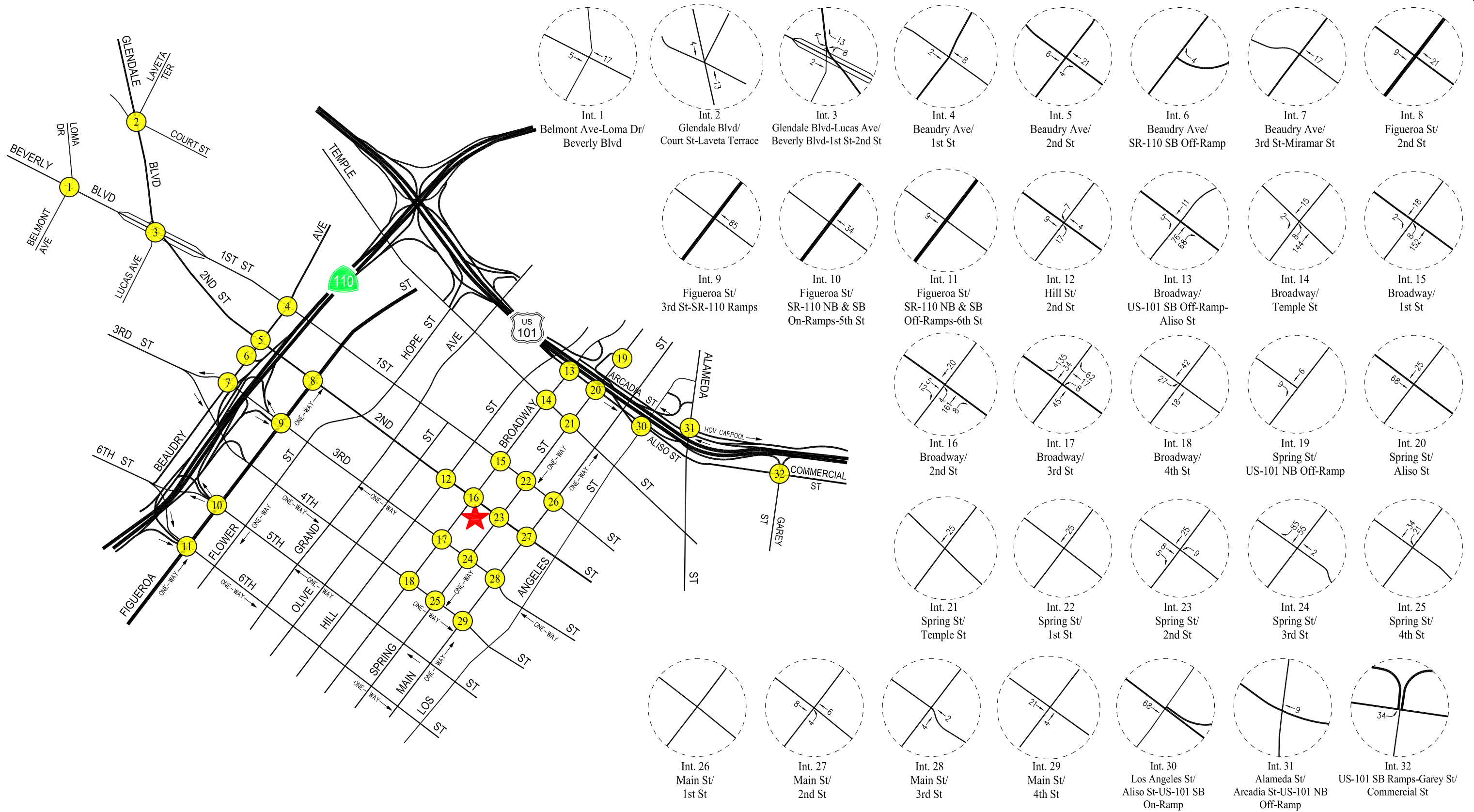


-70-

**FIGURE 7-2**  
**PROJECT TRAFFIC VOLUMES**  
WEEKDAY AM PEAK HOUR  
222 WEST 2ND PROJECT



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-71-



NOT TO SCALE



PROJECT SITE

LINSCOTT, LAW & GREENSPAN, engineers

**FIGURE 7-3**  
**PROJECT TRAFFIC VOLUMES**  
WEEKDAY PM PEAK HOUR  
222 WEST 2ND PROJECT



## 8.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

The study intersections were evaluated using the Critical Movement Analysis (CMA) method of analysis that determines Volume-to-Capacity ( $v/c$ ) ratios on a critical lane basis consistent with the current City of Los Angeles traffic impact analysis procedures. The overall intersection  $v/c$  ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. Level of Service varies from LOS A (free flow) to LOS F (jammed condition). A description of the CMA method and corresponding Level of Service is provided in *Appendix C*.

As discussed in Section 1.3, in response to SB 743, the City is currently considering new guidelines and metrics (i.e., VMT-based significance thresholds) for use in determining whether a project's transportation impacts are significant. It is anticipated that in mid to late 2018, City staff will present the CEQA Appendix G environmental checklist update to the City Council, which will likely lead to the adoption of the new VMT-based significance thresholds and its subsequent incorporation into the City's CEQA Threshold Guide in late 2018 or early 2019. Following adoption, projects must then comply with the updated transportation evaluation framework, thus bringing the City into compliance with the state mandate. The City's VMT tools/metrics had not been finalized at the time this traffic study was completed for inclusion in the proposed project's Draft EIR. Should the City finalize those tools/metrics prior to the City decisionmakers' consideration of the proposed project's EIR and entitlements, this traffic study may be updated in consultation with LADOT to include a VMT analysis using the City's VMT tools/metrics and a determination of whether the proposed project results in significant impacts based on VMT-based significance thresholds.

### 8.1 Impact Criteria and Thresholds

The relative impact of the added traffic volumes to be generated by the proposed project during the weekday AM and PM peak hours was evaluated based on analysis of existing and future operating conditions at the study intersections, without and with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future  $v/c$  relationships and service level characteristics at each study intersection.

The significance of the potential impacts of project generated traffic was identified using the traffic impact criteria set forth in LADOT's *Transportation Impact Study Guidelines*, December 2016. According to the City's published traffic study guidelines, the impact is considered significant if the project-related increase in the  $v/c$  ratio equals or exceeds the thresholds presented in *Table 8-1*.

<p style="text-align: center;">Table 8-1 CITY OF LOS ANGELES INTERSECTION IMPACT THRESHOLD CRITERIA</p>		
Final $v/c$	Level of Service	Project-Related Increase in $v/c$
> 0.701 - 0.800	C	equal to or greater than 0.040
> 0.801 - 0.900	D	equal to or greater than 0.020
> 0.901	E or F	equal to or greater than 0.010

The City's Sliding Scale Method requires mitigation of a project's traffic impacts whenever traffic generated by the proposed development causes an increase of the analyzed intersection  $v/c$  ratio by an amount equal to or greater than the values shown above.

In most Central Business Districts (CBDs), corridors that serve major through traffic in the area are affected by the presence of freeway on/off ramps and heavy pedestrian crossing activities. In the project study area, the operations of the Figueroa Street corridor are influenced by the SR-110 Freeway ramps, their capacities, and heavy pedestrian volumes at intersection crosswalks. Based on field observations and existing vehicle queuing, it is therefore appropriate to adjust the corresponding  $v/c$  ratios and LOS analyses for Study Intersection Nos. 9, 10 and 11 (i.e., Figueroa Street/3rd Street/SR-110 Ramps, Figueroa Street/SR-110 Northbound and Southbound On-Ramps/5th Street, and Figueroa Street/SR-110 Northbound and Southbound Off-Ramps/6th Street, respectively) to reflect the effects of the CBD nature of the street system in the project study area. Instead of an intersection capacity of 1,500 vehicles per hour per lane (vphpl) for a two-phase signalized intersection or 1,425 vphpl for a three-phase signalized intersection, as established by LADOT's methodology, the corresponding intersection capacities were reduced to 1,000 vphpl for analysis purposes. This provides for a more conservative assessment of intersection operations. This approach is consistent with LADOT's *Transportation Impact Study Guidelines* which states: "The intersection capacity at intersections along a congested corridor may need to be adjusted to account for reduced capacity due to gridlock, heavy pedestrian volumes, or other prevailing factors."<sup>19</sup> Absent these adjustments based on field observations, the LOS calculations may report better operations than what actually exists due to fewer vehicles being able to traverse through the study intersections.

<sup>19</sup> Refer to Section 3.3G – Transportation Analysis (page 16) of the *Transportation Impact Study Guidelines*, City of Los Angeles Department of Transportation, December 2016.

## 8.2 Traffic Impact Analysis Scenarios

Traffic impacts at the study intersections were analyzed for the following conditions:

- [a] Existing conditions.
- [b] Existing with project conditions.
- [c] Condition [a] plus one percent (1.0%) annual ambient traffic growth through year 2025 and with completion and occupancy of the related projects (i.e., future without project conditions).
- [d] Condition [c] with completion and occupancy of the proposed project.
- [e] Condition [d] with implementation of project mitigation measures, where necessary.

It should be noted that Condition [b] above is a hypothetical scenario in that it calculates the traffic due to the occupancy of the proposed project in addition to the existing traffic volumes, but changes to existing volumes are expected to occur throughout the project's construction period due to other area projects and regional growth. However, this condition has been prepared to be consistent with the general rule under CEQA that the potential impacts of a development project are to be measured against existing conditions. Condition [d] above analyzes future conditions upon completion and full occupancy of the proposed project, which is expected to occur in 2025.

## 9.0 TRAFFIC ANALYSIS

The traffic impact analysis prepared for the study intersections using the CMA methodology and application of the City's significant traffic impact criteria is summarized in **Table 9-1**. The CMA data worksheets for the analyzed intersections are contained in *Appendix C*. As noted previously, the  $v/c$  ratios and LOS calculations reflect a reduced capacity of 1,000 vehicles per hour for some of the study intersections based on field observations and existing vehicle queuing.

### 9.1 Existing Conditions

#### 9.1.1 Existing Conditions

As indicated in column [1] of *Table 9-1*, 30 of the 32 study intersections are presently operating at LOS D or better during the weekday AM and PM peak hours under existing conditions, with many operating at LOS A or B. The remaining study intersections (No. 8, Figueroa Street/2nd Street, and No. 9, Figueroa Street/3rd Street-SR 110 Freeway Ramps) presently operate at LOS F during the weekday PM peak hour under existing conditions. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 5-1* and *5-2*, respectively.

#### 9.1.2 Existing With Project Conditions

As shown in column [2] of *Table 9-1*, application of the City's threshold criteria to the "Existing With Project" scenario indicates that the proposed project would be expected to create significant impacts at three (3) of the 32 study intersections as noted below:

- Int. No. 5: Beaudry Avenue/2nd Street

PM peak hour  $v/c$  ratio increase of 0.014 [to 0.910 (LOS E) from 0.896 (LOS D)]

- Int. No. 8: Figueroa Street/2nd Street

PM peak hour  $v/c$  ratio increase of 0.014 [to 1.073 (LOS F) from 1.059 (LOS F)]

- Int. No. 9: Figueroa Street/3rd Street-SR 110 Freeway Ramps

PM peak hour  $v/c$  ratio increase of 0.017 [to 1.148 (LOS F) from 1.131 (LOS F)]

Incremental, but not significant, impacts are noted at the remaining 29 study intersections. The existing with project traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in **Figures 9-1** and **9-2**, respectively.

### 9.2 Future Conditions

#### 9.2.1 Future Without Project Conditions

The future cumulative baseline conditions were forecast based on the addition of traffic generated by the completion and occupancy of the related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other

Table 9-1  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		YEAR 2017 EXISTING WITH PROJECT		[2]		[3]		[4]			[5]				
			V/C	LOS	V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	V/C	LOS	V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
1	Belmont Avenue-Loma Drive/ Beverly Boulevard	AM PM	0.425 0.407	A A	0.426 0.412	A A	0.001 0.005	No No	0.516 0.475	A A	0.517 0.481	A A	0.001 0.006	No No	0.517 0.481	A A	0.001 0.006	--- ---
2	Glendale Boulevard/ Court Street-Laveta Terrace	AM PM	0.469 0.368	A A	0.475 0.372	A A	0.006 0.004	No No	0.583 0.507	A A	0.588 0.512	A A	0.005 0.005	No No	0.588 0.512	A A	0.005 0.005	--- ---
3	Glendale Boulevard-Lucas Avenue/ Beverly Boulevard-1st St-2nd St	AM PM	0.694 0.558	B A	0.699 0.564	B A	0.005 0.006	No No	0.881 0.720	D C	0.885 0.729	D C	0.004 0.009	No No	0.885 0.729	D C	0.004 0.009	--- ---
4	Beaudry Avenue/ 1st Street	AM PM	0.499 0.767	A C	0.501 0.769	A C	0.002 0.002	No No	0.562 1.009	A F	0.565 1.011	A F	0.003 0.002	No No	0.565 1.011	A F	0.003 0.002	--- ---
5	Beaudry Avenue/ 2nd Street	AM PM	0.640 0.896	B D	0.647 0.910	B E	0.007 0.014	No Yes	0.788 1.101	C F	0.796 1.115	C F	0.008 0.014	No Yes	0.796 1.115	C F	0.008 0.014	--- No
6	Beaudry Avenue/ SR-110 SB Off-Ramp	AM PM	0.468 0.510	A A	0.468 0.510	A A	0.000 0.000	No No	0.563 0.640	A B	0.563 0.640	A B	0.000 0.000	No No	0.563 0.640	A B	0.000 0.000	--- ---
7	Beaudry Avenue/ 3rd Street-Miramar Street	AM PM	0.761 0.519	C A	0.761 0.519	C A	0.000 0.000	No No	0.864 0.765	D C	0.864 0.765	D C	0.000 0.000	No No	0.864 0.765	D C	0.000 0.000	--- ---
8	Figueroa Street/ 2nd Street	AM PM	0.747 1.059	C F	0.773 1.073	C F	0.026 0.014	No Yes	1.091 1.408	F F	1.117 1.414	F F	0.026 0.006	Yes No	1.107 1.404	F F	0.016 -0.004	No ---
9	Figueroa Street/ 3rd Street-SR-110 Ramps	AM PM	0.789 1.131	C F	0.789 1.148	C F	0.000 0.017	No Yes	0.893 1.449	D F	0.894 1.466	D F	0.001 0.017	No Yes	0.884 1.456	D F	-0.009 0.007	--- Yes
10	Figueroa Street/ SR-110 NB and SB On-Ramps- 5th Street	AM PM	0.563 0.835	A D	0.564 0.840	A D	0.001 0.005	No No	0.798 1.136	C F	0.799 1.142	C F	0.001 0.006	No No	0.799 1.142	C F	0.001 0.006	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

Final v/c	LOS	Project Related Increase in v/c
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

Table 9-1 (Continued)  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		YEAR 2017 EXISTING WITH PROJECT		[2]		[3]		[4]				[5]			
			V/C	LOS	V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	V/C	LOS	V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
11	Figueroa Street/ SR-110 NB and SB Off-Ramps- 6th Street	AM PM	0.672 0.614	B B	0.680 0.616	B B	0.008 0.002	No No	0.889 0.903	D E	0.897 0.905	D E	0.008 0.002	No No	0.897 0.905	D E	0.008 0.002	--- ---
12	Hill Street/ 2nd Street	AM PM	0.601 0.579	B A	0.628 0.589	B A	0.027 0.010	No No	0.749 0.807	C D	0.776 0.818	C D	0.027 0.011	No No	0.776 0.818	C D	0.027 0.011	--- ---
13	Broadway/ US-101 SB Off-Ramp-Aliso Street	AM PM	0.323 0.378	A A	0.339 0.403	A A	0.016 0.025	No No	0.452 0.547	A A	0.469 0.572	A A	0.017 0.025	No No	0.469 0.572	A A	0.017 0.025	--- ---
14	Broadway/ Temple Street	AM PM	0.550 0.565	A A	0.572 0.576	A A	0.022 0.011	No No	0.698 0.762	B C	0.720 0.772	C C	0.022 0.010	No No	0.720 0.772	C C	0.022 0.010	--- ---
15	Broadway/ 1st Street	AM PM	0.551 0.586	A A	0.576 0.614	A B	0.025 0.028	No No	0.666 0.744	B C	0.692 0.755	B C	0.026 0.011	No No	0.692 0.755	B C	0.026 0.011	--- ---
16	Broadway/ 2nd Street	AM PM	0.396 0.406	A A	0.445 0.430	A A	0.049 0.024	No No	0.607 0.610	B B	0.639 0.645	B B	0.032 0.035	No No	0.639 0.645	B B	0.032 0.035	--- ---
17	Broadway/ 3rd Street	AM PM	0.652 0.554	B A	0.658 0.577	B A	0.006 0.023	No No	0.701 0.739	C C	0.713 0.774	C C	0.012 0.035	No No	0.713 0.774	C C	0.012 0.035	--- ---
18	Broadway/ 4th Street	AM PM	0.305 0.442	A A	0.329 0.452	A A	0.024 0.010	No No	0.530 0.694	A B	0.553 0.705	A C	0.023 0.011	No No	0.553 0.705	A C	0.023 0.011	--- ---
19	Spring Street/ US-101 NB Off-Ramp	AM PM	0.387 0.251	A A	0.418 0.259	A A	0.031 0.008	No No	0.529 0.439	A A	0.561 0.447	A A	0.032 0.008	No No	0.561 0.447	A A	0.032 0.008	--- ---
20	Spring Street/ Aliso Street	AM PM	0.353 0.146	A A	0.375 0.166	A A	0.022 0.020	No No	0.495 0.265	A A	0.517 0.285	A A	0.022 0.020	No No	0.517 0.285	A A	0.022 0.020	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

Final v/c	LOS	Project Related Increase in v/c
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

Table 9-1 (Continued)  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		YEAR 2017 EXISTING WITH PROJECT		[2]		[3]		[4]			[5]				
			V/C	LOS	V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	V/C	LOS	V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
21	Spring Street/ Temple Street	AM PM	0.610 0.381	B A	0.633 0.387	B A	0.023 0.006	No No	0.744 0.520	C A	0.767 0.527	C A	0.023 0.007	No No	0.767 0.527	C A	0.023 0.007	--- ---
22	Spring Street/ 1st Street	AM PM	0.413 0.315	A A	0.436 0.320	A A	0.023 0.005	No No	0.519 0.443	A A	0.542 0.449	A A	0.023 0.006	No No	0.542 0.449	A A	0.023 0.006	--- ---
23	Spring Street/ 2nd Street	AM PM	0.466 0.376	A A	0.514 0.393	A A	0.048 0.017	No No	0.633 0.602	B B	0.681 0.619	B B	0.048 0.017	No No	0.681 0.619	B B	0.048 0.017	--- ---
24	Spring Street/ 3rd Street	AM PM	0.565 0.462	A A	0.571 0.519	A A	0.006 0.057	No No	0.774 0.671	C B	0.780 0.685	C B	0.006 0.014	No No	0.780 0.685	C B	0.006 0.014	--- ---
25	Spring Street/ 4th Street	AM PM	0.370 0.459	A A	0.373 0.471	A A	0.003 0.012	No No	0.593 0.739	A C	0.596 0.751	A C	0.003 0.012	No No	0.596 0.751	A C	0.003 0.012	--- ---
26	Main Street/ 1st Street	AM PM	0.334 0.545	A A	0.334 0.545	A A	0.000 0.000	No No	0.432 0.664	A B	0.432 0.664	A B	0.000 0.000	No No	0.432 0.664	A B	0.000 0.000	--- ---
27	Main Street/ 2nd Street	AM PM	0.301 0.581	A A	0.319 0.586	A A	0.018 0.005	No No	0.501 0.805	A D	0.519 0.809	A D	0.018 0.004	No No	0.519 0.809	A D	0.018 0.004	--- ---
28	Main Street/ 3rd Street	AM PM	0.626 0.789	B C	0.631 0.791	B C	0.005 0.002	No No	0.829 1.053	D F	0.834 1.055	D F	0.005 0.002	No No	0.834 1.055	D F	0.005 0.002	--- ---
29	Main Street/ 4th Street	AM PM	0.230 0.743	A C	0.234 0.747	A C	0.004 0.004	No No	0.413 0.991	A E	0.416 0.996	A E	0.003 0.005	No No	0.416 0.996	A E	0.003 0.005	--- ---
30	Los Angeles Street/ Aliso Street - US-101 SB On-Ramp	AM PM	0.209 0.614	A B	0.212 0.625	A B	0.003 0.011	No No	0.289 0.812	A D	0.291 0.823	A D	0.002 0.011	No No	0.291 0.823	A D	0.002 0.011	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

Final v/c	LOS	Project Related Increase in v/c
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

Table 9-1 (Continued)  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

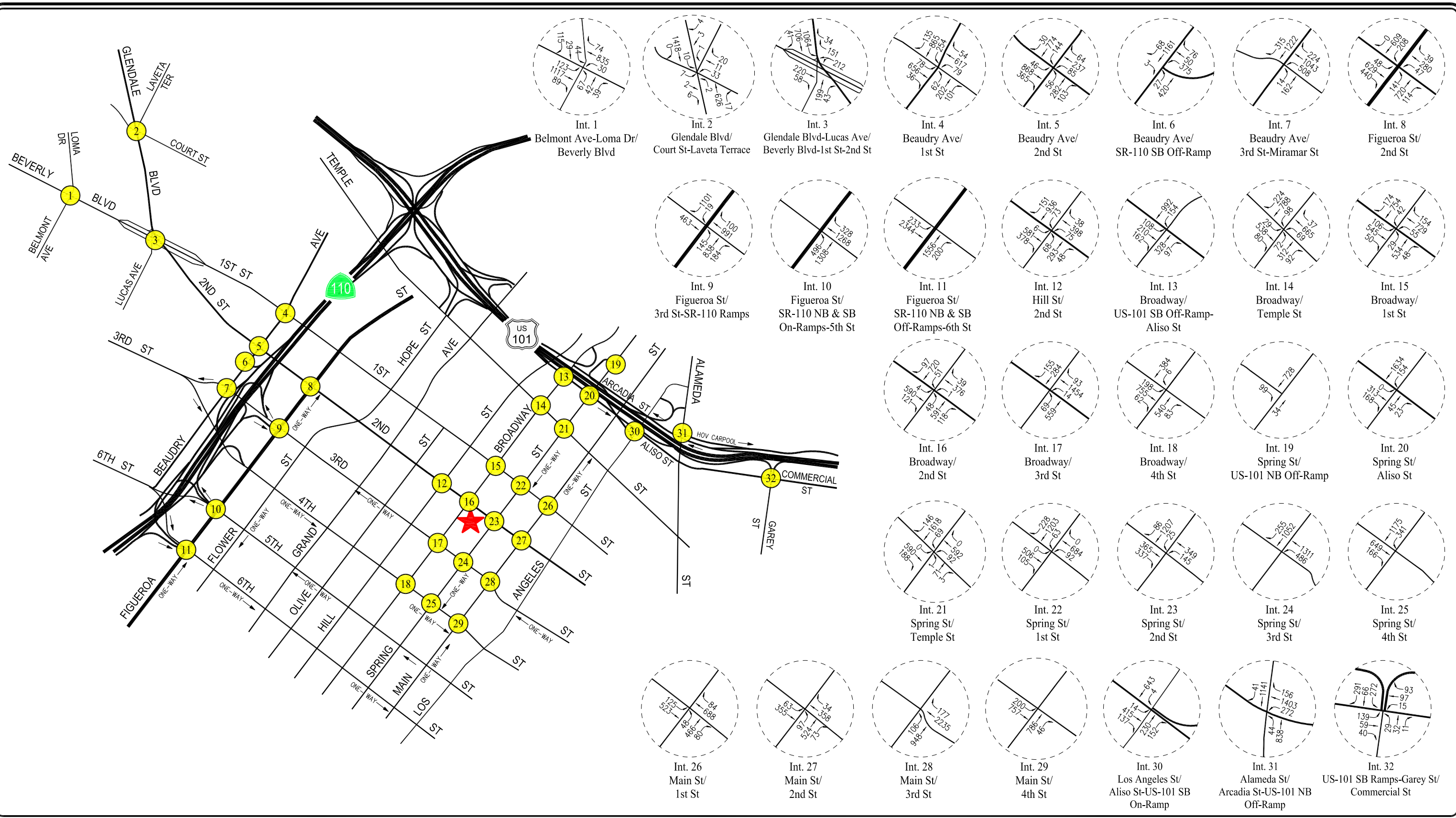
NO.	INTERSECTION	PEAK HOUR	[1]		[2]			[3]		[4]			[5]					
			YEAR 2017 EXISTING V/C	LOS	YEAR 2017 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2025 FUTURE W/O PROJECT V/C	LOS	YEAR 2025 FUTURE WITH PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	YEAR 2025 W/ PROJECT MITIGATION V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
31	Alameda Street/ Arcadia Street - US-101 NB Off-Ramp	AM PM	0.530 0.630	A B	0.539 0.632	A B	0.009 0.002	No No	0.929 0.941	E E	0.941 0.943	E E	0.012 0.002	Yes No	0.931 0.933	E E	0.002 -0.008	Yes ---
32	US-101 SB Ramps-Garey Street/ Commercial Street	AM PM	0.299 0.467	A A	0.301 0.481	A A	0.002 0.014	No No	0.528 0.760	A C	0.531 0.774	A C	0.003 0.014	No No	0.531 0.774	A C	0.003 0.014	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

<u>Final v/c</u>	<u>LOS</u>	<u>Project Related Increase in v/c</u>
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010



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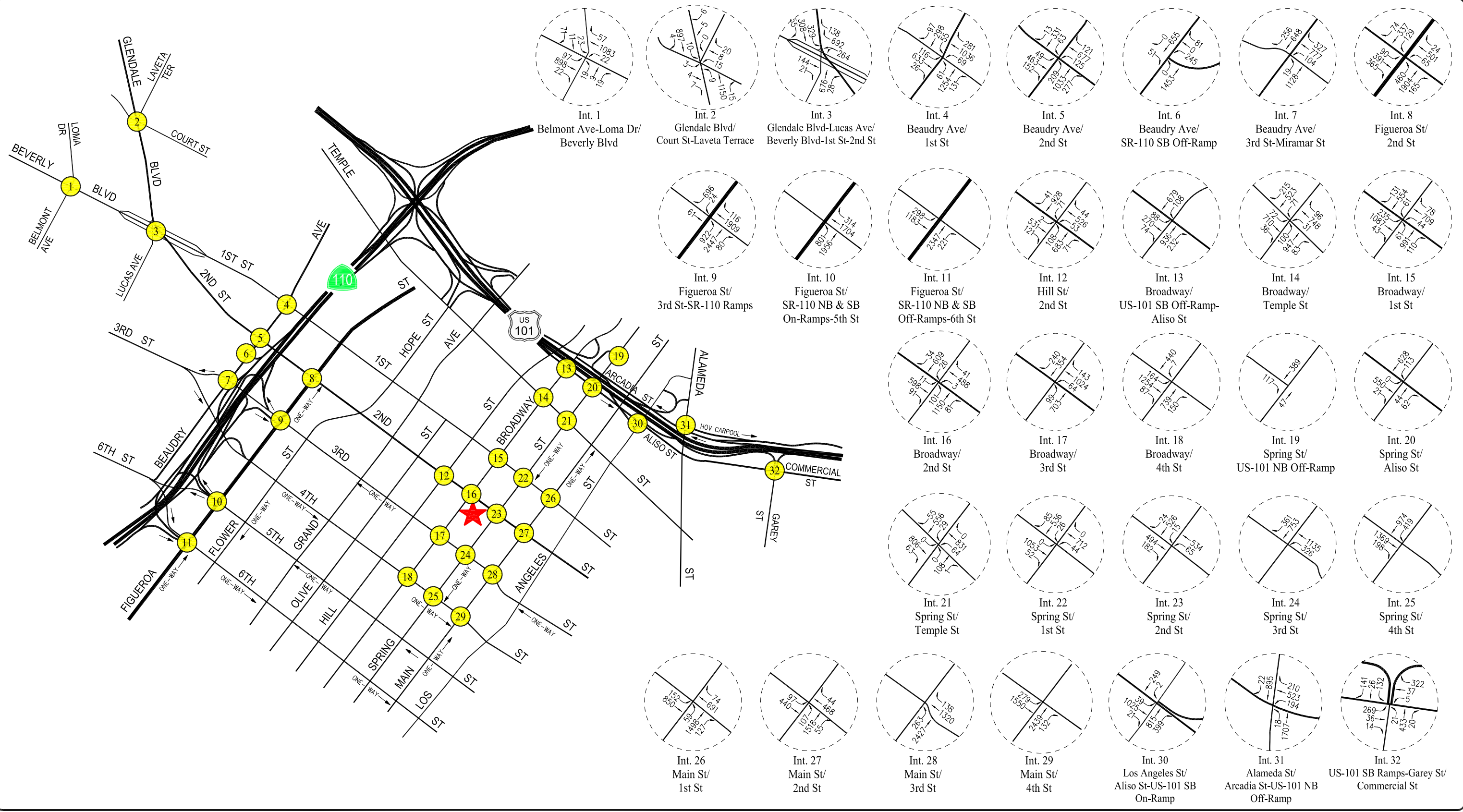


NOT TO SCALE

LINSCOTT, LAW & GREENSPAN, engineers

**FIGURE 9-1**  
**EXISTING WITH PROJECT TRAFFIC VOLUMES**  
WEEKDAY AM PEAK HOUR  
222 WEST 2ND PROJECT

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NOT TO SCALE

LINSCOTT, LAW & GREENSPAN, engineers

**FIGURE 9-2**  
**EXISTING WITH PROJECT TRAFFIC VOLUMES**  
WEEKDAY PM PEAK HOUR  
222 WEST 2ND PROJECT

factors (i.e., ambient growth). The  $v/c$  ratios at all of the study intersections are incrementally increased with the addition of ambient traffic and traffic generated by the related projects listed in *Table 6-1*. As presented in column [3] of *Table 9-1*, 23 of the 32 study intersections are expected to continue operating at LOS D or better during the weekday AM and PM peak hours with the addition of growth in ambient traffic and related projects traffic under the future without project conditions. Moreover, the following study intersections are expected to operate at LOS E or F during the peak hours shown below with the addition of ambient growth traffic and traffic due to the related projects (i.e., without the addition of project trips):

- Int. 4: Beaudry Avenue/1st Street PM Peak Hour:  $v/c=1.009$ , LOS F
- Int. 5: Beaudry Avenue/2nd Street PM Peak Hour:  $v/c=1.101$ , LOS F
- Int. 8: Figueroa Street/2nd Street AM Peak Hour:  $v/c=1.091$ , LOS F  
PM Peak Hour:  $v/c=1.408$ , LOS F
- Int. 9: Figueroa Street/3rd St.-SR 110 Ramps PM Peak Hour:  $v/c=1.449$ , LOS F
- Int. 10: Figueroa St./5th St.-SR 110 On-Ramps PM Peak Hour:  $v/c=1.136$ , LOS F
- Int. 11: Figueroa St./6th St.-SR 110 Off-Ramps PM Peak Hour:  $v/c=0.903$ , LOS E
- Int. 28: Main Street/3rd Street PM Peak Hour:  $v/c=1.053$ , LOS F
- Int. 29: Main Street/4th Street PM Peak Hour:  $v/c=0.991$ , LOS E
- Int. 31: Alameda/Arcadia St.-US 101 NB Off Ramp AM Peak Hour:  $v/c=0.929$ , LOS E  
PM Peak Hour:  $v/c=0.941$ , LOS E

The future without project (existing, ambient growth, and related projects) traffic volumes at the study intersections during the weekday AM and PM peak hours are presented in **Figures 9-3** and **9-4**, respectively.

### 9.2.2 Future With Project Conditions

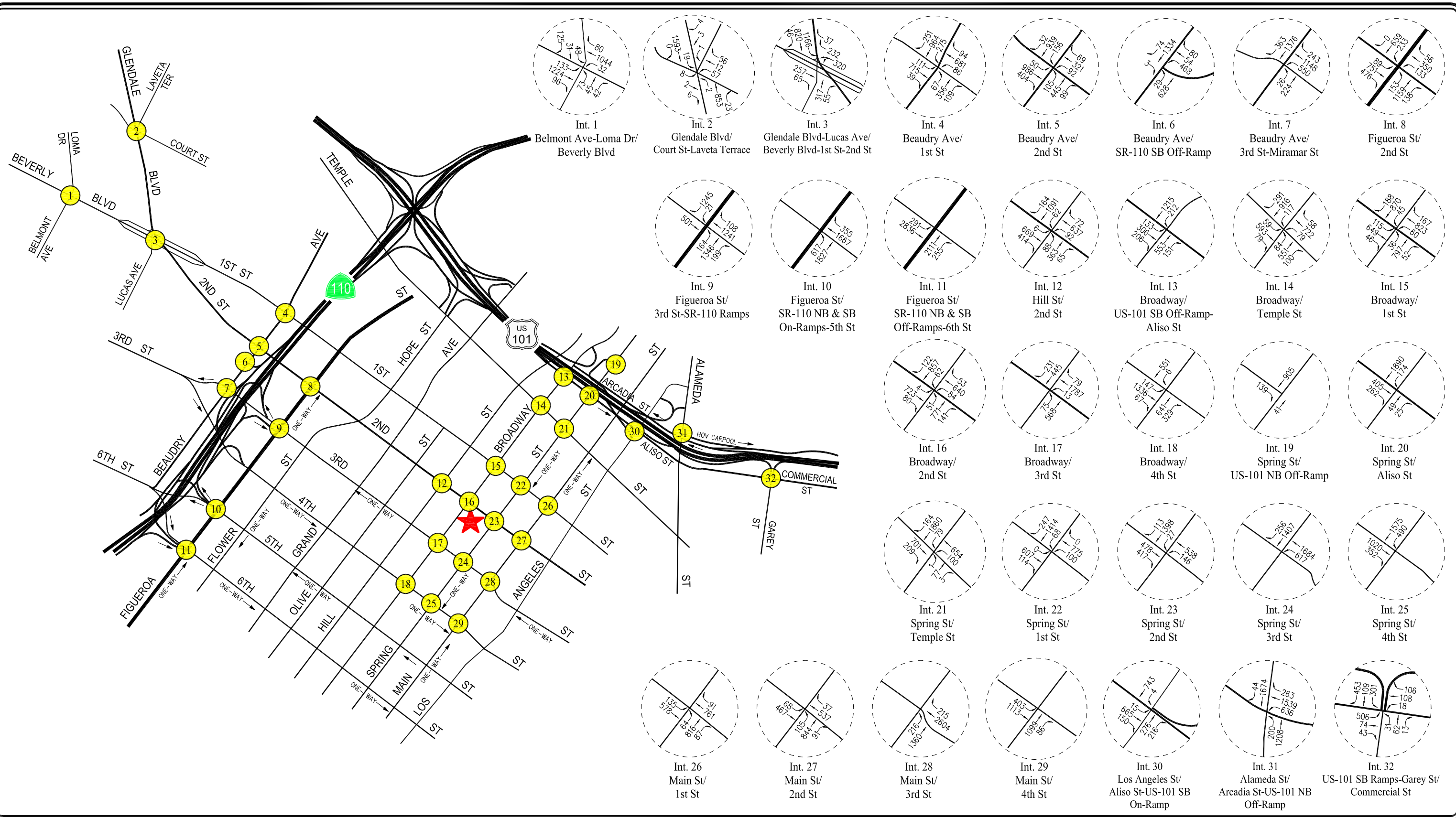
As shown in column [4] of *Table 9-1*, application of the City's threshold criteria to the "Future With Proposed Project" scenario indicates that the proposed project is expected to create significant impacts at four (4) of the 32 study intersections as noted below:

- Int. No. 5: Beaudry Avenue/2nd Street

PM peak hour  $v/c$  ratio increase of 0.014 [to 1.115 (LOS F) from 1.101 (LOS F)]

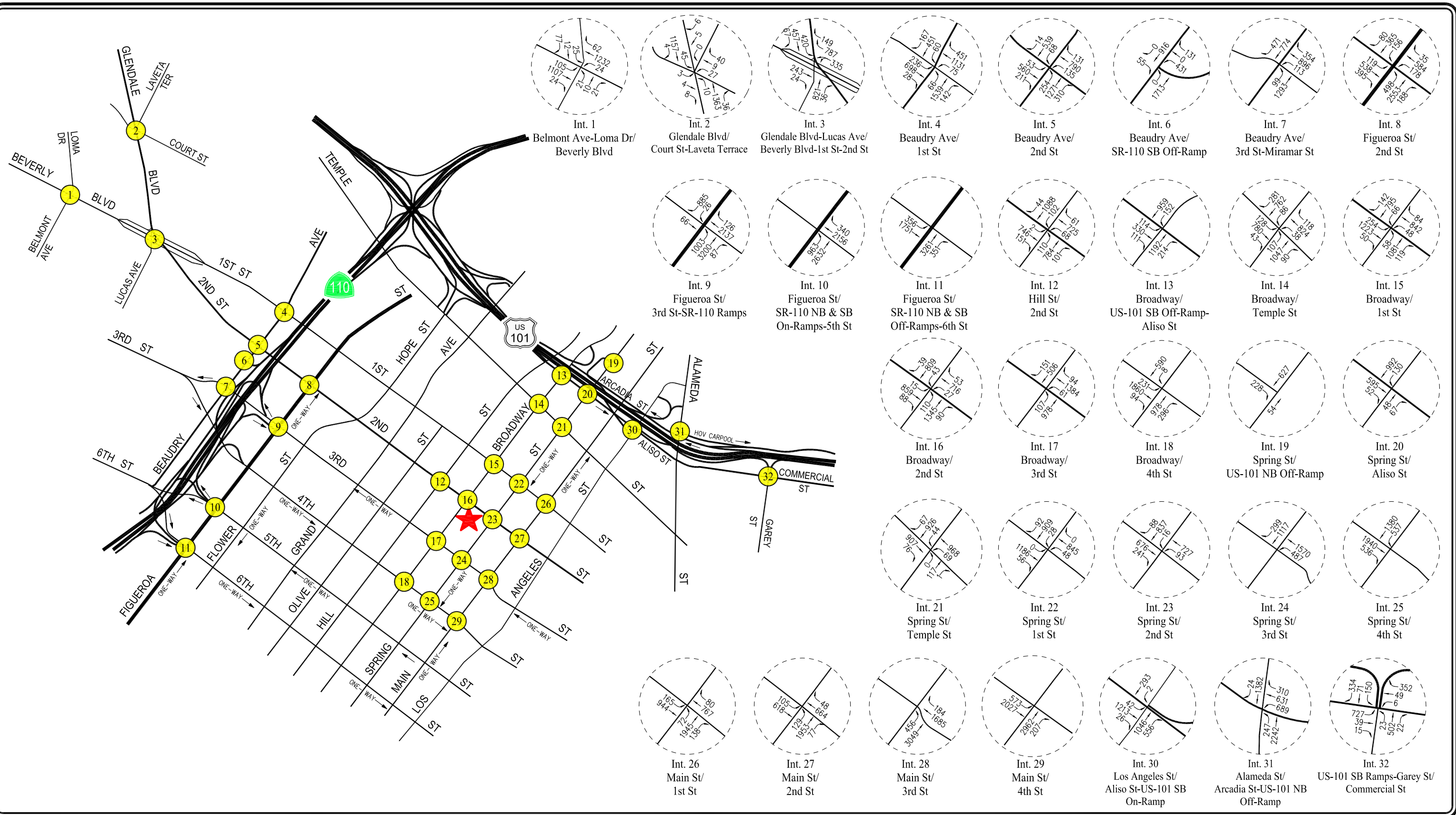


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**FIGURE 9-3**  
**FUTURE WITHOUT PROJECT TRAFFIC VOLUMES**  
WEEKDAY AM PEAK HOUR  
222 WEST 2ND PROJECT

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**FIGURE 9-4**  
**FUTURE WITHOUT PROJECT TRAFFIC VOLUMES**  
WEEKDAY PM PEAK HOUR  
222 WEST 2ND PROJECT

- Int. No. 8: Figueroa Street/2nd Street

AM peak hour  $v/c$  ratio increase of 0.026 [to 1.117 (LOS F) from 1.091 (LOS F)]

- Int. No. 9: Figueroa Street/3rd Street-SR 110 Freeway Ramps

PM peak hour  $v/c$  ratio increase of 0.017 [to 1.466 (LOS F) from 1.449 (LOS F)]

- Int. No. 31: Alameda Street/Arcadia Street-US 101 NB Off-Ramp

AM peak hour  $v/c$  ratio increase of 0.012 [to 0.941 (LOS E) from 0.929 (LOS E)]

Incremental, but not significant, impacts are noted at the remaining 28 study intersections. The future with project (existing, ambient growth, related projects and project) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in **Figures 9-5** and **9-6**, respectively.

### 9.3 Freeway Impact Analysis Screening Criteria Review

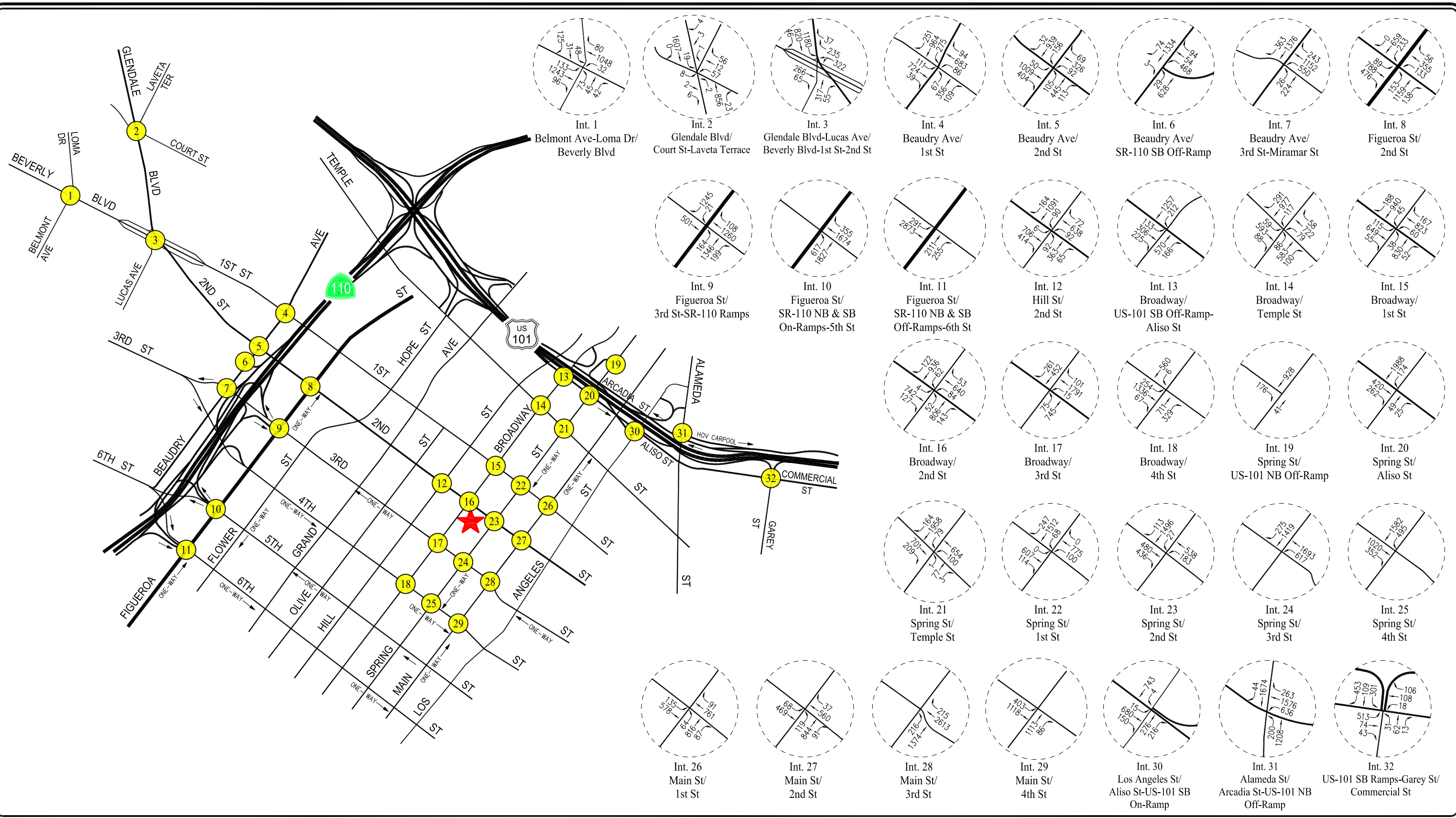
Pursuant to the “Freeway Impact Analysis Procedures” agreement executed in October 2013 between LADOT and Caltrans District 7, as amended in December 2015, traffic studies may be required to conduct a focused freeway impact analysis in addition to the CMP analysis. If projects meet any of the following criteria, applicants are directed to the Caltrans’ Intergovernmental Review (IGR) section for a determination on the need for analysis and, if necessary, the methodology to be utilized for a freeway impact analysis:

- The project’s peak hour trips would result in a 1% or more increase to the freeway mainline capacity of a freeway segment operating at LOS E or F (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project’s peak hour trips would result in a 2% or more increase to the freeway mainline capacity of a freeway segment operating at LOS D (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project’s peak hour trips would result in a 1% or more increase to the capacity of a freeway off-ramp operating at LOS E or F (based on an assumed ramp capacity of 850 vehicles per hour per lane); or
- The project’s peak hour trips would result in a 2% or more increase to the capacity of a freeway off-ramp operating at LOS D (based on an assumed ramp capacity of 850 vehicles per hour per lane).

Freeway mainline segments and off-ramps in the project vicinity that are forecast to receive net new project trips are subject to freeway impact analysis screening. This screening analysis is based solely on the comparisons between the expected net new project-related traffic volumes and the

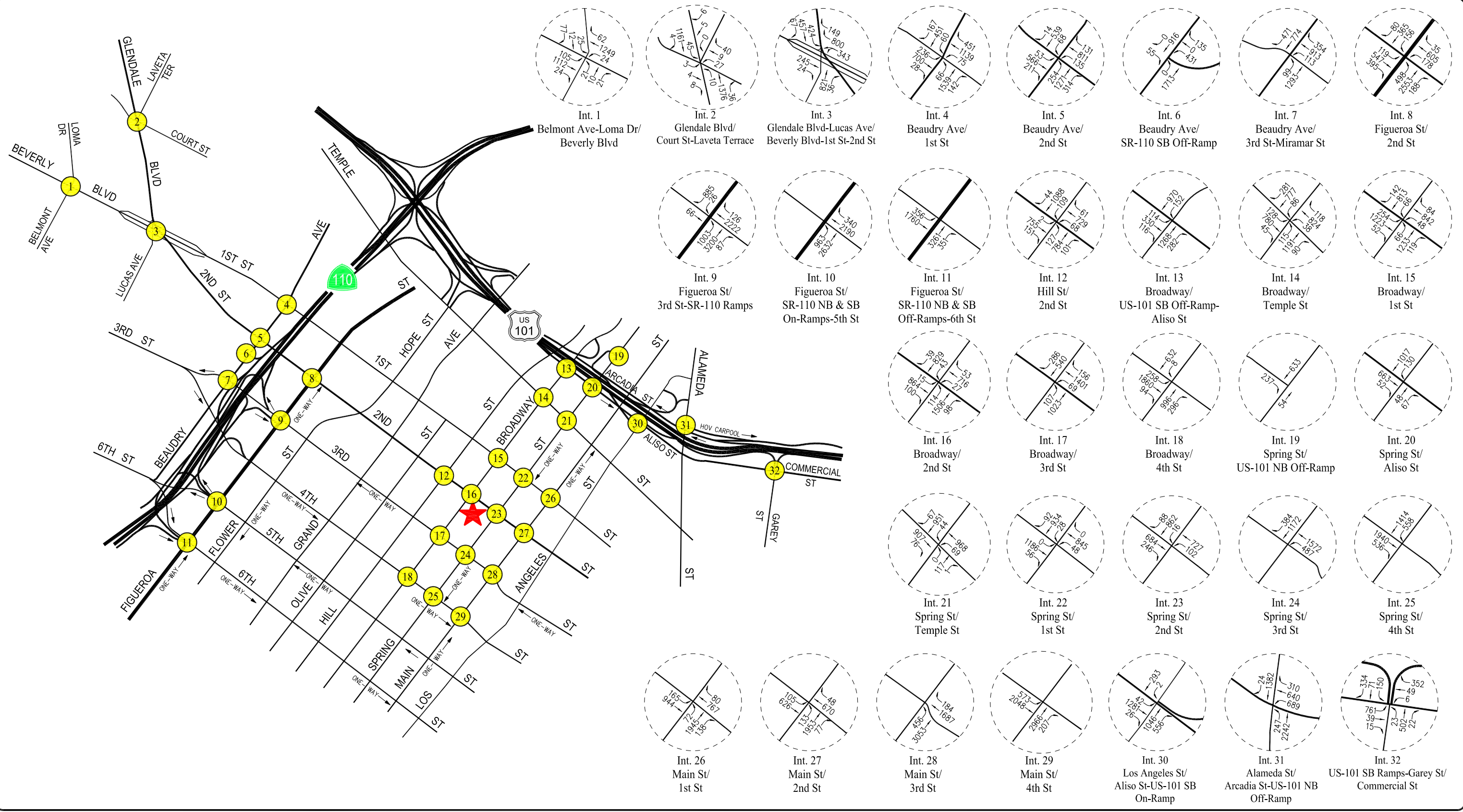


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**FIGURE 9-5**  
**FUTURE WITH PROJECT TRAFFIC VOLUMES**  
WEEKDAY AM PEAK HOUR  
222 WEST 2ND PROJECT

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-87-

**FIGURE 9-6**  
**FUTURE WITH PROJECT TRAFFIC VOLUMES**  
WEEKDAY PM PEAK HOUR  
222 WEST 2ND PROJECT



capacity of the subject mainline freeway segments and freeway off-ramps. Thus, cumulative conditions (i.e., related project's traffic volumes and regional growth) are not considered for purposes of the screening analysis. As shown in the approved MOU, based on the project-related increase on the freeway segments and freeway off-ramps, the screening criteria would be met, thus requiring further analysis on Caltrans facilities. Therefore, a supplemental analysis was prepared based on the Highway Capacity Manual<sup>20</sup> (HCM) operational analysis methodologies. The supplemental Caltrans analysis is described in Section 10.0, with supporting data provided in *Appendix D*.

## 9.4 City of Los Angeles High Injury Network Review

Vision Zero is a citywide initiative which prioritizes the safety of pedestrians and bicyclists on public streets, with the understanding that roads which are safe for vulnerable users will be safer for all users, in an effort to eliminate traffic fatalities. Key elements of the policy, such as reducing traffic speeds, are founded on the principles of engineering, education, enforcement, evaluation, and equity. Originating in Sweden, the policy has been adopted in numerous other North American cities, including California cities such as San Francisco and San Diego.

Mayor Eric Garcetti issued Executive Directive No. 10 in August 2015, formally launching the Vision Zero initiative in Los Angeles. Vision Zero is also a stated safety objective in the Mobility Plan 2035, which sets the goal of zero traffic deaths by 2035. Jointly directed by LADOT and the Police Department, Vision Zero takes a multi-disciplinary approach to identifying safety risk factors and implementing solutions on a citywide scale. Using a methodology originally developed by the San Francisco Public Health Department, the Vision Zero Task Force has identified streets where investments in safety will have the most impact in reducing severe injuries and traffic fatalities in the City.<sup>21</sup> These roads are collectively known as the High Injury Network (HIN). The HIN will be reviewed by the LADOT's Vision Zero group for potential engineering re-design as well as educational and enforcement campaigns.

The proposed project is located in the heart of Downtown Los Angeles, which is a major focus of the City's Vision Zero Task Force. The project site is situated along the south side of 2<sup>nd</sup> Street between Broadway and Spring Street. Roadways in the immediate vicinity of the proposed project that have been selected for analysis and are also identified on the City's HIN are noted below:

- 2nd Street from Broadway to Los Angeles Street
- Broadway – between 1st Street and 2nd Street and between 3rd Street and 5th Street
- Spring Street – from just north of 1st Street south to 10<sup>th</sup> Street

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<sup>20</sup> *Highway Capacity Manual 6th Edition*, Transportation Research Board of the National Academies of Sciences-Engineering-Medicine, 2016.

<sup>21</sup> Vision Zero Los Angeles 2015-2025, August 2015.

If a proposed project results in significant traffic impacts at intersections located along a designated HIN, LADOT's Vision Zero group will review those specific locations and immediate vicinity for potential safety enhancements that are consistent with the City's Vision Zero initiative.

## 10.0 CALIFORNIA DEPARTMENT OF TRANSPORTATION TRAFFIC ANALYSIS

As noted previously in Section 9.3, the proposed project meets the screening criteria identified in the “Freeway Impact Analysis Procedures” agreement at the freeway mainline segments and the freeway off-ramps. As a result, further analyses of Caltrans facilities were conducted in order to provide additional information to the decision-makers. The screening analysis is included in the MOU provided in *Appendix A*.

The analyses conducted on Caltrans facilities included freeway mainline segments, ramp intersections, and off-ramp queuing. Four mainline freeway segments along the SR-110 and US-101 Freeways were analyzed using the HCM operational analysis methodologies to determine density, speed, and corresponding LOS. Nine Caltrans ramp intersections were analyzed using the HCM operation analysis methodologies to determine average vehicular control delay and corresponding LOS. In addition, seven freeway off-ramps along the SR-110 and US-101 Freeways were analyzed for ramp queue lengths using the *Synchro 10* software package which implements the HCM operational methods to estimate vehicle queues.

The technical analyses of Caltrans facilities are provided in *Appendix D*, along with the corresponding LOS and queuing worksheets for each type of analysis.

## 11.0 CONSTRUCTION TRAFFIC ANALYSES

This section provides a construction impact analysis for the proposed project. The construction impact analysis relates to the temporary transportation impacts that may result from the construction activities of the proposed project, which may include safety, operational, or capacity impacts.

### 11.1 Construction Assumptions

While detailed construction staging plans have not yet been developed, the project applicant has provided preliminary information regarding the overall construction activities in order to identify the potential construction traffic generation. It has been determined that the duration of construction activities is expected to total approximately 39 months. The construction activities will consist of the following phases: 1) Demolition, 2) Grading, 3) Foundation, 4) Building Construction, and 5) Paving and Landscaping. A summary of key elements of each construction phase is provided in *Table 11-1*. It is assumed that the construction phases will not overlap.

As presented in *Table 11-1*, it is assumed that the demolition and site preparation would occur on the project site during the first half month (i.e., two weeks) after commencement of construction activities and would require 15 workers and up to 15 trucks daily. Peak grading and associated excavation activities would occur during the following one month, and would require 30 workers. It is anticipated that the site excavation and grading would require the removal of approximately 7,000 cubic yards of material from the site. Based on information provided by the applicant, the construction vehicles that are planned to be utilized for export activities will have a capacity of 14 cubic yards per truck. Therefore, a total of 500 truckloads would be required for complete export of the material. The export period is assumed to include 21 non-holiday workdays, which corresponds to 24 truckloads per day. However, during peak grading activities, up to 50 truckloads per day can be expected. Following the completion of the site grading, construction of the foundation is expected to occur in the next 4.5 months, requiring 50 workers and up to 50 trucks daily. Building construction would occur during the following 32 months, requiring 250 workers and up to 50 trucks per day. Landscaping and paving would occur during the final one month of construction, requiring 50 workers and up to 20 trucks per day.

It is assumed that the equipment staging area during the initial phases of construction would occur on, within and adjacent to the project site. Construction worker parking also could occur on-site during certain times, however during the building construction workers would likely park at the 213 S. Spring Street parking garage. The City's Noise Ordinance currently limits construction hours Monday through Friday to no earlier than 7:00 AM and no later than 9:00 PM. On Saturdays, construction hours are limited to no earlier than 8:00 AM and no later than 6:00 PM. It is assumed that workers would generally arrive at the site by 7:00 AM and depart the site by 3:30 PM (i.e., after an eight hour workday including a lunch break), except when overtime is necessary to maintain the schedule. At this time, it is not known if temporary lane closures will be necessary during the course of project construction. However, any such lane closures would be expected to occur outside the weekday AM and PM commute hours so as to maintain roadway capacity when the street system is typically most heavily constrained.

Table 11-1  
SUMMARY OF CONSTRUCTION PHASES [1]

CONSTRUCTION PHASE	DURATION (MONTHS)	NUMBER OF PEAK DAILY WORKERS	NUMBER OF MAXIMUM DAILY TRUCKS (TRIP ENDS)	MATERIAL EXPORT (CUBIC YARDS)
Phase 1: Demolition	0.5	15	30	nom.
Phase 2: Grading	1.0	30	100	7,000
Phase 3: Foundation	4.5	50	100	nom.
Phase 4: Building Construction	32.0	250	100	nom.
Phase 5: Paving and Landscaping	1.0	50	40	nom.

[1] Based on preliminary information provided by the project Applicant.

Based on a review of the construction phasing, it is determined that the overall highest construction traffic generation is expected to occur during building construction activities. Other phases such as demolition, grading, foundation construction, and landscaping are expected to be less intensive in terms of overall construction traffic generation. In addition, with implementation of a Construction Staging and Traffic Management Plan (CSTMP), discussed further below, it is anticipated that most haul truck activity to and from the project site would occur outside of the morning and afternoon peak hours. Accordingly, construction traffic associated with phases such as demolition, grading, foundation construction, and landscaping are not expected to result in any significant construction traffic impacts. The peak construction traffic trip generation and corresponding impact assessment (during building construction activities) for the weekday AM and PM peak hours is described in more detail below.

## 11.2 Construction Traffic Impacts During Building Construction Phase

As described above, the peak construction traffic generation has been determined to occur during the building construction phase. This peak construction activity is expected to occur over a 32-month period. Activities related to this phase/period are expected to generate the highest number of construction trips as compared to the other construction activities. Based on information provided by the applicant, during this phase the maximum number of construction workers is expected to total 250 workers. Construction workers are expected to arrive to the project site prior to the start of the work day (i.e., prior to 7:00 AM). Therefore, it is assumed that these trips would occur outside of the weekday AM peak commuter hour. Assuming the typical eight-hour work day ends at 3:30 PM, fifty percent (50%) of the workers are assumed to leave the site between 3:30 PM and 4:00 PM, twenty-five percent (25%) between 4:00 PM and 4:30 PM, and the remaining twenty-five percent (25%) after 4:30 PM (including supervisors). Thus, while these construction worker trips would generally occur outside of the afternoon commuter peak hours of adjacent street traffic, twenty-five percent (25%) of the work force (i.e., 63 workers) have been assumed to overlap with the weekday commute PM peak hour, which generally occurs between 5:00 PM and 6:00 PM (as shown in *Table 5-1*), in order to provide a conservative forecast of construction traffic generation.

It is anticipated that construction workers would primarily remain on-site throughout the day. The number of construction worker vehicles is estimated using an average vehicle ridership (AVR) of 1.135 persons per vehicle (as provided in the South Coast Air Quality Management District in its CEQA Air Quality Handbook). Therefore, it is estimated that approximately 442 daily vehicle trips (221 inbound trips and 221 outbound trips) would be generated to/from the site by the construction workers during this peak building construction phase. With 25% of the workers conservatively assumed to overlap with the weekday PM peak commuter hour, this would result in 55 outbound construction worker vehicle trips.

In addition to construction worker vehicles, additional trips may be generated by miscellaneous trucks traveling to and from the project site. These trucks may consist of trucks delivering equipment and/or construction materials to the project site. In addition, smaller pick-up trucks or four-wheel drive vehicles used by construction supervisors and/or City inspectors are expected to be generated to and from the site. During peak building construction phase, it is estimated that up to 50 trucks per day would be generated to and from the site, resulting in 100 truck trip ends (i.e., 50

inbound truck trips and 50 outbound truck trips). To conservatively estimate the equivalent number of vehicles associated with the trucks, a passenger car equivalent (PCE) factor of 2.5 was utilized based on standard traffic engineering practice. Therefore, assuming 50 trucks per day, it is estimated that the trucks would generate approximately 250 daily PCE vehicle trip ends (i.e., 125 inbound trips and 125 outbound trips). Assuming that miscellaneous truck trips such as equipment and material deliveries may occur between 7:00 AM and 6:00 PM, it is estimated that an average of approximately 22 PCE vehicle trips (i.e., 11 inbound trips and 11 outbound trips) would occur per hour, including during the AM and PM peak hours.

The trip generation forecast of vehicular trips anticipated to be generated during the peak phase of building construction is presented in *Appendix E* (see *Appendix Table E-1*). Taken together, the construction worker vehicles and miscellaneous trucks during the peak phase of building construction are forecast to generate up to 22 weekday AM peak hour vehicle trips (i.e., 11 inbound trips and 11 outbound trips), and up to 77 weekday PM peak hour vehicle trips (i.e., 11 inbound trips and 66 outbound trips). By comparison, the proposed project upon completion and occupancy is expected to generate 560 vehicle trips (i.e., 467 inbound trips and 93 outbound trips) during the weekday AM peak hour, and 541 vehicle trips (i.e., 118 inbound trips and 423 outbound trips) during the weekday PM peak hour.

Based on the traffic analyses summarized in Section 9.0, it was determined that the proposed project upon completion and occupancy is expected to result in significant traffic impacts at four study intersections, based on the City of Los Angeles' threshold criteria. Incremental, but not significant, impacts are noted at the remaining 28 study intersections. Thus, a construction traffic impact analysis focusing on the four study intersections where significant impacts were identified was prepared to determine whether the proposed project would result in any significant traffic impacts during the peak phase of building construction. As shown in *Appendix Table E-2*, application of the City's threshold criteria demonstrates that the proposed project would not result in any significant traffic impacts at the study intersections during peak construction activities. The corresponding CMA data worksheets are contained in *Appendix E*.

As discussed further in Section 11.3 below, a detailed Construction Staging and Traffic Management Plan (CSTMP) would be required which would provide detailed information regarding any potential temporary sidewalk(s) and/or lane closure(s) along the project frontages. If any sidewalk and/or lane closure are necessary, safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers would be implemented. In addition, bus stops along the project frontages would be maintained to the extent feasible, or they would be temporarily relocated consistent with Metro bus operational needs. The Applicant is also obligated to ensure that access to the future Metro Regional Connector 2nd Street/Broadway rail station is not interrupted during construction to ensure uninterrupted access to the station portal. Therefore, impacts to access (including pedestrians/bicycles) and transit during project construction would be less than significant.

It is important to note that as required by the State of California Vehicle Code (i.e., specifically Section 21806, Authorized Emergency Vehicles), “upon the immediate approach of an authorized emergency vehicle which is sounding a siren and which has at least one lighted lamp exhibiting red light that is visible, under normal atmospheric conditions, from a distance of 1,000 feet in front of a vehicle, the surrounding traffic shall, except as otherwise directed by a traffic officer, do the following:

- (a) (1) Except as required under paragraph (2), the driver of every other vehicle shall yield the right-of-way and shall immediately drive to the right-hand edge or curb of the highway, clear of any intersection, and thereupon shall stop and remain stopped until the authorized emergency vehicle has passed.
- (2) A person driving a vehicle in an exclusive or preferential use lane shall exit that lane immediately upon determining that the exit can be accomplished with reasonable safety.
- (b) The operator of every street car shall immediately stop the street car, clear of any intersection, and remain stopped until the authorized emergency vehicle has passed.
- (c) All pedestrians upon the highway shall proceed to the nearest curb or place of safety and remain there until the authorized emergency vehicle has passed.”<sup>22</sup>

During construction of the proposed project, it is expected that emergency vehicles will continue to utilize the surrounding downtown street system (i.e., particularly Broadway, Spring Street, and 2nd Street) even though some travel lanes along certain portions of some roadways may be temporarily used for construction staging and/or material delivery. If required, drivers of emergency vehicles are also trained to utilize center turn lanes, or travel in opposing through lanes (on two-way streets) to pass through crowded intersections or streets. Thus, the respect entitled to emergency vehicles and driver training allow emergency vehicles to negotiate typical street conditions in urban areas including areas near any temporary travel lane closure(s). Construction activities associated with the proposed project are not expected to have a detrimental effect on emergency response times and therefore, impacts to emergency access during project construction would be less than significant.

### 11.3 Construction Staging and Traffic Management Plan

As a general contractor has not yet been selected, the exact extent of the construction work site boundary cannot be determined at this time. However, during certain portions of the construction schedule it is possible that the adjacent sidewalks along Broadway, Spring Street, and 2nd Street may need to be temporarily closed. Should that be determined to be necessary, appropriate pedestrian detours will be required to be established along with the appropriate advance warning signage directing pedestrians to other available sidewalks and crosswalks/crossings. Should any such pedestrian detours or temporary travel lane closures be proposed, traffic control/management plans will be prepared for the required review and approval by LADOT.

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<sup>22</sup> Source: State of California Department of Motor Vehicles website; <https://www.dmv.ca.gov/portal/dmv>; Amended Sec. 68, Ch. 1154, Stats 1996 Effective September 30, 1996.



A detailed Construction Staging and Traffic Management Plan (CSTMP), including any street closure information, a detour plan, haul routes, and a staging plan, will be prepared and submitted to the City for review and approval. The CSTMP would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The CSTMP would be based on the nature and timing of the specific construction activities for the project and would consider other projects under construction in the immediate vicinity of the project site. Accordingly, the CSTMP shall include, but not be limited to: the following features, as appropriate:

- Provide advanced notification to adjacent property owners and occupants, as well as nearby schools, of upcoming construction activities, including durations and daily hours of construction. Provide a posted sign on the project site with hotline information for adjacent property owners to call and address specific issues or activities that may potentially cause problems at on-and-off-site locations;
- Coordinate with the City and emergency service providers to ensure adequate access is maintained to the project site and neighboring businesses;
- Coordinate with public transit agencies to provide advanced notifications of any temporary stop relocations and durations and follow all safety required procedures required by the concerned agency;
- Limit any potential roadway lane closure/s to off-peak travel periods, to the extent feasible;
- Provide traffic control for any potential roadway lane closure, detour, or other disruption to traffic circulation;
- To the extent feasible, store any construction equipment within the perimeter fence of the construction site. Should temporary storage of a large piece of equipment be necessary outside of the perimeter fence (e.g., within a designated lane closure area), that area must comply with City-approved detour/traffic control plans;
- Provide safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers;
- Identify the routes that construction vehicles would utilize for the delivery of construction materials (i.e. lumber, tiles, piping, windows, etc.), to access the project site, traffic controls and detours, and proposed construction phasing plan for the project;
- Require the Applicant to keep all haul routes adjacent to the project site clean and free of debris including, but not limited to, gravel and dirt as a result of its operations;
- Schedule delivery of construction materials and hauling/transport of oversize loads to non-peak travel periods, to the extent possible. No hauling or transport shall be allowed during nighttime hours, Sundays, or federal holidays unless required by Caltrans or LADOT;
- Obtain a Caltrans transportation permit for use of oversized transport vehicles on Caltrans facilities, if needed;

- Haul trucks entering or exiting public streets shall at all times yield to public traffic;
- Construction-related parking and staging of vehicles shall occur on-site to the extent possible, but may occur on nearby public parking lots, as approved by the City;
- Coordinate deliveries to reduce the potential of trucks waiting to unload for protracted periods of times;
- Prohibit parking by construction workers on adjacent streets and direct construction workers to available/designated parking areas within and adjacent to the project site; and
- The CSTMP shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of Los Angeles requirements.

Ultimately, although the project would result in less than significant traffic impacts during the construction period, implementation of the CSTMP would serve to reduce such impacts.

#### 11.4 Haul Route Approval

Approvals required by the City of Los Angeles for implementation of the proposed project include a Truck Haul Route program. Based on information provided by the applicant, it is anticipated that the demolition, material export, and construction debris will be transported to either Chiquita Canyon Landfill in Castaic or Manning Pit in Irwindale. The planned haul routes through downtown Los Angeles to each of the disposal locations are as follows:

- Chiquita Canyon Landfill

Loaded Trucks – Exit the project site on 2nd Street traveling eastbound, southbound on Spring Street, or exit project site on Spring Street traveling southbound, then westbound on 3rd Street to access the I-110 Northbound Freeway. Proceed via freeways to the disposal site in Castaic.

Empty Trucks – Exit the US-101 Southbound Freeway at Broadway, traveling eastbound on Aliso Street, southbound on Spring Street, then entering the project site on Spring Street.

- Manning Pit

Loaded Trucks – Exit the project site on 2nd Street traveling eastbound, southbound on Spring Street, or exit project site on Spring Street traveling southbound, then eastbound on 4th Street, northbound on Los Angeles Street to access the US-101 Southbound Freeway. Proceed via freeways to disposal site in Irwindale.

Empty Trucks – Exit the US-101 Northbound Freeway at Alameda Street/Union Station, traveling westbound on Arcadia Street, southbound on Spring Street, then entering the project site on Spring Street.

The proposed haul routes would require review and approval by the City of Los Angeles.

## 12.0 TRANSPORTATION DEMAND MANAGEMENT PROGRAM AND IMPROVEMENT MEASURES

### 12.1 Summary of Project Impacts

Based on the traffic analyses summarized in Section 9.0, it was determined that the proposed project is expected to result in significant traffic impacts at the following study intersections, based on the City of Los Angeles' threshold criteria:

- Int. No. 5: Beaudry Avenue/2nd Street (Existing with Project and Year 2025 with Project Impacts)
- Int. No. 8: Figueroa Street/2nd Street (Existing with Project and Year 2025 with Project Impacts)
- Int. No. 9: Figueroa Street/3rd Street-SR 110 Freeway Ramps (Existing with Project and Year 2025 with Project Impacts)
- Int. No. 31: Alameda Street/Arcadia Street-US 101 NB Off Ramp (Year 2025 with Project Impact Only)

### 12.2 Transportation Demand Management (TDM) Program

#### Transportation Demand Management Program

Transportation demand management (TDM) measures are aimed at reducing vehicular traffic generated at project sites and the associated need for parking. TDM measures decrease the number of vehicular trips generated by persons traveling to/from the site by offering specific facilities, services and actions designed to increase the use of alternative transportation modes (e.g., transit, walking, and bicycling) and ridesharing. These measures would be expected to reduce the project's potential traffic impacts, however, no formal trip reductions have been incorporated into the traffic analysis. Trip reductions in the range of five (5%) to ten percent (10%) are common with greater reductions possible depending on the range of measures offered above and beyond those required by the City.

In order to comply with the City's Trip Reduction Ordinance<sup>23</sup>, a formal Preliminary TDM Plan will be developed in conjunction with LADOT and will be required prior to issuance of a building permit for the project and as such will become a project design feature. This preliminary plan will include, at a minimum, measures consistent with the City's Trip Reduction Ordinance. A Final TDM Plan

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<sup>23</sup> City of Los Angeles Ordinance 168,700 (Transportation Demand Management and Trip Reduction Measures, effective 3/31/93) added Section J to Section 12.26 of the Los Angeles Municipal Code to provide transportation demand management features within new buildings which would facilitate the use of alternative transportation modes to decrease dependency on vehicles carrying only one person.

will be required prior to issuance of any Certificate of Occupancy. The project TDM plan could include, but would not be limited to, the following measures:

- *On-Site Employee Transportation Coordinator.* An on-site Employee Transportation Coordinator (ETC) could be designated for the proposed project. The ETC would manage all aspects of an enhanced TDM program and also would participate in City-sponsored workshops and information roundtables. The ETC would establish a Transportation Information Center and Transportation Fairs. The Transportation Information Center would provide on-site information at its buildings for employees and visitors about local public transit services (including bus lines, rail lines and connections, rideshare programs and shuttles), and bicycle facilities (including routes, rental and sales locations, on-site bicycle racks and showers). Walking and biking maps also would be provided for employees, visitors and residents, which would include but not be limited to information about convenient local services and restaurants within walking distance of the project. Such transportation information may be provided through a computer terminal with access to the Internet, as well as through the office of the ETC located at the project site. Transportation information should be maintained at the administrative offices of the building, or by directing inquiries to the building's web site as a portal.
- *TDM Web Site Information.* Transportation information should be provided in a highly visible and accessible location on the building's web site, including links to local transit providers, area walking, bicycling maps, etc., to inform employees, visitors and residents of available alternative transportation modes to access the project, other amenities in the area and travel opportunities in the area. The web site also should highlight the environmental benefits of utilization of alternative transportation modes.
- *TDM Promotional Material.* Provide and exhibit in public places information materials on options for alternative transportation modes and opportunities. In addition, transit fare media and day/month passes should be made available to employees and visitors during typical business hours.
- *Transit Welcome Package.* All new employees could be provided with a Transit Welcome Package (TWP) in addition to holding a Transportation Fair on an annual basis. The TWP at a minimum could include information regarding each employer's arrangements for free or discounted use of the transit system, area bus/rail transit route and connections/transfers information, bicycle facilities (including routes, rental and sales locations, on-site bicycle racks, walking and biking maps), and convenient local services and restaurants within walking distance of the project.
- *Carpool Program for Employees.* Provide preferential parking within the on-site parking garage for employees who commute to work in registered carpools. An employee who drives to work with at least one other employee to the site may register as a carpool entitled to preferential parking within the meaning of this provision.

- *Public Transit Stop Enhancements.* Work in cooperation with LADOT and other transit agencies to improve existing bus stops with enhanced shelters and transit information within the immediate vicinity of the building. Enhancements could include enhanced weather/sun protection, lighting, benches, and trash receptacles. These improvements would be intended to make riding the bus a safer and more attractive alternative. In addition, coordination with the City's Bureau of Engineering is recommended in regards to the corresponding streetscape elements/design in association with the Broadway Streetscape Master Plan project and the Downtown Los Angeles Historic Streetcar project.
- *Convenient Parking/Amenities for Bicycle Riders.* Consistent with the City's Municipal Code requirements, provide locations at the project site for convenient bicycle parking for employees, residents, and visitors. The bicycle parking will be located within the adjacent parking structure and outside and adjacent to the building such that long-term and short-term parkers can be accommodated. Bicycle parking may include bicycle racks, locked cages, or another similar parking area. Provide shower facilities for employees who commute to work via bicycle. Refer to *Table 3-1* for a summary of the City's bicycle parking requirements as well as the number of long-term and short-term bicycle parking spaces proposed to be provided by the project. In addition, Metro may provide additional bicycle parking within the Metro plaza.
- *Local Hiring Program.* To the extent feasible, when hiring conduct outreach to residents who live within Downtown Los Angeles based on satisfaction of other requirements of the available positions.
- *Flexible/Alternative Work Schedules.* Encourage tenants in the building to offer flexible or alternative work schedules, as well as the opportunity to telecommute if feasible.
- *Parking Cash-Out Program.* Require in all leases it executes as landlord for space within the project that tenants offer a parking cash-out program. Parking cash-out program refers to an employer-funded program under which an employer offers in-lieu of any parking subsidy, a transit subsidy or cash allowance (for use of alternative modes such as walking and bicycling) of equal or greater value.

### 12.3 Recommended Transportation Mitigation Program and Other Transportation Enhancements

Transportation mitigation measures typically consist of travel demand management programs and physical improvements such as traffic signal installations/modifications and/or roadway intersection restriping measures. Roadway widenings to accommodate additional travel lanes resulting in increased capacities and speeds are contrary to the City's Vision Zero initiative and are proposed only by exception (e.g., when additional right-of-way is available and an unusually high volume of turning traffic requires an additional lane to improve a significant vehicle queuing and safety issue). Moreover, current LADOT policies promote improvements to support the goals of the State of California to reduce greenhouse gas emissions by reducing the use of single-occupant vehicles and

by encouraging developers to construct transit and pedestrian-friendly projects with safe and walkable environments connecting with transit stations for project tenants and patrons. Sustainability, smart growth and the reduction of greenhouse gas emissions have become prime concerns for the City of Los Angeles in addition to traditional mobility considerations. Therefore, based on LADOT's approach for recent projects in the study area, the mitigation program for the proposed project is focused on reducing project-related trips and promoting other travel modes. The following paragraphs provide an overview of the proposed project mitigation program.

### City of Los Angeles Traffic Signal Upgrades

Some of the signalized intersections within the project study area require an upgrade to the traffic signal equipment and hardware. Some of the traffic signals in the study area currently operate using a Type 170 traffic signal controller. Newer controllers (e.g., Type 2070) provide for enhanced and real-time operation of the traffic signal timing. Also, when supplemented by additional roadway system loops and closed-circuit television (CCTV) cameras at key locations, LADOT can identify the causes of delay and implement instant signal timing remedies to improve the traffic flow of vehicles and buses. These traffic signal upgrades provide a system-wide benefit by reducing delays experienced by motorists.

To enhance the traffic signal system in the project study area and in response to the forecast significant project impacts, it is recommended that a fixed-fee financial contribution toward funding traffic signal upgrades be provided by the project Applicant for the following study intersections along the Figueroa Street and Alameda Street corridors:

- Int. No. 8: Figueroa Street/2nd Street
- Int. No. 9: Figueroa Street/3rd Street-SR 110 Freeway Ramps
- Int. No. 31: Alameda Street/Arcadia Street-US 101 Freeway NB Off Ramp

It should be noted that a funding contribution toward traffic signal upgrades was previously recommended for Int. No. 5: Beaudry Avenue/2nd Street. However, through coordination with LADOT, it has been determined that upgrades to the traffic signal controller/equipment, CCTV cameras, and/or system loops, etc., are currently not needed at or in the immediate vicinity of the Beaudry Avenue/2nd Street intersection.

The above traffic signal upgrades, when implemented along with other nearby corridor-level type signal improvements as required for other development projects (i.e., improving the Figueroa Street corridor between 5th Street and James M. Wood Boulevard/9th Street by the Wilshire Grand Redevelopment Project, etc.), are expected to further improve traffic operations and increase intersection capacities. LADOT has determined that such transportation system management (TSM) improvements would increase intersection capacity by one percent (a 0.01 improvement in v/c ratio).

Based on preliminary coordination with LADOT, the funding contribution towards the above traffic signal upgrades totals approximately \$105,000.00. The final amount of the traffic signal upgrade contribution will be confirmed prior to the issuance of LADOT's departmental clearance letter. This, and any other required financial fair-share contributions, would need to be guaranteed prior to issuance of the project's building permit. Also, any project-related financial fair-share contribution payments would need to be deposited into the appropriate City account prior to issuance of the Certificate of Occupancy.

#### Additional Transportation Enhancements

- **City of Los Angeles Bicycle Trust Fund:** The project applicant may be required to provide a fixed-fee financial fair-share contribution towards the City's Bicycle Trust Fund. The Trust Fund was established to collect developer mitigation fees to be used for implementation of bicycle projects and programs consistent with the goals of the adopted City of Los Angeles Bicycle Master Plan. Based on preliminary coordination with LADOT, the fair-share contribution towards the City's Bicycle Trust Fund totals approximately \$50,000.00. The final amount of the Bicycle Trust Fund fair-share contribution will be confirmed prior to the issuance of LADOT's departmental clearance letter.
- **LADOT's Mobility Hub Program:** The project applicant may be required to contribute fair-share funding towards the City's Mobility Hub Program. LADOT's Mobility Hub Program attempts to enhance urban mobility and serve as an extension of the current transportation network. To support the goals of the project's TDM plan and to expand the City's current program, the applicant may be required to provide a fixed-fee financial contribution towards this program. Based on preliminary coordination with LADOT, the fair-share contribution towards the City's Mobility Hub Program totals approximately \$100,000.00. The final amount of the Mobility Hub Program contribution will be confirmed prior to the issuance of LADOT's departmental clearance letter.

As the extent of the trip reduction level associated with the above TDM program and additional transportation enhancements is indeterminate at this time, only the effectiveness associated with the traffic signal upgrades identified above are evaluated in the following section.

#### **12.4 Effectiveness of Mitigation Measures**

The results of the analysis of traffic conditions associated with the recommended traffic signal upgrades are summarized in **Appendix F** (see **Appendix Table F-1**) for the three City of Los Angeles study intersections where significant impacts were identified under the existing with project conditions. As shown in column [3] of **Appendix Table F-1**, the recommended mitigation measure is expected to reduce the project-related traffic impacts to less than significant levels at two of the three impacted study intersections under the existing with project conditions. The following intersection is expected to remain significantly impacted during the PM peak hour under the existing with project conditions:



- Int. No. 5: Beaudry Avenue/2nd Street

It should be noted that other physical improvements may be available to reduce the significant project-related impact at this location to a less than significant level (e.g., restriping the westbound approach to provide one left-turn lane, one through lane, and one shared through/right-turn lane). However, this measure would likely involve the removal of the existing bicycle facility, which would be incompatible with the City's current mobility policies. As a result, additional physical mitigation measures are not recommended at this location and thus, the proposed project's significant PM peak hour impact would remain significant and unavoidable at this location under the existing with project conditions. The corresponding CMA data worksheets for the existing with project with mitigation conditions are contained in *Appendix F*.

The results of the analysis of traffic conditions associated with the recommended traffic signal upgrades are summarized in *Table 9-1* for the four City of Los Angeles study intersections where significant impacts were identified under future with project conditions. As shown in column [5] of *Table 9-1*, the recommended mitigation measure is expected to reduce the project-related traffic impacts to less than significant levels at two of the four impacted study intersections under the future with project conditions. The following intersections are expected to remain significantly impacted during the peak hour shown below under the future with project conditions:

- Int. No. 5: Beaudry Avenue/2nd Street (PM peak hour)
- Int. No. 8: Figueroa Street/2nd Street (AM peak hour)

It should be noted that other physical improvements may be available to reduce the significant project-related impacts at these locations (e.g., restriping the westbound approach to provide one left-turn lane, one through lane, and one shared through/right-turn lane at the Beaudry Avenue/2nd Street intersection and restriping the eastbound approach to provide one left-turn lane, one through lane, and one shared through/right-turn lane at the Figueroa Street/2nd Street intersection). However, these measures would likely involve the removal of the respective existing eastbound and westbound bicycle facilities on 2nd Street, which would be incompatible with the City's current mobility policies. As a result, additional physical mitigation measures are not recommended at these locations and thus, the proposed project's significant impacts would remain significant and unavoidable at these locations under the future with project conditions. The corresponding CMA data worksheets are contained in *Appendix C*.

## 13.0 CONGESTION MANAGEMENT PROGRAM TRAFFIC IMPACT ASSESSMENT

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the California State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system.

As required by the 2010 Congestion Management Program, a Traffic Impact Assessment (TIA) has been prepared to determine the potential impacts on designated monitoring locations on the CMP highway system. The analysis has been prepared in accordance with procedures outlined in the *2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, October 2010.

According to Section D.9.1 (Appendix D, page D-6) of the 2010 CMP manual, the criteria for determining a significant transportation impact is listed below:

“A significant transportation impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ( $V/C \geq 0.02$ ), causing or worsening LOS F ( $V/C > 1.00$ ); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ( $V/C \geq 0.02$ ).”

The CMP impact criteria apply for analysis of both intersection and freeway monitoring locations.

### 13.1 Intersections

The following CMP intersection monitoring locations have been identified in the project vicinity:

- |                      |                                     |
|----------------------|-------------------------------------|
| • <u>CMP Station</u> | <u>Intersection</u>                 |
| No. 43               | Alameda Street/Washington Boulevard |
| No. 44               | Alvarado Street/Sunset Boulevard    |

The CMP TIA guidelines require that intersection monitoring locations must be examined if the proposed project will add 50 or more trips during either the weekday AM or PM peak hours. The proposed project will not add 50 or more trips during either the weekday AM or PM peak hours (i.e., of adjacent street traffic) at CMP monitoring intersections, as stated in the CMP manual as the threshold criteria for a traffic impact assessment. The proposed project is anticipated to contribute less than 50 peak hour vehicle trips during the weekday AM and PM peak hours at the Alameda Street/Washington Boulevard and Alvarado Street/Sunset Boulevard intersections. Therefore, no further review of potential impacts to intersection monitoring locations that are part of the CMP highway system is required.

## 13.2 Freeways

The following CMP freeway monitoring locations have been identified in the project vicinity:

<u>CMP Station</u>	<u>Location</u>
Seg. No. 1036	US-101 Freeway north of Vignes Street
Seg. No. 1048	SR-110 Freeway south of US-101 Freeway
Seg. No. 1049	SR-110 Freeway at Alpine Street

The CMP TIA guidelines require that freeway monitoring locations must be examined if the proposed project will add 150 or more trips (in either direction) during either the weekday AM or PM peak hours. The proposed project will not add 150 or more trips (in either direction) during either the weekday AM or PM peak hours to CMP freeway monitoring locations which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. As shown in *Appendix Table D-2*, the proposed project is anticipated to generate well below the 150 AM or PM peak hour trip threshold at the mainline freeway segments in closest proximity to the above freeway monitoring locations. Therefore, no further review of potential impacts to freeway monitoring locations that are part of the CMP highway system is required.

## 13.3 Transit Impact Review

As required by the *2010 Congestion Management Program*, a review has been made of the potential impacts of the proposed project on transit service. As discussed in Subsection 4.4 herein, existing transit service is currently provided by Metro, Foothill Transit, LADOT DASH Transit Service, Orange County Transportation Authority and Torrance Transit Service in the vicinity of the proposed project. In addition, the project is planned to be located directly above the Regional Connector portal that is currently under construction.

While the CMP sets forth a methodology for calculating transit trips (i.e., person trips equal 1.4 times vehicle trips and up to 15.0 percent of person trips can be assumed to be transit trips for projects within ¼ mile of a transit center), the unadjusted project trip generation shown in *Table 7-1* was adjusted further to account for the fact that the project is located directly above the planned Regional Connector portal. Therefore, consistent with LADOT transportation impact study guidelines, transit trips were assumed to equal 25.0 percent of total person trips versus 15.0 percent as contained in the CMP. The proposed project is forecast to generate demand for approximately 266 transit trips during the weekday AM peak hour and approximately 257 transit trips during the weekday PM peak hour. Over a 24-hour period, the proposed project is forecast to generate demand for approximately 1,894 daily transit trips. The calculations are as follows:

- AM Peak Hour =  $759 \times 1.4 \times 0.25 = 266$  Transit Trips
- PM Peak Hour =  $733 \times 1.4 \times 0.25 = 257$  Transit Trips

- Daily Trips =  $5,410 \times 1.4 \times 0.25 = 1,894$  Transit Trips

As shown in *Table 4-3*, 59 bus/rail transit lines and routes are provided adjacent to or in close proximity via transfers to the project site. As outlined in *Table 4-3*, under the “No. of Buses/Trains During Peak Hour” column, these 59 transit lines provide services for an average (i.e., average of the directional number of buses/trains during the peak hours) of roughly 561 and 545 buses/trains during the weekday AM and PM peak hours, respectively. Therefore, based on the above calculated weekday AM and PM peak hour transit trips, this would correspond to less than one additional transit rider per bus/train on average. Further, the proposed project would be constructed atop the Metro Regional Connector 2nd Street/Broadway rail station and portal, which will facilitate transit access and connectivity for the proposed project’s population base and the surrounding area. It is anticipated that the existing transit service in the project area will adequately accommodate the increase of project-generated transit trips. Given the expected additional average transit ridership per bus/train, no project impacts on existing or future transit services in the project area are expected to occur as a result of the proposed project. Should demand for transit exceed available capacity levels within the project study area, it is expected that Metro, LADOT DASH Transit, and other transit operators would adjust the capacities on affected routes consistent with their policies and objectives.

## 14.0 SUMMARY AND CONCLUSIONS

- **Project Description** – The proposed 222 West 2nd project development consists of the construction of a mixed-use project with 534,044 gross square feet of general office space, 107 residential dwelling units and 7,200 gross leasable square feet of retail space. Construction of the proposed project is expected to commence in year 2022 with occupancy in year 2025.
- **Vehicular Site Access** – Vehicular movements into and out of the proposed project site will be provided via a total of four driveways including one driveway on Broadway and three driveways on Spring Street. The existing parking structure driveways on Broadway (one driveway) and Spring Street (two driveways) will be retained as part of the proposed project. It is anticipated that the same access movements and gate control equipment presently provided at these three driveways will be retained as part of the proposed project. Loading and service activities will occur at the new driveway on Spring Street that will be situated south of 2nd Street. Due to site limitations created by the construction of the Metro Regional Connector 2nd Street/Broadway rail station and portal head-in and head-out maneuvers will not be able to be provided.
- **Study Scope** – A total of 32 study intersections were selected for analysis in consultation with LADOT staff in order to determine potential impacts related to the proposed project.
- **Project Trip Generation** – The proposed project is expected to generate an increase of 560 trips (467 inbound trips and 93 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate an increase of 541 trips (118 inbound trips and 423 outbound trips). Over a 24-hour period, the proposed project is forecast to generate an increase of 4,006 trips (approximately 2,003 inbound trips and 2,003 outbound trips) during a typical weekday.
- **Related Projects** – The City of Los Angeles Departments of Transportation and Planning were consulted to obtain the list of development projects (related projects) in the area. A total of 173 related projects was identified and considered as part of the cumulative traffic analysis. In addition, an annual growth rate of one percent (1.0%) to the year 2025 (i.e., the anticipated project build-out year) was used for analysis purposes. Therefore, application of this ambient growth factor in addition to the forecast traffic generated by the related projects allows for a conservative forecast of future traffic volumes in the project study area as incorporation of both (i.e., an ambient traffic growth rate and a detailed list of cumulative development projects) is expected to overstate potential future traffic volumes. Further, as described in Section 6.0 above, CEQA only requires that one of these two approaches be employed in developing the future traffic volume forecasts.
- **Traffic Impact Analysis** – It is concluded that the proposed project is expected to result in three significant traffic impacts (under the existing with project conditions) and four significant traffic impacts (under the future with project conditions) based on the City of Los Angeles thresholds of significance used for evaluating traffic impacts at intersections. Incremental but less than

significant impacts are noted at the remaining 28 study intersections. Both transportation demand management (TDM) measures and contributions to various transportation system improvements are therefore recommended and required. As the extent of the trip reduction level associated with the TDM program and additional transportation enhancements is indeterminate at this time, only the effectiveness associated with the recommended traffic signal upgrades are evaluated. The recommended mitigation measure is expected to reduce the project-related traffic impacts to less than significant levels at two (2) of the three (3) impacted study intersections under the existing with project conditions and two (2) of the four (4) impacted study intersections under the future with project conditions. The project's traffic impact is expected to remain significant and unavoidable at one (1) study intersection under the existing with project conditions and two (2) study intersections under the future with project conditions.

- ***Caltrans Traffic Analysis*** – Supplemental analyses of Caltrans facilities, including mainline freeway segments, ramp intersections, and freeway off-ramps for queuing, were conducted pursuant to the MOU with LADOT.
- ***CMP Traffic Assessment*** – The results of the Los Angeles CMP traffic assessment indicate that the proposed project will not adversely affect any CMP arterial monitoring intersections or freeway monitoring locations. Therefore, no improvements/mitigation measures are required.

## APPENDIX A

### TRAFFIC STUDY MEMORANDUM OF UNDERSTANDING

## TRAFFIC STUDY - MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of LADOT's Traffic Study Policies and Procedures:

**Project Name** 222 West 2<sup>nd</sup> Street

**Project Address** 222 West 2<sup>nd</sup> Street

**Project Description** Construction of new 30-story mixed-use development with 107 residential apartment units, 533,044 GSF of office and 7,200 GSF of ground floor retail to be built over future Metro Rail station

**Geographic Distribution** N 30 % S 25 % E 20 % W 25 %

Attach graphic illustrating project trip distribution percentages for studied intersections. *To Be Provided*

**Trip Generation Rate(s)** ITE 9th Edition / Other ITE Trip Generation Manual 9<sup>th</sup> Edition

Attach trip generation table with a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. *Refer to Table 7-1*

	IN	OUT	TOTAL
AM Trips	<u>467</u>	<u>93</u>	<u>560</u>
PM Trips	<u>118</u>	<u>423</u>	<u>541</u>

**Project Build-out Year** 2025

**Ambient or CMP Growth Rate** 1.0 % Per Year

**Related Projects** (to be researched by the consultant and approved by LADOT) *To Be Provided*

Subject to **Freeway Impact Analysis Screening** review X YES    NO *Refer to Table A*

### Study Intersections

(Subject to LADOT revision after initial impact analysis)

<i>Refer to attached Figure 1-1 and Table 4-1</i>	

**Trip Credits:** (Exact amount of credit subject to approval by LADOT)

	YES	NO
Transit Usage	<u>X</u>	
Transportation Demand Management		<u>X</u>
Existing Active Land Use		<u>X</u>
Previous Land Use		<u>X</u>
Internal Trip	<u>X</u>	
Pass-By Trip		<u>X</u>

### Consultant

Name Linscott, Law & Greenspan Engineers  
Address 600 South Lake Avenue, Suite 500  
Pasadena, California 91106  
Ph. No. T 626-796-2322 / F 626-792-0941  
E-Mail ying@llgengineers.com

Approved by: Alfred C. Ying 2016-12-21  
Consultant's Representative Date

### Developer

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Los Angeles, California 90067  
213-237-2933  
ccade@tribunemedia.com

Wes Pringle W. Pringle  
LADOT Representative Date



**Table 7-1  
PROJECT TRIP GENERATION [1]**

12/21/2016

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
<u>Proposed Project</u>								
General Office [3]	534,044 GSF	4,690	643	88	731	115	562	677
- Less Transit/HOV Adjustment (25%) [4]		(1,172)	(161)	(22)	(183)	(29)	(141)	(170)
- Less Walk Adjustment (5%) [5]		(176)	(24)	(3)	(27)	(4)	(21)	(25)
Subtotal		3,342	458	63	521	82	400	482
Apartment [6]	107 DU	712	11	44	55	43	23	66
- Less Internal Capture Adjustment (5%) [7]		(36)	(1)	(2)	(3)	(2)	(1)	(3)
- Less Transit/HOV Adjustment (25%) [4]		(170)	(3)	(11)	(14)	(10)	(6)	(16)
- Less Walk Adjustment (5%) [5]		(26)	0	(2)	(2)	(2)	(1)	(3)
Subtotal		480	7	29	36	29	15	44
Retail [8]	7,200 GLSF	308	4	3	7	13	14	27
- Less Internal Capture (20%) [7]		(62)	(1)	(1)	(2)	(3)	(3)	(6)
- Less Transit/HOV Adjustment (25%) [4]		(62)	(1)	(1)	(2)	(3)	(3)	(6)
Subtotal		184	2	1	3	7	8	15
NET INCREASE		4,006	467	93	560	118	423	541

[1] Source: ITE "Trip Generation Manual", 9th Edition, 2012.

[2] Trips are one-way traffic movements, entering or leaving.

[3] ITE Land Use Code 710 (General Office Building) trip generation equation rates.

- Daily Trip Rate:  $\ln(T) = 0.76 \ln(X) + 3.68$  trips/1,000 SF of floor area; 50% inbound/50% outbound

- AM Peak Hour Trip Rate:  $\ln(T) = 0.80 \ln(X) + 1.57$  trips/1,000 SF of floor area; 88% inbound/12% outbound

- PM Peak Hour Trip Rate:  $(T) = 1.12 (X) + 78.48$  trips/1,000 SF of floor area; 17% inbound/83% outbound

[4] Per LADOT policy, a transit trip adjustment of 25% is assumed because the project site is located directly above the new Metro Regional Connector's 2nd Street/Broadway station.

[5] A 5% walk adjustment factor was assumed, consistent with other similar projects approved in downtown Los Angeles.

[6] ITE Land Use Code 220 (Apartment) trip generation average rates.

- Daily Trip Rate: 6.65 trips/dwelling unit; 50% inbound/50% outbound

- AM Peak Hour Trip Rate: 0.51 trips/dwelling units; 20% inbound/80% outbound

- PM Peak Hour Trip Rate: 0.62 trips/dwelling units; 65% inbound/35% outbound

[7] A 5% and a 20% internal capture trip reduction factors were applied to the residential and retail components of the project, respectively, to reflect the internal trip making between proposed land uses. The trip reduction factors were derived based on data provided in Chapter 6 of the "Trip Generation Handbook", Third Edition, August 2014, ITE.

[8] ITE Land Use Code 820 (Shopping Center) trip generation average rates.

- Daily Trip Rate: 42.7 trips/1,000 SF of floor area; 50% inbound/50% outbound

- AM Peak Hour Trip Rate: 0.96 trips/1,000 SF of floor area; 62% inbound/38% outbound

- PM Peak Hour Trip Rate: 3.71 trips/1,000 SF of floor area; 48% inbound/52% outbound

**Table A**  
**FREEWAY IMPACT ANALYSIS SCREENING [1]**  
**Weekday AM and PM Peak Hours**

PROJECT TRIP GENERATION	NET PROJECT	
	AM	PM
Inbound	467	118
Outbound	93	423

FREEWAY LOCATION	DIR.	PROJECT TRIP DIRECTION	NET PROJECT			NO. OF LANES	TOTAL CAPACITY [2]	PERCENT OF CAPACITY		FREEWAY ANALYSIS REQUIRED? (YES/NO) [3]
			DIST.	TRIPS				AM	PM	
				AM	PM					
Mainline Segment										
SR-110 Freeway north of US-101 Frceway	NB SB	Outbound	8%	7	34	3	6,000	0.12%	0.57%	No
		Inbound	8%	37	9	3	6,000	0.62%	0.15%	No
SR-110 Freeway south of 8th Street	NB SB	Inbound	21%	98	25	4	8,000	1.23%	0.31%	Yes
		Outbound	21%	20	89	5	10,000	0.20%	0.89%	No
US-101 Freeway west of SR-110 Freeway	EB WB	Inbound	5%	23	6	4	8,000	0.29%	0.08%	No
		Outbound	5%	5	21	4	8,000	0.06%	0.26%	No
US-101 Freeway east of Mission Road	EB WB	Outbound	16%	15	68	4	8,000	0.19%	0.85%	No
		Inbound	16%	75	19	4	8,000	0.94%	0.24%	No
Off-Ramp										
SR-110 Freeway Southbound at Beaudry Avenue	WB	Inbound	3%	14	4	3	2,550	0.55%	0.16%	No
SR-110 Freeway Northbound at 6th Street	EB	Inbound	8%	37	9	2	1,700	2.18%	0.53%	Yes
US-101 Freeway Eastbound at Broadway-Aliso Street	EB	Inbound	4%	19	5	3	2,550	0.75%	0.20%	No
US-101 Freeway Westbound at Spring Street	EB	Inbound	8%	37	9	2	1,700	2.18%	0.53%	Yes
US-101 Freeway Westbound at Alameda Street	WB	Inbound	8%	37	9	4	3,400	1.09%	0.26%	Yes

[1] Pursuant to *Traffic Study Policies and Procedures*, City of Los Angeles Department of Transportation, August 2014, *Agreement Between City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures*, October 2013, and *First Amendment to the Agreement between LADOT and Caltrans District 7 on Freeway Impact Analysis Procedures*, December 15, 2015.

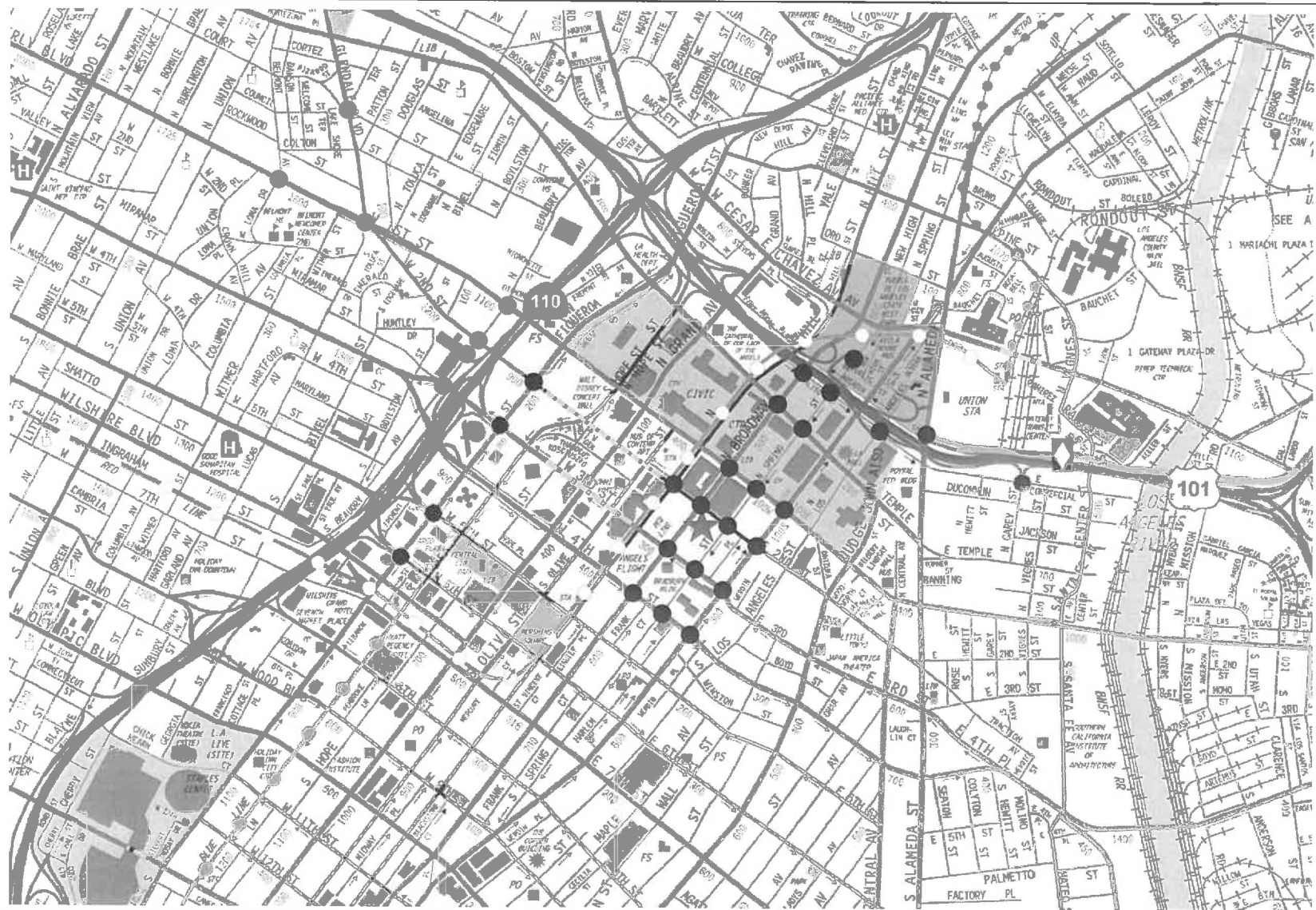
[2] Total Capacity derived from the assumed free-flow capacities shown below: (in vehicles per hour per lane)

Facility Type	Capacity
Mainline Segment	2,000 vphpl
Off-Ramp	850 vphpl

[3] Freeway impact analysis is required if the project would result in an increase of ≥2% of capacity for facilities operating at LOS D, or in an increase of ≥1% of capacity for facilities operating at LOS E/F. For a more conservative screening analysis, all facilities are assumed to be operating at LOS E/F.

**Table 4-1**  
**LIST OF STUDY INTERSECTIONS**

NO.	INTERSECTION	TRAFFIC CONTROL	JURISDICTION(S)
1	Belmont Avenue-Loma Drive/Beverly Boulevard	Signalized	City of Los Angeles
2	Glendale Boulevard/Court Street-Laveta Terrace	Signalized	City of Los Angeles
3	Glendale Blvd.-Lucas Ave./Beverly Blvd.-1st St.-2nd St.	Signalized	City of Los Angeles
4	Beaudry Avenue/1st Street	Signalized	City of Los Angeles
5	Beaudry Avenue/2nd Street	Signalized	City of Los Angeles
6	Beaudry Avenue/SR-110 SB Off-Ramp	Signalized	City of Los Angeles/ Caltrans
7	Beaudry Avenue/3rd Street	Signalized	City of Los Angeles
8	Figueria Street/2nd Street	Signalized	City of Los Angeles
9	Figueria Street/3rd Street-SR-110 Ramps	Signalized	City of Los Angeles/ Caltrans
10	Figueria Street/SR-110 NB and SB On-Ramps-5th Street	Signalized	City of Los Angeles/ Caltrans
11	Figueria Street/SR-110 NB and SB Off-Ramps-6th Street	Signalized	City of Los Angeles/ Caltrans
12	Hill Street/2nd Street	Signalized	City of Los Angeles
13	Broadway/US-101 Southbound Off-Ramp-Aliso Street	Signalized	City of Los Angeles/ Caltrans
14	Broadway/Temple Street	Signalized	City of Los Angeles
15	Broadway/1st Street	Signalized	City of Los Angeles
16	Broadway/2nd Street	Signalized	City of Los Angeles
17	Broadway/3rd Street	Signalized	City of Los Angeles
18	Broadway/4th Street	Signalized	City of Los Angeles
19	Spring Street/US-101 Northbound Off-Ramp	Signalized	City of Los Angeles/ Caltrans
20	Spring Street/Aliso Street	Signalized	City of Los Angeles
21	Spring Street/Temple Street	Signalized	City of Los Angeles
22	Spring Street/1st Street	Signalized	City of Los Angeles
23	Spring Street/2nd Street	Signalized	City of Los Angeles
24	Spring Street/3rd Street	Signalized	City of Los Angeles
25	Spring Street/4th Street	Signalized	City of Los Angeles
26	Main Street/1st Street	Signalized	City of Los Angeles
27	Main Street/2nd Street	Signalized	City of Los Angeles
28	Main Street/3rd Street	Signalized	City of Los Angeles
29	Main Street/4th Street	Signalized	City of Los Angeles
30	Los Angeles Street/Aliso Street-US-101 SB On-Ramp	Signalized	City of Los Angeles/ Caltrans
31	Alameda Street/Arcadia Street-US-101 NB Off-Ramp	Signalized	City of Los Angeles/ Caltrans
32	US-101 SB On-Off Ramps-Garey St./Commercial Street	Signalized	City of Los Angeles/ Caltrans



NOT TO SCALE

MAP SOURCE: RAND MCNALLY & COMPANY



PROJECT SITE



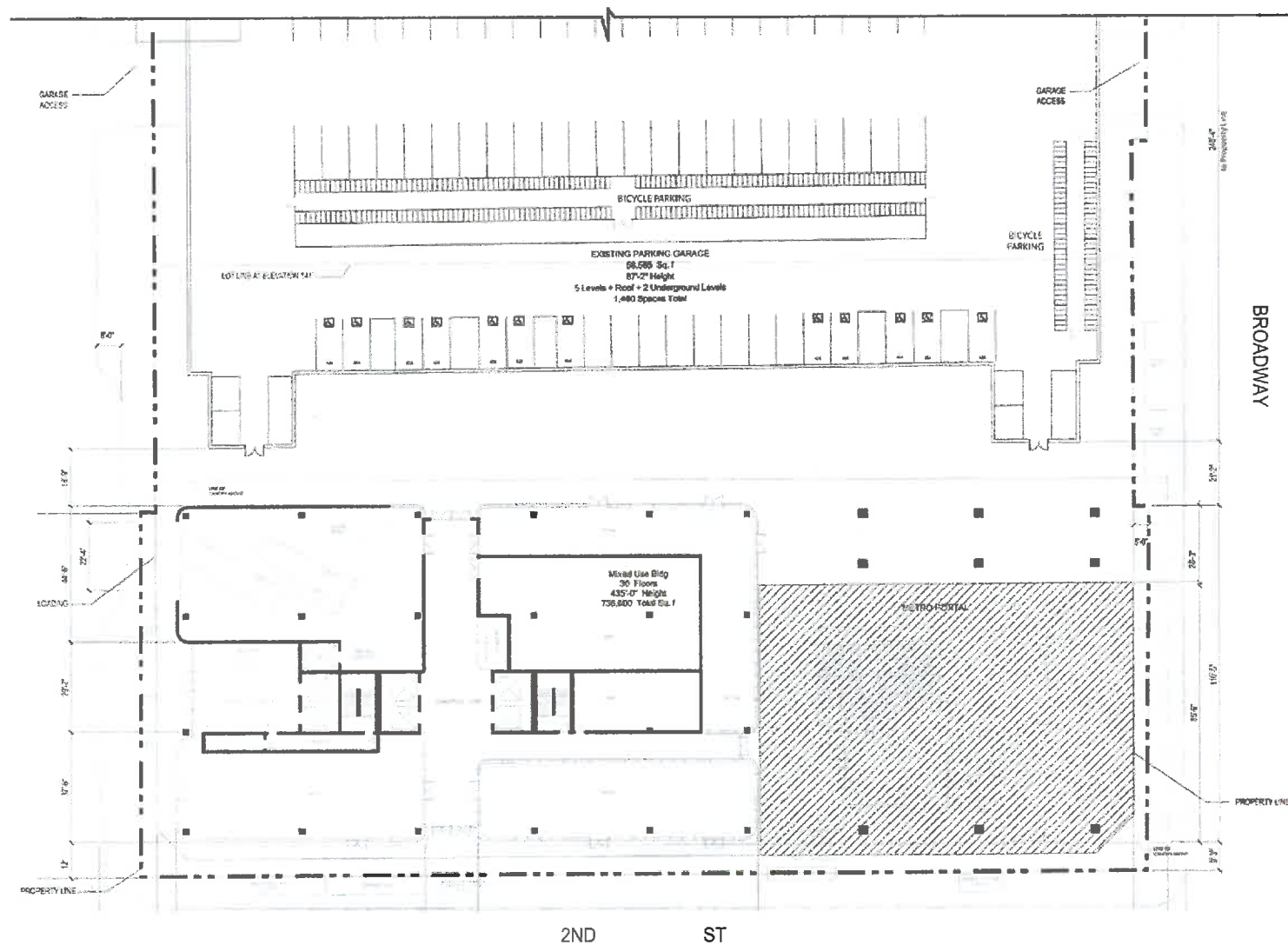
STUDY INTERSECTION

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 1-1  
VICINITY MAP

222 WEST 2ND STREET PROJECT

SPRING ST



NOT TO SCALE

SOURCE: GENSLER

LINSCOTT, LAW & GREENSPAN, engineers

## FIGURE 2-2 SITE PLAN

222 WEST 2ND STREET PROJECT

## APPENDIX B

### TRAFFIC COUNT DATA

# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

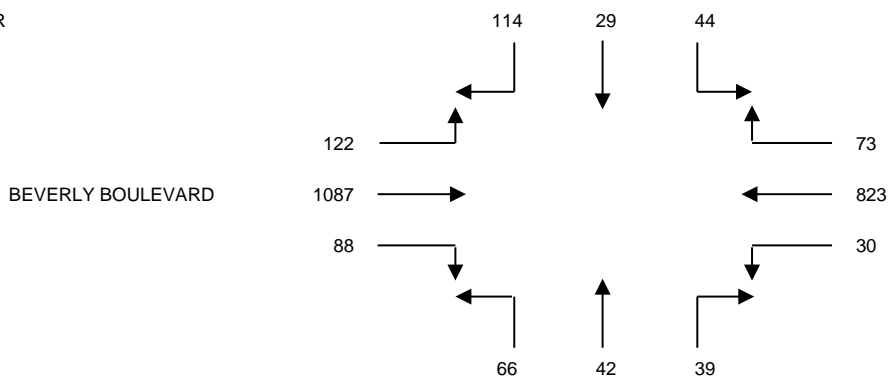
Int. 1

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 07:00 AM TO 10:00 AM  
 INTERSECTION: N/S BELMONT AVENUE / LOMA DRIVE  
 E/W BEVERLY BOULEVARD  
 FILE NUMBER: 1-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	8	1	3	7	167	4	2	1	8	6	140	16
0715-0730	16	2	7	11	198	9	5	3	11	11	191	20
0730-0745	23	10	15	21	203	8	10	12	20	24	244	27
0745-0800	33	12	12	23	195	10	14	17	38	50	291	43
0800-0815	31	7	9	13	205	8	13	10	6	12	267	32
0815-0830	27	0	8	16	220	4	2	3	2	2	285	20
0830-0845	18	0	6	10	181	2	3	4	0	3	231	10
0845-0900	16	2	9	12	222	4	5	1	3	2	191	8
0900-0915	10	0	4	5	198	2	2	1	3	1	157	6
0915-0930	15	1	4	10	210	2	3	0	0	2	125	10
0930-0945	14	0	3	12	220	2	0	0	3	3	151	14
0945-1000	14	0	3	14	260	6	4	0	2	2	104	10

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	80	25	37	62	763	31	31	33	77	91	866	106	2202
0715-0815	103	31	43	68	801	35	42	42	75	97	993	122	2452
0730-0830	114	29	44	73	823	30	39	42	66	88	1087	122	2557
0745-0845	109	19	35	62	801	24	32	34	46	67	1074	105	2408
0800-0900	92	9	32	51	828	18	23	18	11	19	974	70	2145
0815-0915	71	2	27	43	821	12	12	9	8	8	864	44	1921
0830-0930	59	3	23	37	811	10	13	6	6	8	704	34	1714
0845-0945	55	3	20	39	850	10	10	2	9	8	624	38	1668
0900-1000	53	1	14	41	888	12	9	1	8	8	537	40	1612

A.M. PEAK HOUR  
 0730-0830



DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877

# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

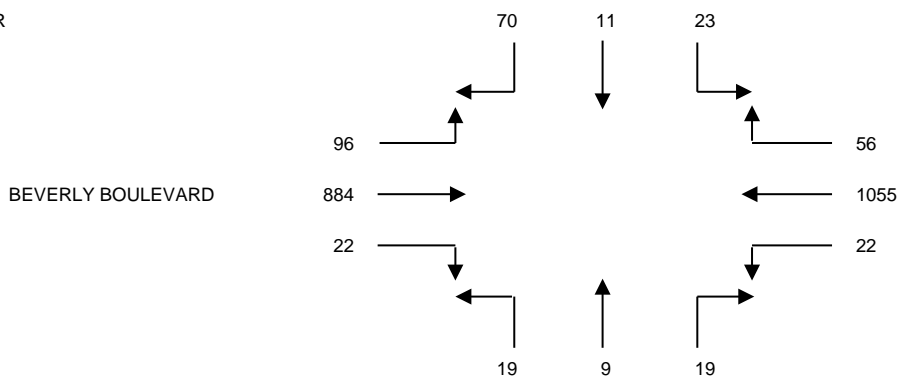
Int. 1

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 03:00 PM TO 06:00 PM  
 INTERSECTION: N/S BELMONT AVENUE / LOMA DRIVE  
 E/W BEVERLY BOULEVARD  
 FILE NUMBER: 1-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	11	1	6	10	161	5	6	4	9	7	210	18
0315-0330	15	2	8	17	167	9	4	6	15	9	209	21
0330-0345	10	0	5	10	170	3	10	3	6	6	207	22
0345-0400	20	2	4	10	156	5	4	0	4	3	222	22
0400-0415	22	2	5	14	198	5	5	1	4	6	220	29
0415-0430	19	1	6	22	200	2	2	2	3	5	217	20
0430-0445	13	0	3	17	226	5	3	0	3	5	209	23
0445-0500	17	0	9	10	219	5	3	5	2	8	232	19
0500-0515	17	2	10	17	292	9	8	3	7	3	243	32
0515-0530	18	4	4	8	235	1	2	1	3	5	175	26
0530-0545	19	3	2	12	260	5	5	3	5	9	239	19
0545-0600	16	2	7	19	268	7	4	2	4	5	227	19

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	56	5	23	47	654	22	24	13	34	25	848	83	1834
0315-0415	67	6	22	51	691	22	23	10	29	24	858	94	1897
0330-0430	71	5	20	56	724	15	21	6	17	20	866	93	1914
0345-0445	74	5	18	63	780	17	14	3	14	19	868	94	1969
0400-0500	71	3	23	63	843	17	13	8	12	24	878	91	2046
0415-0515	66	3	28	66	937	21	16	10	15	21	901	94	2178
0430-0530	65	6	26	52	972	20	16	9	15	21	859	100	2161
0445-0545	71	9	25	47	1006	20	18	12	17	25	889	96	2235
0500-0600	70	11	23	56	1055	22	19	9	19	22	884	96	2286

P.M. PEAK HOUR  
 0500-0600



DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
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 FAX: 626-446-2877

BELMONT AVENUE / LOMA DRIVE



# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

Int. 2

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 07:00 AM TO 10:00 AM  
 INTERSECTION: N/S GLENDALE BOULEVARD  
 E/W COURT STREET / LAVETA TERRACE  
 FILE NUMBER: 2-AM

15 MINUTE	GLENDALE BOULEVARD (SB)				LAVETA TERRACE (WB)				COURT STREET (WB)				GLENDALE BOULEVARD (NB)				COURT STREET (EB)			
TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0700-0715	1	356	0	0	3	0	4	2	4	1	0	4	2	1	116	1	1	1	0	0
0715-0730	0	333	2	0	1	0	2	0	5	0	2	6	2	2	110	2	1	2	0	0
0730-0745	0	346	1	1	2	0	1	0	5	0	2	4	3	3	124	0	1	1	1	2
0745-0800	0	319	1	1	0	0	1	0	6	0	2	6	5	4	193	0	1	1	1	1
0800-0815	0	389	2	0	1	1	0	0	5	0	3	15	2	0	162	2	1	0	2	0
0815-0830	0	336	4	0	0	0	1	1	4	0	4	8	0	0	138	0	3	0	0	0
0830-0845	0	322	2	0	1	0	0	0	5	0	1	3	0	2	146	3	0	0	2	0
0845-0900	1	343	2	0	2	0	0	0	5	0	0	3	1	1	133	4	3	2	0	0
0900-0915	1	368	0	0	0	0	2	0	5	0	1	0	0	1	120	2	2	0	1	0
0915-0930	0	307	1	0	0	0	1	0	1	1	0	0	0	0	132	1	1	0	0	0
0930-0945	0	364	0	0	0	0	0	0	4	0	1	0	0	2	127	0	0	2	2	0
0945-1000	3	278	0	0	1	0	0	1	1	0	2	1	0	1	115	1	1	0	0	0

1 HOUR	GLENDALE BOULEVARD (SB)				LAVETA TERRACE (WB)				COURT STREET (WB)				GLENDALE BOULEVARD (NB)				COURT STREET (EB)				TOTALS
TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
0700-0800	1	1354	4	2	6	0	8	2	20	1	6	20	12	10	543	3	4	5	2	3	2006
0715-0815	0	1387	6	2	4	1	4	0	21	0	9	31	12	9	589	4	4	4	4	3	2094
0730-0830	0	1390	8	2	3	1	3	1	20	0	11	33	10	7	617	2	6	2	4	3	2123
0745-0845	0	1366	9	1	2	1	2	1	20	0	10	32	7	6	639	5	5	1	5	1	2113
0800-0900	1	1390	10	0	4	1	1	1	19	0	8	29	3	3	579	9	7	2	4	0	2071
0815-0915	2	1369	8	0	3	0	3	1	19	0	6	14	1	4	537	9	8	2	3	0	1989
0830-0930	2	1340	5	0	3	0	3	0	16	1	2	6	1	4	531	10	6	2	3	0	1935
0845-0945	2	1382	3	0	2	0	3	0	15	1	2	3	1	4	512	7	6	4	3	0	1950
0900-1000	4	1317	1	0	1	0	3	1	11	1	4	1	0	4	494	4	4	2	3	0	1855

DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877

# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

Int. 2

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 03:00 PM TO 06:00 PM  
 INTERSECTION: N/S GLENDALE BOULEVARD  
 E/W COURT STREET / LAVETA TERRACE  
 FILE NUMBER: 2-PM

15 MINUTE	GLENDALE BOULEVARD (SB)				LAVETA TERRACE (WB)				COURT STREET (WB)				GLENDALE BOULEVARD (NB)				COURT STREET (EB)			
TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0300-0315	5	231	5	0	1	0	2	0	4	0	1	6	2	2	255	1	1	3	0	0
0315-0330	2	221	2	2	2	0	2	0	3	0	0	11	1	0	286	2	0	1	1	1
0330-0345	2	212	4	1	0	0	2	0	4	0	0	5	2	0	289	2	0	0	0	0
0345-0400	0	241	2	1	1	0	3	0	6	0	1	3	1	1	237	4	3	1	0	0
0400-0415	0	207	1	2	0	0	0	1	11	0	3	2	3	2	255	2	0	1	2	0
0415-0430	3	218	0	3	1	0	0	0	7	0	2	5	2	0	323	2	1	0	0	0
0430-0445	0	222	0	0	0	0	1	0	3	0	2	3	2	3	283	2	2	1	0	0
0445-0500	0	217	2	2	4	1	1	0	5	0	2	3	3	3	249	3	3	2	3	0
0500-0515	1	227	3	0	0	0	3	0	5	0	2	4	0	2	271	2	1	1	0	0
0515-0530	1	205	0	0	2	0	1	0	2	0	3	4	0	3	241	2	1	3	0	0
0530-0545	2	221	1	0	1	0	1	0	3	2	2	3	1	2	266	4	0	0	1	0
0545-0600	1	235	0	1	2	1	2	0	6	0	3	6	1	0	300	3	1	3	0	1

1 HOUR	GLENDALE BOULEVARD (SB)				LAVETA TERRACE (WB)				COURT STREET (WB)				GLENDALE BOULEVARD (NB)				COURT STREET (EB)				TOTALS
TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
0300-0400	9	905	13	4	4	0	9	0	17	0	2	25	6	3	1067	9	4	5	1	1	2084
0315-0415	4	881	9	6	3	0	7	1	24	0	4	21	7	3	1067	10	3	3	3	1	2057
0330-0430	5	878	7	7	2	0	5	1	28	0	6	15	8	3	1104	10	4	2	2	0	2087
0345-0445	3	888	3	6	2	0	4	1	27	0	8	13	8	6	1098	10	6	3	2	0	2088
0400-0500	3	864	3	7	5	1	2	1	26	0	9	13	10	8	1110	9	6	4	5	0	2086
0415-0515	4	884	5	5	5	1	5	0	20	0	8	15	7	8	1126	9	7	4	3	0	2116
0430-0530	2	871	5	2	6	1	6	0	15	0	9	14	5	11	1044	9	7	7	3	0	2017
0445-0545	4	870	6	2	7	1	6	0	15	2	9	14	4	10	1027	11	5	6	4	0	2003
0500-0600	5	888	4	1	5	1	7	0	16	2	10	17	2	7	1078	11	3	7	1	1	2066

DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877



City Of Los Angeles  
Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET:

North/South

Glendale Blvd Lucas Av

East/West

Beverly Blvd 2nd St

Day:

TUESDAY

Date

August 28, 2012

Weather:

SUNNY

Hours:

7-10AM &amp; 3-6PM

Chekrs:

NDS

School Day

YES

District:

I/S CODE

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED</b>	11	59	4	29
<b>BIKES</b>	10	56	52	67
<b>BUSES</b>	3	25	5	6

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	76	7.30	469	8.30	112	7.45	107	8.00
PM PK 15 MIN	179	17.15	180	17.15	53	15.45	240	17.15
AM PK HOUR	269	7.30	1710	8.00	328	7.30	387	7.30
PM PK HOUR	676	16.45	677	16.30	177	15.15	926	16.30

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	198	39	237
8-9	0	189	41	230
9-10	0	175	32	207
15-16	0	485	47	532
16-17	0	615	35	650
17-18	0	643	27	670
TOTAL	0	2305	221	2526

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	836	640	46	1522
8-9	999	672	39	1710
9-10	748	503	43	1294
15-16	235	280	73	588
16-17	343	275	50	668
17-18	309	293	52	654
TOTAL	3470	2663	301	6436

**TOTAL****XING S/L****XING N/L**

N-S	Ped	Sch	Ped	Sch
1759	13	0	93	0
1940	32	0	198	6
1501	3	0	19	4
1120	49	49	159	159
1318	14	14	35	35
1324	16	16	56	56
8962	127	79	560	260

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	185	59	244
8-9	0	201	55	256
9-10	0	108	29	137
15-16	0	146	30	176
16-17	1	124	28	153
17-18	0	135	20	155
TOTAL	1	899	221	1121

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	29	127	150	306
8-9	54	146	141	341
9-10	29	126	138	293
15-16	24	117	425	566
16-17	16	158	618	792
17-18	20	224	646	890
TOTAL	172	898	2118	3188

**TOTAL****XING W/L****XING E/L**

E-W	Ped	Sch	Ped	Sch
550	45	0	2	0
597	109	4	0	0
430	16	3	0	0
742	91	91	0	0
945	28	28	0	0
1045	41	41	0	0
4309	330	167	2	0



City Of Los Angeles  
Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET: Glendale Blvd Lucas Av  
**North/South**  
 East/West Glendale Blvd WB Slip Ramp  
 Day TUESDAY Date: August 28, 2012 Weather: SUNNY  
 Hours: 7-10AM & 3-6PM Chekrs: NDS  
 School Day YES District: \_\_\_\_\_ I/S CODE \_\_\_\_\_

	N/B	S/B	E/B	W/B
<b>DUAL- WHEELED</b>	0	0	0	7
<b>BIKES</b>	0	0	0	17
<b>BUSES</b>	0	0	0	2

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	0.00	0	0.00	0	0.00	12	8.00
PM PK 15 MIN	0	0.00	0	0.00	0	0.00	48	16.00
AM PK HOUR	0	0.00	0	0.00	0	0.00	36	7.30
PM PK HOUR	0	0.00	0	0.00	0	0.00	164	16.00

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
TOTAL	0	0	0	0

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
TOTAL	0	0	0	0

**TOTAL****XING S/L****XING N/L**

N-S	Ped	Sch	Ped	Sch
0	0	0	0	0

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	0	29	29
8-9	0	0	32	32
9-10	0	0	31	31
15-16	0	0	95	95
16-17	0	0	164	164
17-18	0	0	131	131
TOTAL	0	0	482	482

**TOTAL****XING W/L****XING E/L**

E-W	Ped	Sch	Ped	Sch
29	0	0	0	0
32	0	0	0	0
31	0	0	0	0
95	0	0	0	0
164	0	0	0	0
131	0	0	0	0
482	0	0	0	0



# City Of Los Angeles Department Of Transportation MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

BEAUDRY AV.

East/West

1st ST.

Day: TUESDAY Date: February 3, 2015 Weather: SUNNY

Hours: 7-10AM 3-6PM Chekrs: JC &amp; YT

School Day: YES District: CENTRAL I/S CODE 8216

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED</b>	42	39	43	58
<b>BIKES</b>	6	16	20	13
<b>BUSES</b>	39	0	48	53

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	103 7.30	352 8.00	206 8.30	217 7.45
PM PK 15 MIN	376 5.45	132 3.15	210 5.30	363 5.00
AM PK HOUR	378 7.30	1285 7.45	776 7.45	820 7.30
PM PK HOUR	1417 5.00	478 4.45	785 4.45	1390 4.45

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	77	220	77	374
8-9	61	198	99	358
9-10	39	140	83	262
3-4	31	519	89	639
4-5	33	1096	105	1234
5-6	60	1229	128	1417
<b>TOTAL</b>	<b>301</b>	<b>3402</b>	<b>581</b>	<b>4284</b>

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	197	794	126	1117
8-9	249	848	132	1229
9-10	124	519	71	714
3-4	68	286	79	433
4-5	54	264	110	428
5-6	54	292	95	441
<b>TOTAL</b>	<b>746</b>	<b>3003</b>	<b>613</b>	<b>4362</b>

**TOTAL****XING S/L****XING N/L**

N-S	Ped	Sch	Ped	Sch
1491	22	0	28	0
1587	20	2	47	0
976	20	0	8	0
1072	13	0	109	0
1662	0	0	18	0
1858	15	0	25	0
<b>8646</b>	<b>90</b>	<b>2</b>	<b>235</b>	<b>0</b>

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	78	479	32	589
8-9	76	634	35	745
9-10	52	450	29	531
3-4	115	524	34	673
4-5	121	595	25	741
5-6	114	619	25	758
<b>TOTAL</b>	<b>556</b>	<b>3301</b>	<b>180</b>	<b>4037</b>

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	93	629	65	787
8-9	77	603	53	733
9-10	76	477	35	588
3-4	47	538	136	721
4-5	104	800	262	1166
5-6	68	1008	275	1351
<b>TOTAL</b>	<b>465</b>	<b>4055</b>	<b>826</b>	<b>5346</b>

**TOTAL****XING W/L****XING E/L**

E-W	Ped	Sch	Ped	Sch
1376	96	0	41	0
1478	145	0	88	1
1119	40	0	22	0
1394	90	102	55	0
1907	39	0	37	0
2109	29	0	22	0
<b>9383</b>	<b>439</b>	<b>102</b>	<b>265</b>	<b>1</b>



City Of Los Angeles  
Department Of Transportation  
MANUAL TRAFFIC COUNT SUMMARY

STREET:  
North/South

Beaudry Ave

East/West

2nd St

Day: TUESDAY Date: August 28, 2012 Weather: SUNNY

Hours: 7-10AM & 3-6PM Checkrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	38	27	41	24
BIKES	11	21	109	88
BUSES	9	10	5	4

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	117	8.15	238	7.45	327	7.45	120	7.30
PM PK 15 MIN	339	17.00	112	17.15	157	16.45	214	17.15
AM PK HOUR	437	7.30	852	7.45	1219	7.45	418	7.15
PM PK HOUR	1284	16.45	419	16.30	555	16.00	808	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	50	275	61	386
8-9	53	268	85	406
9-10	49	227	106	382
15-16	182	512	113	807
16-17	223	704	213	1140
17-18	199	100 883	100 160	1242
TOTAL	756	2864	738	4363

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	106	593	21	720
8-9	137	100 636	29	802
9-10	122	519	29	670
15-16	67	243	19	329
16-17	75	282	16	373
17-18	60	315	12	387
TOTAL	567	2518	126	3281

TOTAL

XING S/L

XING N/L

N-S	Ped	Sch	Ped	Sch
1106	25	1	19	0
1208	37	1	11	0
1052	17	0	13	0
1136	22	22	10	10
1513	23	23	6	6
1629	29	29	9	9
TOTAL	153	76	68	25

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	40	747	329	1116
8-9	44	804	347	1195
9-10	24	618	277	919
15-16	43	336	69	448
16-17	46	401	108	555
17-18	47	100 335	50 95	477
TOTAL	244	3241	1225	4710

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	84	196	93	373
8-9	81	221	61	363
9-10	58	187	58	303
15-16	56	359	53	468
16-17	61	495	78	634
17-18	50 69	624	115	808
TOTAL	409	2082	458	2949

TOTAL

XING W/L

XING E/L

E-W	Ped	Sch	Ped	Sch
1489	42	1	13	1
1558	39	0	8	0
1222	19	1	4	0
916	29	29	7	7
1189	64	64	7	7
1285	40	40	7	7
TOTAL	233	135	46	22

# Intersection Turning Movement

Int. 6

Prepared by:

National Data & Surveying Services

N-S STREET: Beaudry Ave

DATE: 12/15/2010

LOCATION: City of Los Angeles

E-W STREET: I-110 SB Off-Ramp

DAY: WEDNESDAY

PROJECT# 10-5532-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	2	0	0	2	0	0	1	0	1.5	1	1.5	
6:30 AM	3	46			169	9	0		0	84	10	9	330
6:45 AM	9	67			187	10	1		0	90	4	16	384
7:00 AM	7	79			216	11	0		1	71	10	20	415
7:15 AM	8	78			266	15	0		1	87	12	15	482
7:30 AM	6	103			268	14	0		0	79	8	13	491
7:45 AM	5	102			288	10	1		1	95	14	17	533
8:00 AM	6	109			261	24	0		1	89	13	13	516
8:15 AM	4	82			264	10	0		1	88	6	17	472
TOTAL VOLUMES =	NL 48	NT 666	NR 0	SL 0	ST 1919	SR 103	EL 2	ET 0	ER 5	WL 683	WT 77	WR 120	TOTAL 3623

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	25	392	0	0	1083	63	1	0	3	350	47	58	2022
PEAK HR. FACTOR:		0.907			0.961			0.500			0.903		0.948

CONTROL: Signalized

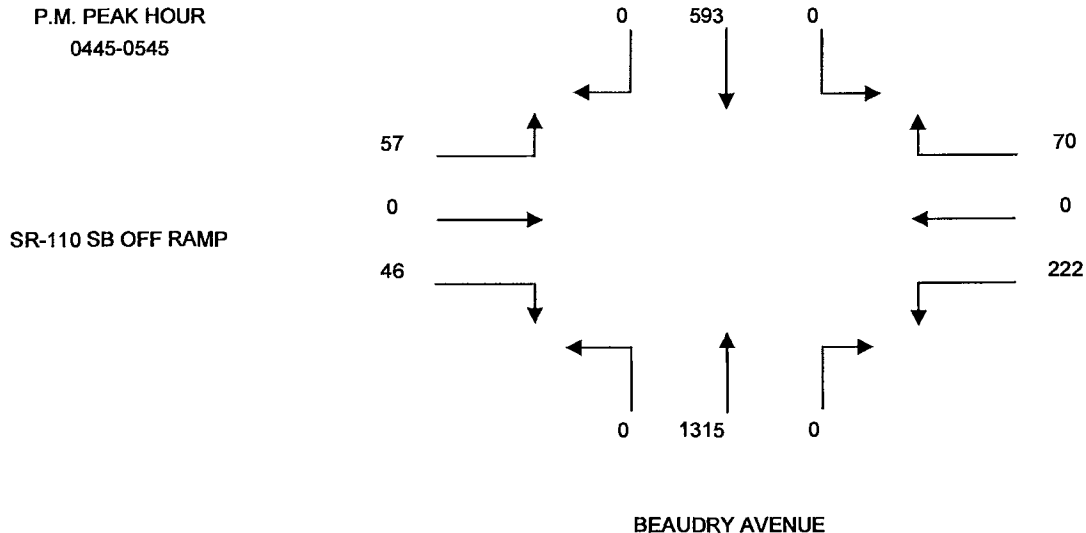
# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: CRAIN & ASSOCIATES  
 PROJECT: GOOD SAMARITAN HOSPITAL MIXED-USE STUDY - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 20, 2007  
 PERIOD: 04:00 PM TO 06:00 PM  
 INTERSECTION N/S BEAUDRY AVENUE  
 E/W SR-110 SB OFF RAMP  
 FILE NUMBER: 6-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
400-415	0	118	0	20	0	47	0	260	0	11	0	14
415-430	0	102	0	27	0	55	0	242	0	8	0	10
430-445	0	128	0	20	0	40	0	291	0	16	0	19
445-500	0	146	0	22	0	72	0	340	0	13	0	12
500-515	0	175	0	17	0	57	0	300	0	19	0	22
515-530	0	121	0	19	0	41	0	356	0	11	0	21
530-545	0	151	0	12	0	52	0	319	0	3	0	2
545-600	0	120	0	14	0	47	0	345	0	0	0	0

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
400-500	0	494	0	89	0	214	0	1133	0	48	0	55	2033
415-515	0	551	0	86	0	224	0	1173	0	56	0	63	2153
430-530	0	570	0	78	0	210	0	1287	0	59	0	74	2278
445-545	0	593	0	70	0	222	0	1315	0	46	0	57	2303
500-600	0	567	0	62	0	197	0	1320	0	33	0	45	2224

P.M. PEAK HOUR  
0445-0545



THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91006  
 626.446.7978





City Of Los Angeles  
Department Of Transportation  
**MANUAL TRAFFIC COUNT SUMMARY**

STREET:

North/South

Beaundry Ave

East/West

3rd Ave

Day: Tuesday Date: June 16, 2015 Weather: SUNNY

Hours: 7-10 &amp; 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED</b>	18	89	0	95
<b>BIKES</b>	9	6	3	2
<b>BUSES</b>	3	31	0	54

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	46	9.30	296	8.15	0	0.00	484	9.30
PM PK 15 MIN	214	16.30	226	17.45	0	0.00	313	17.30
AM PK HOUR	173	9.00	1133	7.30	0	0.00	1737	9.00
PM PK HOUR	790	16.15	886	17.00	0	0.00	1168	17.00

**NORTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	10	92	0	102
8-9	19	130	0	149
9-10	14	159	0	173
15-16	19	410	0	429
16-17	24	753	0	777
17-18	19	+400 706	0	725
<b>TOTAL</b>	105	2250	0	2355

**SOUTHBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	868	236	1104
8-9	0	900	215	1115
9-10	0	+400 798	+100 209	1007
15-16	0	404	181	585
16-17	0	552	236	788
17-18	0	635	251	886
<b>TOTAL</b>	0	4157	1328	5485

**TOTAL****XING S/L****XING N/L**

N-S	Ped	Sch	Ped	Sch
1206	1	0	14	0
1264	3	0	16	0
1180	0	0	3	0
1014	3	0	16	3
1565	2	0	9	0
1611	0	0	9	0
<b>7840</b>	9	0	67	3

**EASTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
<b>TOTAL</b>	0	0	0	0

**WESTBOUND Approach**

Hours	Lt	Th	Rt	Total
7-8	197	884	214	1295
8-9	245	834	179	1258
9-10	498	1019	220	1737
15-16	126	621	323	1070
16-17	125	636	357	1118
17-18	102	745	321	1168
<b>TOTAL</b>	1293	4739	1614	7646

**TOTAL****XING W/L****XING E/L**

E-W	Ped	Sch	Ped	Sch
1295	87	0	0	0
1258	62	0	0	0
1737	50	0	0	0
1070	95	12	0	0
1118	94	5	2	0
1168	86	3	2	0
<b>7646</b>	474	20	4	0

# WILTEC

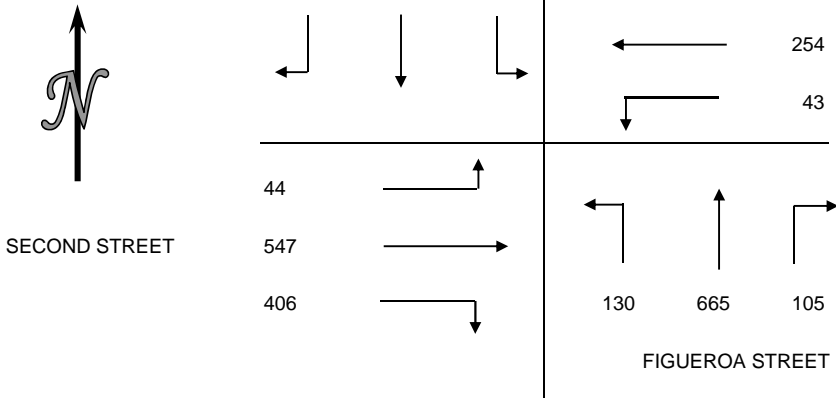
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 22, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S FIGUEROA AVENUE  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	0	118	20	7	55	3	22	145	29	95	98	10	602
715-730	0	126	28	8	60	8	24	153	28	100	119	12	666
730-745	0	135	32	7	66	7	20	147	51	98	125	7	695
745-800	0	150	51	16	67	5	26	153	37	99	142	7	753
800-815	0	133	48	9	61	8	27	162	39	98	135	12	732
815-830	0	134	48	5	62	12	31	179	17	110	124	16	738
830-845	0	145	45	6	64	18	21	171	37	99	146	9	761
845-900	0	143	66	8	64	13	22	153	32	79	139	15	734
HOUR TOTALS	190												
700-800	0	529	131	38	248	23	92	598	145	392	484	36	2716
715-815	0	544	159	40	254	28	97	615	155	395	521	38	2846
730-830	0	552	179	37	256	32	104	641	144	405	526	42	2918
745-845	0	562	192	36	254	43	105	665	130	406	547	44	2984
800-900	0	555	207	28	251	51	101	665	125	386	544	52	2965

AM PEAK HOUR  
745-845



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	3	1	6	9
715-730	1	4	2	11
730-745	3	4	14	11
745-800	5	4	0	19
800-815	6	4	13	19
815-830	3	2	12	11
830-845	5	10	8	19
845-900	4	4	10	22
HOUR TOTALS				
700-800	12	13	22	50
715-815	15	16	29	60
730-830	17	14	39	60
745-845	19	20	33	68
800-900	18	20	43	71

# WILTEC

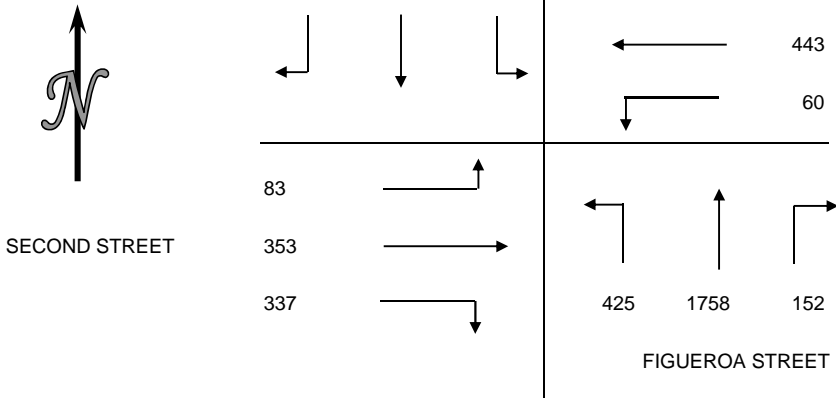
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: THURSDAY APRIL 30, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S FIGUEROA STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	13	99	22	10	78	14	39	362	72	86	67	27	889
415-430	15	94	20	9	88	13	34	394	98	69	60	16	910
430-445	19	97	30	10	85	24	35	425	91	70	78	23	987
445-500	13	93	21	8	102	14	43	459	99	72	83	24	1031
500-515	20	59	38	5	92	17	40	419	101	79	102	29	1001
515-530	23	73	40	8	107	13	32	431	124	91	93	16	1051
530-545	15	85	22	4	128	17	39	448	96	94	72	14	1034
545-600	10	94	19	5	116	13	41	460	104	73	86	24	1045
HOUR TOTALS													
400-500	60	383	93	37	353	65	151	1640	360	297	288	90	3817
415-515	67	343	109	32	367	68	152	1697	389	290	323	92	3929
430-530	75	322	129	31	386	68	150	1734	415	312	356	92	4070
445-545	71	310	121	25	429	61	154	1757	420	336	350	83	4117
500-600	68	311	119	22	443	60	152	1758	425	337	353	83	4131

PM PEAK HOUR  
500-600



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	4	5	7	7
415-430	9	5	8	34
430-445	5	4	9	17
445-500	3	3	14	26
500-515	8	8	13	49
515-530	6	3	10	25
530-545	10	9	12	22
545-600	7	7	12	30
HOUR TOTALS				
400-500	21	17	38	84
415-515	25	20	44	126
430-530	22	18	46	117
445-545	27	23	49	122
500-600	31	27	47	126

# WILTEC

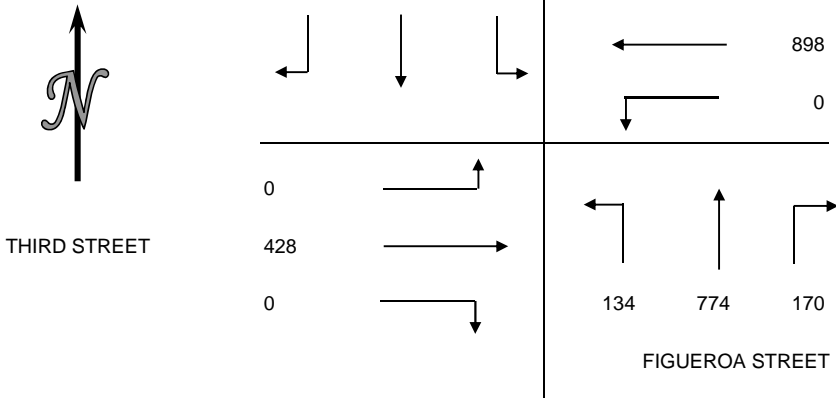
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: THURSDAY APRIL 30, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S FIGUEROA STREET  
 E/W THIRD STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	165	0	1	13	166	0	28	133	62	0	50	0	618
715-730	224	0	3	28	210	0	51	185	68	0	61	0	830
730-745	247	0	4	23	216	0	54	158	60	0	71	0	833
745-800	246	0	7	30	192	0	45	167	41	0	85	0	813
800-815	258	0	6	29	213	0	46	198	32	0	110	0	892
815-830	251	0	2	20	248	0	56	195	41	0	114	0	927
830-845	265	0	8	25	209	0	39	198	27	0	94	0	865
845-900	243	0	2	18	228	0	29	183	34	0	110	0	847
HOUR TOTALS													
700-800	882	0	15	94	784	0	178	643	231	0	267	0	3094
715-815	975	0	20	110	831	0	196	708	201	0	327	0	3368
730-830	1002	0	19	102	869	0	201	718	174	0	380	0	3465
745-845	1020	0	23	104	862	0	186	758	141	0	403	0	3497
800-900	1017	0	18	92	898	0	170	774	134	0	428	0	3531

AM PEAK HOUR  
800-900



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	1	4	7	0
715-730	7	13	11	0
730-745	10	13	17	1
745-800	18	28	19	2
800-815	15	22	9	1
815-830	11	24	9	1
830-845	10	22	7	1
845-900	14	19	7	3
HOUR TOTALS				
700-800	36	58	54	3
715-815	50	76	56	4
730-830	54	87	54	5
745-845	54	96	44	5
800-900	50	87	32	6

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

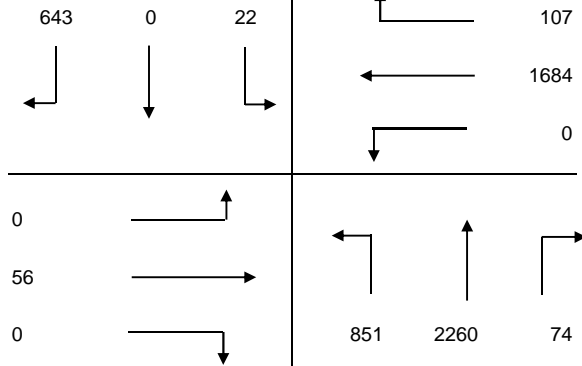
CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: THURSDAY APRIL 30, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S FIGUEROA STREET  
 E/W THIRD STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	193	0	3	22	358	0	14	457	188	0	13	0	1248
415-430	169	0	5	15	392	0	15	517	222	0	14	0	1349
430-445	181	0	6	38	410	0	11	502	244	0	13	0	1405
445-500	171	0	5	29	387	0	28	548	217	0	12	0	1397
500-515	99	0	6	17	369	0	16	555	187	0	14	0	1263
515-530	166	0	7	24	389	0	20	558	207	0	17	0	1388
530-545	198	0	4	35	418	0	19	551	217	0	14	0	1456
545-600	180	0	5	31	508	0	19	596	240	0	11	0	1590
HOUR TOTALS													
400-500	714	0	19	104	1547	0	68	2024	871	0	52	0	5399
415-515	620	0	22	99	1558	0	70	2122	870	0	53	0	5414
430-530	617	0	24	108	1555	0	75	2163	855	0	56	0	5453
445-545	634	0	22	105	1563	0	83	2212	828	0	57	0	5504
500-600	643	0	22	107	1684	0	74	2260	851	0	56	0	5697

PM PEAK HOUR  
500-600



THIRD STREET



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	9	12	16	1
415-430	16	19	9	2
430-445	13	9	12	4
445-500	13	24	12	1
500-515	13	22	6	1
515-530	6	11	9	1
530-545	5	18	14	0
545-600	10	12	5	1
HOUR TOTALS				
400-500	51	64	49	8
415-515	55	74	39	8
430-530	45	66	39	7
445-545	37	75	41	3
500-600	34	63	34	3

## Int. 10

THE TRAFFIC SOLUTION  
9 ALTA STREET UNIT E  
ARCADIA, CALIFORNIA 91006  
626.485.8048 PHONE

# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

Int. 10

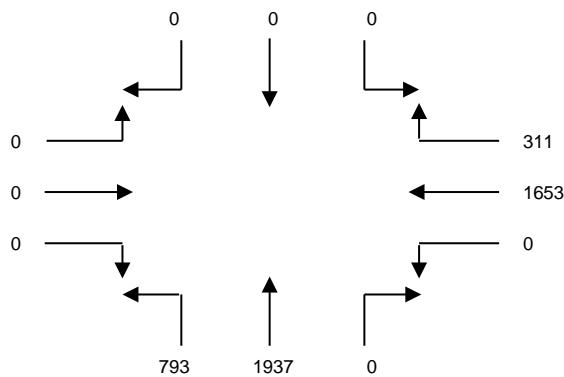
CLIENT: LLG - PASADENA  
 PROJECT: OLYMPIC TOWER - LOS ANGELES  
 DATE: THURSDAY, JULY 28, 2016  
 PERIOD: 03:00 PM TO 06:00 PM  
 INTERSECTION: N/S FIGUEROA STREET  
 E/W 5TH STREET / SR 110 NB & SB ON RAMP  
 FILE NUMBER: 1-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	0	0	0	41	347	0	0	398	122	0	0	0
0315-0330	0	0	0	55	370	0	0	412	176	0	0	0
0330-0345	0	0	0	56	341	0	0	422	192	0	0	0
0345-0400	0	0	0	57	353	0	0	498	195	0	0	0
0400-0415	0	0	0	84	374	0	0	420	184	0	0	0
0415-0430	0	0	0	62	354	0	0	426	206	0	0	0
0430-0445	0	0	0	58	362	0	0	458	212	0	0	0
0445-0500	0	0	0	88	364	0	0	501	196	0	0	0
0500-0515	0	0	0	67	400	0	0	455	187	0	0	0
0515-0530	0	0	0	80	458	0	0	489	201	0	0	0
0530-0545	0	0	0	70	396	0	0	480	206	0	0	0
0545-0600	0	0	0	94	399	0	0	513	199	0	0	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	0	0	0	209	1411	0	0	1730	685	0	0	0	4035
0315-0415	0	0	0	252	1438	0	0	1752	747	0	0	0	4189
0330-0430	0	0	0	259	1422	0	0	1766	777	0	0	0	4224
0345-0445	0	0	0	261	1443	0	0	1802	797	0	0	0	4303
0400-0500	0	0	0	292	1454	0	0	1805	798	0	0	0	4349
0415-0515	0	0	0	275	1480	0	0	1840	801	0	0	0	4396
0430-0530	0	0	0	293	1584	0	0	1903	796	0	0	0	4576
0445-0545	0	0	0	305	1618	0	0	1925	790	0	0	0	4638
0500-0600	0	0	0	311	1653	0	0	1937	793	0	0	0	4694

P.M. PEAK HOUR  
 0500-0600

5TH STREET /  
 SR 110 NB & SB ON RAMP



# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

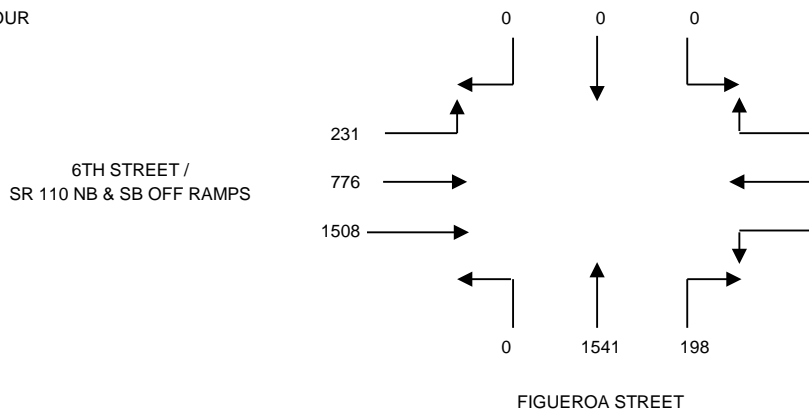
Int. 11

CLIENT: LLG - PASADENA  
 PROJECT: OLYMPIC TOWER - LOS ANGELES  
 DATE: THURSDAY, JULY 28, 2016  
 PERIOD: 07:00 AM TO 10:00 AM  
 INTERSECTION: N/S FIGUEROA STREET  
 E/W 6TH STREET / SR 110 NB & SB OFF RAMP  
 FILE NUMBER: 2-AM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	110 NB OFF		12
											11A	11B	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBTH	EBLT
0700-0715	0	0	0	0	0	0	23	341	0	0	245	141	48
0715-0730	0	0	0	0	0	0	25	391	0	0	257	154	52
0730-0745	0	0	0	0	0	0	32	298	0	0	256	160	64
0745-0800	0	0	0	0	0	0	44	375	0	0	228	172	47
0800-0815	0	0	0	0	0	0	43	378	0	0	314	163	61
0815-0830	0	0	0	0	0	0	43	415	0	0	334	212	64
0830-0845	0	0	0	0	0	0	68	410	0	0	378	180	53
0845-0900	0	0	0	0	0	0	45	386	0	0	425	208	61
0900-0915	0	0	0	0	0	0	42	330	0	0	371	176	53
0915-0930	0	0	0	0	0	0	57	375	0	0	395	159	58
0930-0945	0	0	0	0	0	0	40	352	0	0	349	179	62
0945-1000	0	0	0	0	0	0	54	381	0	0	284	145	50

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	110 NB OFF		12	TOTALS
											11A	11B		
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBTH	EBLT	
0700-0800	0	0	0	0	0	0	124	1405	0	0	986	627	211	3353
0715-0815	0	0	0	0	0	0	144	1442	0	0	1055	649	224	3514
0730-0830	0	0	0	0	0	0	162	1466	0	0	1132	707	236	3703
0745-0845	0	0	0	0	0	0	198	1578	0	0	1254	727	225	3982
0800-0900	0	0	0	0	0	0	199	1589	0	0	1451	763	239	4241
0815-0915	0	0	0	0	0	0	198	1541	0	0	1508	776	231	4254
0830-0930	0	0	0	0	0	0	212	1501	0	0	1569	723	225	4230
0845-0945	0	0	0	0	0	0	184	1443	0	0	1540	722	234	4123
0900-1000	0	0	0	0	0	0	193	1438	0	0	1399	659	223	3912

A.M. PEAK HOUR  
0815-0915





# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

Int. 11

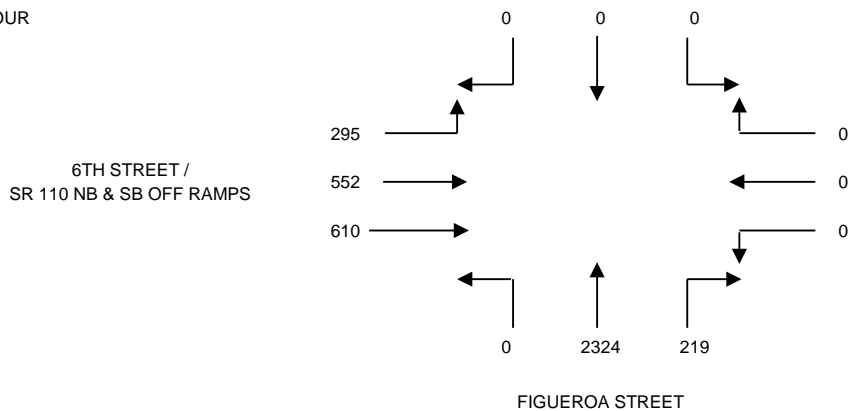
CLIENT: LLG - PASADENA  
 PROJECT: OLYMPIC TOWER - LOS ANGELES  
 DATE: THURSDAY, JULY 28, 2016  
 PERIOD: 03:00 PM TO 06:00 PM  
 INTERSECTION: N/S FIGUEROA STREET  
 E/W 6TH STREET / SR 110 NB & SB OFF RAMP  
 FILE NUMBER: 2-PM

15 MINUTE TOTALS	1	2	3	4	5	6	7	8	9	10	110 NB OFF		12
											11A	11B	
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBTH	EBLT
0300-0315	0	0	0	0	0	0	38	468	0	0	207	147	87
0315-0330	0	0	0	0	0	0	39	501	0	0	202	140	96
0330-0345	0	0	0	0	0	0	45	518	0	0	179	142	72
0345-0400	0	0	0	0	0	0	33	553	0	0	221	136	63
0400-0415	0	0	0	0	0	0	50	541	0	0	160	148	76
0415-0430	0	0	0	0	0	0	35	550	0	0	156	150	71
0430-0445	0	0	0	0	0	0	37	556	0	0	140	130	95
0445-0500	0	0	0	0	0	0	53	572	0	0	150	170	74
0500-0515	0	0	0	0	0	0	56	546	0	0	150	143	76
0515-0530	0	0	0	0	0	0	56	601	0	0	137	114	71
0530-0545	0	0	0	0	0	0	54	605	0	0	173	125	74
0545-0600	0	0	0	0	0	0	50	588	0	0	174	136	67

1 HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	110 NB OFF		12	TOTALS
											11A	11B		
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBTH	EBLT	
0300-0400	0	0	0	0	0	0	155	2040	0	0	809	565	318	3887
0315-0415	0	0	0	0	0	0	167	2113	0	0	762	566	307	3915
0330-0430	0	0	0	0	0	0	163	2162	0	0	716	576	282	3899
0345-0445	0	0	0	0	0	0	155	2200	0	0	677	564	305	3901
0400-0500	0	0	0	0	0	0	175	2219	0	0	606	598	316	3914
0415-0515	0	0	0	0	0	0	181	2224	0	0	596	593	316	3910
0430-0530	0	0	0	0	0	0	202	2275	0	0	577	557	316	3927
0445-0545	0	0	0	0	0	0	219	2324	0	0	610	552	295	4000
0500-0600	0	0	0	0	0	0	216	2340	0	0	634	518	288	3996

P.M. PEAK HOUR  
 0445-0545



# WILTEC

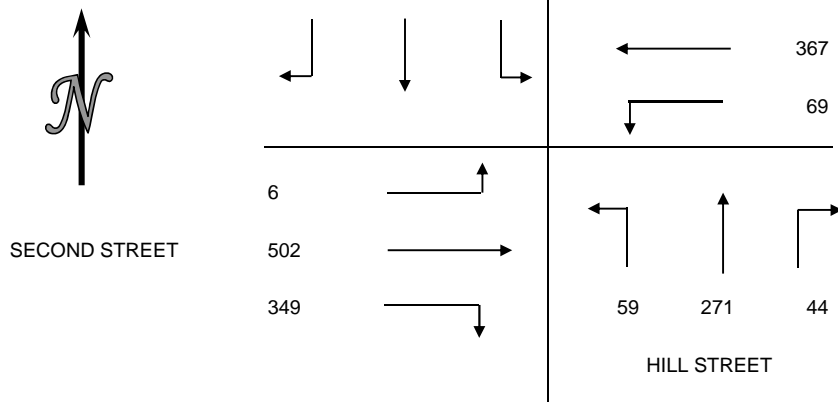
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 28, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S HILL STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	17	176	7	7	49	16	11	60	13	42	77	1	476
715-730	14	208	7	6	58	15	5	57	13	52	94	0	529
730-745	30	236	12	7	84	14	8	55	11	63	125	1	646
745-800	36	219	16	10	101	15	0	58	21	84	134	3	697
800-815	29	227	9	8	95	17	8	77	11	56	120	2	659
815-830	35	166	7	5	91	22	23	67	17	106	123	0	662
830-845	39	252	10	12	80	15	13	69	10	103	125	1	729
845-900	30	241	14	6	65	13	20	53	18	107	115	0	682
HOUR TOTALS													
700-800	97	839	42	30	292	60	24	230	58	241	430	5	2348
715-815	109	890	44	31	338	61	21	247	56	255	473	6	2531
730-830	130	848	44	30	371	68	39	257	60	309	502	6	2664
745-845	139	864	42	35	367	69	44	271	59	349	502	6	2747
800-900	133	886	40	31	331	67	64	266	56	372	483	3	2732

AM PEAK HOUR  
745-845



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	10	9	7	5
715-730	8	10	10	6
730-745	11	32	7	11
745-800	24	25	10	28
800-815	17	36	22	28
815-830	13	42	12	26
830-845	12	42	12	28
845-900	13	27	13	36
HOUR TOTALS				
700-800	53	76	34	50
715-815	60	103	49	73
730-830	65	135	51	93
745-845	66	145	56	110
800-900	55	147	59	118

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

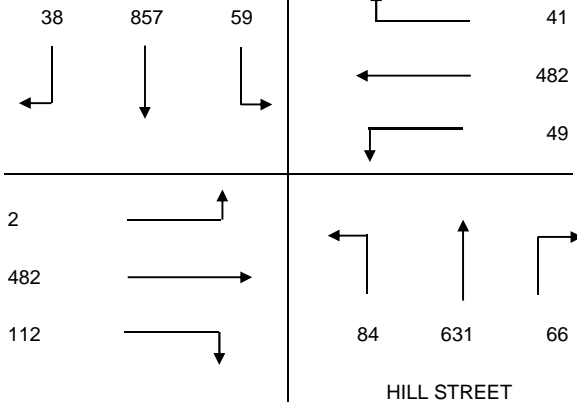
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 28, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S HILL STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	9	192	7	3	84	19	23	99	13	23	94	0	566
415-430	12	194	18	7	106	13	27	120	23	35	98	0	653
430-445	6	175	9	14	95	17	19	101	13	21	106	0	576
445-500	10	178	10	10	102	13	15	136	18	40	122	1	655
500-515	10	214	9	15	116	17	13	105	16	24	126	0	665
515-530	14	205	17	10	126	17	26	201	22	31	135	1	805
530-545	6	219	16	8	126	6	13	156	23	26	125	0	724
545-600	8	219	17	8	114	9	14	169	23	31	96	1	709
HOUR TOTALS													
400-500	37	739	44	34	387	62	84	456	67	119	420	1	2450
415-515	38	761	46	46	419	60	74	462	70	120	452	1	2549
430-530	40	772	45	49	439	64	73	543	69	116	489	2	2701
445-545	40	816	52	43	470	53	67	598	79	121	508	2	2849
500-600	38	857	59	41	482	49	66	631	84	112	482	2	2903

PM PEAK HOUR  
500-600

SECOND STREET



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	26	28	7	63
415-430	23	39	10	13
430-445	35	31	12	11
445-500	18	24	12	13
500-515	17	20	11	12
515-530	9	26	13	11
530-545	17	15	4	18
545-600	20	8	10	8
HOUR TOTALS				
400-500	102	122	41	100
415-515	93	114	45	49
430-530	79	101	48	47
445-545	61	85	40	54
500-600	63	69	38	49

**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC tel: 951 249 3226 pacific@aimtd.com

DATE:

Tue, Mar 18, 14

LOCATION:

NORTH &amp; SOUTH:

EAST &amp; WEST:

China Town

Broadway

Aliso

PROJECT #:

SC0325

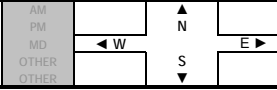
LOCATION #:

8

CONTROL:

SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Broadway			Broadway			Aliso			Aliso			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	53	11	28	245	0	24	36	31	0	0	0	428
	7:15 AM	0	69	13	28	227	0	29	46	39	0	0	0	451
	7:30 AM	0	94	17	29	225	0	24	41	31	0	0	0	461
	7:45 AM	0	83	22	39	243	0	22	48	33	0	0	0	490
	8:00 AM	0	85	23	24	212	0	25	48	38	0	0	0	455
	8:15 AM	0	60	21	45	227	0	33	57	40	0	0	0	483
	8:30 AM	0	74	14	41	240	0	25	51	28	0	0	0	473
	8:45 AM	0	66	15	39	234	0	26	61	41	0	0	0	482
	9:00 AM	0	59	29	25	219	0	24	60	44	0	0	0	460
	9:15 AM	0	90	18	16	208	0	30	57	29	0	0	0	448
	9:30 AM	0	56	24	28	192	0	30	57	41	0	0	0	428
	9:45 AM	0	65	29	21	174	0	39	61	51	0	0	0	440
VOLUMES		0	854	236	363	2,646	0	331	623	446	0	0	0	5,499
APPROACH %		0%	78%	22%	12%	88%	0%	24%	45%	32%	0%	0%	0%	
APP/DEPART		1,090	/	1,185	3,009	/	3,092	1,400	/	1,222	0	/	0	0
BEGIN PEAK HR		7:45 AM												
VOLUMES		0	302	80	149	922	0	105	204	139	0	0	0	1,901
APPROACH %		0%	79%	21%	14%	86%	0%	23%	46%	31%	0%	0%	0%	
PEAK HR FACTOR		0.884			0.949			0.862			0.000			0.970
APP/DEPART		382	/	407	1,071	/	1,061	448	/	433	0	/	0	0
PM	03:00 PM	0	96	42	21	114	0	27	86	24	0	0	0	410
	3:15 PM	0	114	40	30	127	0	33	83	19	0	0	0	446
	3:30 PM	0	144	38	25	166	0	36	75	20	0	0	0	494
	3:45 PM	0	147	23	15	144	0	25	75	17	0	0	0	446
	4:00 PM	0	166	40	18	114	0	28	92	12	0	0	0	470
	4:15 PM	0	182	32	17	153	0	31	86	14	0	0	0	515
	4:30 PM	0	231	39	30	134	0	27	74	14	0	0	0	549
	4:45 PM	0	203	41	30	156	0	21	64	11	0	0	0	526
	5:00 PM	0	210	34	23	159	0	17	66	19	0	0	0	528
	5:15 PM	0	191	45	22	199	0	20	58	23	0	0	0	558
	5:30 PM	0	216	40	29	160	0	17	48	12	0	0	0	522
	5:45 PM	0	181	34	27	162	0	18	66	21	0	0	0	509
VOLUMES		0	2,081	448	287	1,788	0	290	873	206	0	0	0	5,973
APPROACH %		0%	82%	18%	14%	86%	0%	21%	64%	15%	0%	0%	0%	
APP/DEPART		2,529	/	2,371	2,075	/	1,994	1,369	/	1,608	0	/	0	0
BEGIN PEAK HR		4:30 PM												
VOLUMES		0	835	159	105	648	0	85	262	67	0	0	0	2,161
APPROACH %		0%	84%	16%	14%	86%	0%	21%	63%	16%	0%	0%	0%	
PEAK HR FACTOR		0.920			0.852			0.900			0.000			0.968
APP/DEPART		994	/	920	753	/	715	414	/	526	0	/	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



AM	7:00 AM	0	53	11	28	245	0	24	36	31	0	0	0	428
	7:15 AM	0	69	13	28	227	0	29	46	39	0	0	0	451
	7:30 AM	0	94	17	29	225	0	24	41	31	0	0	0	461
	7:45 AM	0	83	22	39	243	0	22	48	33	0	0	0	490
	8:00 AM	0	85	23	24	212	0	25	48	38	0	0	0	455
	8:15 AM	0	60	21	45	227	0	33	57	40	0	0	0	483
	8:30 AM	0	74	14	41	240	0	25	51	28	0	0	0	473
	8:45 AM	0	66	15	39	234	0	26	61	41	0	0	0	482
	9:00 AM	0	59	29	25	219	0	24	60	44	0	0	0	460
	9:15 AM	0	90	18	16	208	0	30	57	29	0	0	0	448
	9:30 AM	0	56	24	28	192	0	30	57	41	0	0	0	428
	9:45 AM	0	65	29	21	174	0	39	61	51	0	0	0	440
PM	3:00 PM	0	96	42	21	114	0	27	86	24	0	0	0	410
	3:15 PM	0	114	40	30	127	0	33	83	19	0	0	0	446
	3:30 PM	0	144	38	25	166	0	36	75	20	0	0	0	494
	3:45 PM	0	147	23	15	144	0	25	75	17	0	0	0	446
	4:00 PM	0	166	40	18	114	0	28	92	12	0	0	0	470
	4:15 PM	0	182	32	17	153	0	31	86	14	0	0	0	515
	4:30 PM	0	231	39	30	134	0	27	74	14	0	0	0	549
	4:45 PM	0	203	41	30	156	0	21	64	11	0	0	0	526
	5:00 PM	0	210	34	23	159	0	17	66	19	0	0	0	528
	5:15 PM	0	191	45	22	199	0	20	58	23	0	0	0	558
	5:30 PM	0	216	40	29	160	0	17	48	12	0	0	0	522
	5:45 PM	0	181	34	27	162	0	18	66	21	0	0	0	509
TOTAL		0	35	55	212	302		0	32	50	199	281		

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	14	14
0	3	4	25	32
0	6	7	22	35
0	4	3	27	34
0	2	5	30	37
0	0	5	19	24
0	3	4	20	27
0	2	4	12	18
0	5	6	15	26
0	1	2	10	13
0	5	8	12	25
0	4	7	6	17
0	35	55	212	302
0	1	5	15	21
0	1	3	13	17
0	4	3	8	15
4	3	4	14	25
0	3	6	20	29
0	3	7	32	42
0	4	4	44	52
0	2	2	22	26
0	4	10	53	67
0	3	3	16	22
0	2	10	9	21
0	1	4	15	20
4	31	61	261	357

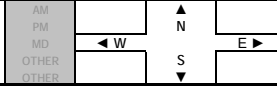
PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	14	14
0	3	3	22	28
0	6	7	22	35
0	4	3	26	33
0	2	3	29	34
0	0	3	16	19
0	3	4	18	25
0	2	4	12	18
0	5	6	13	24
0	1	2	10	13
0	2	8	11	21
0	4	7	6	17
0	32	50	199	281
0	1	1	14	16
0	1	1	11	13
0	0	3	8	11
0	3	2	14	19
0	3	5	20	28
0	3	0	29	32
0	4	2	44	50
0	2	2	20	24
0	4	8	52	64
0	3	3	15	21
0	2	2	9	13
0	1	1	14	16
0	27	30	250	307

**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC tel: 951 249 3226 pacific@aimtd.com

China Town  
Broadway  
TemplePROJECT #: SC0325  
LOCATION #: 9  
CONTROL: SIGNALDATE:  
Tue, Mar 18, 14LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

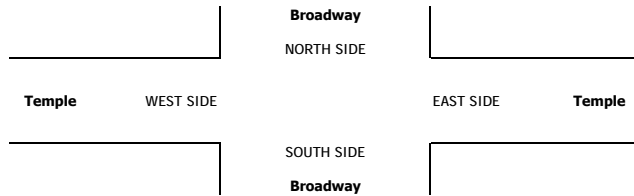
NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Broadway			Broadway			Temple			Temple			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
7:00 AM	15	48	12	18	174	70	3	79	17	9	139	11	595
7:15 AM	16	52	13	18	174	53	7	104	17	5	120	7	586
7:30 AM	14	76	14	33	155	63	13	96	13	9	137	10	633
7:45 AM	24	85	19	18	188	55	12	91	8	12	152	8	672
8:00 AM	16	82	18	14	168	56	8	116	16	16	156	9	675
8:15 AM	17	58	22	17	170	59	8	137	15	18	146	8	675
8:30 AM	18	74	29	27	179	51	6	130	19	18	161	6	718
8:45 AM	17	58	20	37	189	51	6	139	19	15	182	13	746
9:00 AM	11	54	23	38	156	71	11	131	19	20	129	11	674
9:15 AM	17	80	22	35	140	54	12	101	14	15	113	11	614
9:30 AM	16	70	10	30	124	76	8	121	19	9	117	5	605
9:45 AM	11	68	19	29	115	80	7	119	14	5	107	7	581
VOLUMES	192	805	221	314	1,932	739	101	1,364	190	151	1,659	106	7,774
APPROACH %	16%	66%	18%	11%	65%	25%	6%	82%	11%	8%	87%	6%	
APP/DEPART	1,218	/	1,012	2,985	/	2,273	1,655	/	1,899	1,916	/	2,590	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	68	272	89	95	706	217	28	522	69	67	645	36	2,814
APPROACH %	16%	63%	21%	9%	69%	21%	5%	84%	11%	9%	86%	5%	
PEAK HR FACTOR	0.886			0.919			0.944			0.890			0.943
APP/DEPART	429	/	336	1,018	/	842	619	/	706	748	/	930	0
03:00 PM	15	102	8	5	117	41	15	100	14	8	99	16	540
3:15 PM	16	126	12	8	90	46	11	105	17	4	133	3	571
3:30 PM	23	137	16	10	123	52	11	105	12	10	161	13	673
3:45 PM	16	154	10	11	111	51	6	121	6	6	127	9	628
4:00 PM	31	159	16	4	100	24	11	108	15	6	143	22	639
4:15 PM	29	173	13	23	112	25	15	109	20	6	154	13	692
4:30 PM	20	228	22	11	118	26	22	141	9	5	151	24	777
4:45 PM	22	194	14	22	127	43	15	159	12	9	167	33	817
5:00 PM	13	206	27	18	121	47	20	186	9	8	174	19	848
5:15 PM	34	187	18	15	102	68	17	183	8	5	193	21	851
5:30 PM	20	192	22	14	143	51	18	161	4	8	192	20	845
5:45 PM	27	161	15	15	134	54	15	142	4	7	200	13	787
VOLUMES	266	2,019	193	156	1,398	528	176	1,620	130	82	1,894	206	8,668
APPROACH %	11%	81%	8%	7%	67%	25%	9%	84%	7%	4%	87%	9%	
APP/DEPART	2,478	/	2,401	2,082	/	1,610	1,926	/	1,969	2,182	/	2,688	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	89	779	81	69	493	209	70	689	33	30	726	93	3,361
APPROACH %	9%	82%	9%	9%	64%	27%	9%	87%	4%	4%	86%	11%	
PEAK HR FACTOR	0.964			0.927			0.921			0.965			0.987
APP/DEPART	949	/	942	771	/	556	792	/	839	849	/	1,024	0

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	1	1	1
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	1	1	1
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	2	2	2

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	1	0	0	0	1
0	0	0	0	0	0
0	2	0	0	0	2
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	3	0	0	3	



AM	7:00 AM	
	7:15 AM	
	7:30 AM	
	7:45 AM	
	8:00 AM	
	8:15 AM	
	8:30 AM	
	8:45 AM	
	9:00 AM	
	9:15 AM	
	9:30 AM	
	9:45 AM	
	TOTAL	
PM	3:00 PM	
	3:15 PM	
	3:30 PM	
	3:45 PM	
	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
8	89	7	20	124
7	122	5	42	176
15	158	24	39	236
10	171	14	32	227
10	129	16	45	200
9	136	11	21	177
8	144	10	24	186
8	147	9	28	192
12	113	13	24	162
127	193	17	41	378
20	136	15	31	202
21	113	17	25	176
255	1,651	158	372	2,436
8	35	7	17	67
5	58	9	10	82
21	89	19	20	149
5	80	9	19	113
4	125	10	25	164
4	175	9	36	224
23	127	11	25	186
13	79	20	29	141
54	128	17	56	255
11	50	8	25	94
3	42	7	10	62
2	21	5	15	43
153	1,009	131	287	1,580

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
8	89	7	19	123
5	121	4	40	170
15	157	18	38	228
9	171	13	29	222
10	129	15	45	199
7	136	10	20	173
8	143	10	23	184
8	147	9	27	191
11	113	13	23	160
17	193	17	41	268
6	134	15	29	184
21	111	17	25	174
125	1,644	148	359	2,276
8	34	5	17	64
4	56	8	10	78
17	80	17	18	132
3	78	7	19	107
4	122	9	23	158
3	173	7	32	215
13	127	9	25	174
13	79	14	27	133
6	124	3	54	187
11	49	6	24	90
3	37	5	10	55
2	21	1	13	37
87	980	91	272	1,430

BICYCLE CROSSINGS					SCHOOL AGE PED				
NS	SS	ES	WS	TOTAL	NS	SS	ES	WS	TOTAL
0	0	0	1	1	0	0	0	0	0
0	1	1	2	4	2	0	0	0	2
0	1	0	1	2	0	0	6	0	6
1	0	1	3	5	0	0	0	0	0
0	0	1	0	1	0	0	0	0	0
0	0	1	1	2	2	0	0	0	2
0	1	0	1	2	0	0	0	0	0
0	0	0	1	1	0	0	0	0	0
1	0	0	1	2	0	0	0	0	0
0	0	0	0	0	110	0	0	0	110
0	2	0	2	4	14	0	0	0	14
0	2	0	0	2	0	0	0	0	0
2	7	4	13	26	128	0	6	0	134
0	1	2	0	3	0	0	0	0	0
1	2	1	0	4	0	0	0	0	0
0	1	0	2	3	4	8	2	0	14
0	2	2	0	4	2	0	0	0	2
0	3	1	2	6	0	0	0	0	0
1	2	2	4	9	0	0	0	0	0
0	0	2	0	2	10	0	0	0	10
0	0	0	2	2	0	0	6	0	6
0	0	2	2	4	48	4	12	0	64
0	1	0	1	2	0	0	2	0	2
0	1	2	0	3	0	4	0	0	4
0	0	4	2	6	0	0	0	0	0
2	13	18	15	48	64	16	22	0	102

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

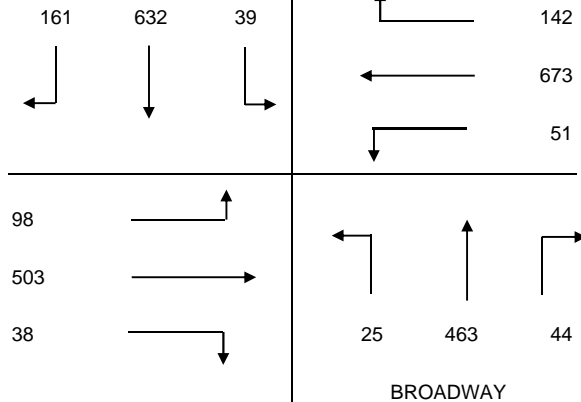
CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 22, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S BROADWAY  
 E/W FIRST STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	27	102	8	11	99	5	3	47	9	2	77	10	400
715-730	44	137	11	15	151	8	6	76	11	2	98	19	578
730-745	40	153	8	25	178	10	16	105	9	5	104	11	664
745-800	30	163	6	21	183	16	8	96	3	3	148	20	697
800-815	53	174	14	27	168	5	18	114	9	15	134	28	759
815-830	31	152	5	39	167	17	11	127	5	8	117	30	709
830-845	47	143	14	55	155	13	7	126	8	12	104	20	704
845-900	43	133	13	38	140	21	15	93	7	11	120	19	653
HOUR TOTALS													
700-800	141	555	33	72	611	39	33	324	32	12	427	60	2339
715-815	167	627	39	88	680	39	48	391	32	25	484	78	2698
730-830	154	642	33	112	696	48	53	442	26	31	503	89	2829
745-845	161	632	39	142	673	51	44	463	25	38	503	98	2869
800-900	174	602	46	159	630	56	51	460	29	46	475	97	2825

AM PEAK HOUR  
745-845



FIRST STREET



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	30	24	22	13
715-730	38	22	30	24
730-745	44	41	38	24
745-800	20	37	40	33
800-815	50	45	28	22
815-830	32	56	31	16
830-845	37	62	29	17
845-900	46	71	35	29
HOUR TOTALS				
700-800	132	124	130	94
715-815	152	145	136	103
730-830	146	179	137	95
745-845	139	200	128	88
800-900	165	234	123	84

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

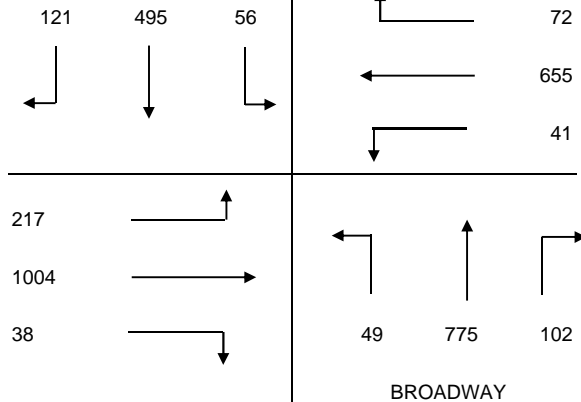
CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 22, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S BROADWAY  
 E/W FIRST STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
430-445	22	122	14	20	109	8	17	123	11	10	205	39	700
445-500	32	128	15	20	138	10	23	164	17	5	222	43	817
500-515	31	131	15	19	161	7	33	192	13	8	244	38	892
515-530	30	131	12	20	156	11	10	208	11	9	237	64	899
530-545	31	117	16	23	173	10	31	184	11	12	262	49	919
545-600	29	116	13	10	165	13	28	191	14	9	261	66	915
600-615	13	109	9	17	159	8	27	205	12	4	252	43	858
615-630	11	94	7	19	179	13	16	200	20	4	227	43	833
HOUR TOTALS													
430-530	115	512	56	79	564	36	83	687	52	32	908	184	3308
445-545	124	507	58	82	628	38	97	748	52	34	965	194	3527
500-600	121	495	56	72	655	41	102	775	49	38	1004	217	3625
515-615	103	473	50	70	653	42	96	788	48	34	1012	222	3591
530-630	84	436	45	69	676	44	102	780	57	29	1002	201	3525

PM PEAK HOUR  
500-600



FIRST STREET



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	61	46	46	30
415-430	20	49	42	26
430-445	86	44	50	43
445-500	38	46	29	26
500-515	26	42	49	19
515-530	21	27	33	8
530-545	20	31	37	16
545-600	12	25	13	10
HOUR TOTALS				
400-500	205	185	167	125
415-515	170	181	170	114
430-530	171	159	161	96
445-545	105	146	148	69
500-600	79	125	132	53

# WILTEC

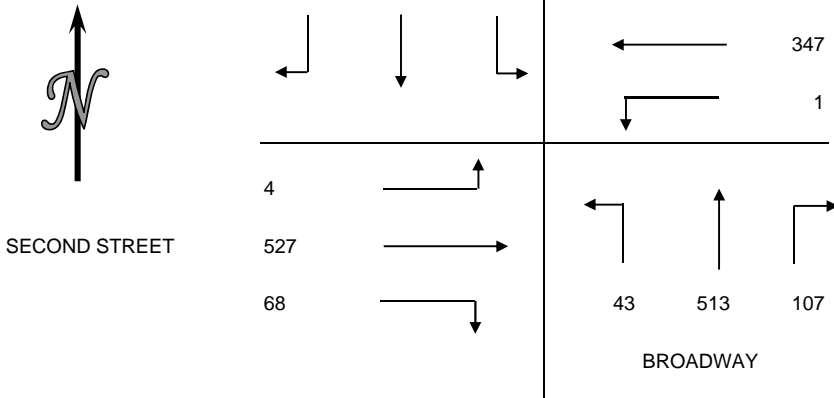
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 28, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S BROADWAY  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	10	126	8	2	44	2	16	68	12	8	81	0	377
715-730	13	119	5	7	58	0	17	97	11	8	104	0	439
730-745	16	132	15	1	63	0	8	118	10	8	115	3	489
745-800	21	149	11	6	108	0	18	115	16	18	141	0	603
800-815	25	150	11	8	90	1	20	121	6	11	126	1	570
815-830	27	171	12	14	80	0	40	155	14	15	140	1	669
830-845	17	122	13	8	69	0	29	122	7	24	120	2	533
845-900	18	126	21	10	69	0	29	104	12	23	118	4	534
HOUR TOTALS													
700-800	60	526	39	16	273	2	59	398	49	42	441	3	1908
715-815	75	550	42	22	319	1	63	451	43	45	486	4	2101
730-830	89	602	49	29	341	1	86	509	46	52	522	5	2331
745-845	90	592	47	36	347	1	107	513	43	68	527	4	2375
800-900	87	569	57	40	308	1	118	502	39	73	504	8	2306

AM PEAK HOUR  
745-845



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	2	6	14	8
715-730	7	14	16	9
730-745	9	19	11	18
745-800	23	34	25	31
800-815	18	31	20	14
815-830	7	31	35	15
830-845	12	58	24	8
845-900	11	82	49	14
HOUR TOTALS				
700-800	41	73	66	66
715-815	57	98	72	72
730-830	57	115	91	78
745-845	60	154	104	68
800-900	48	202	128	51



# WILTEC

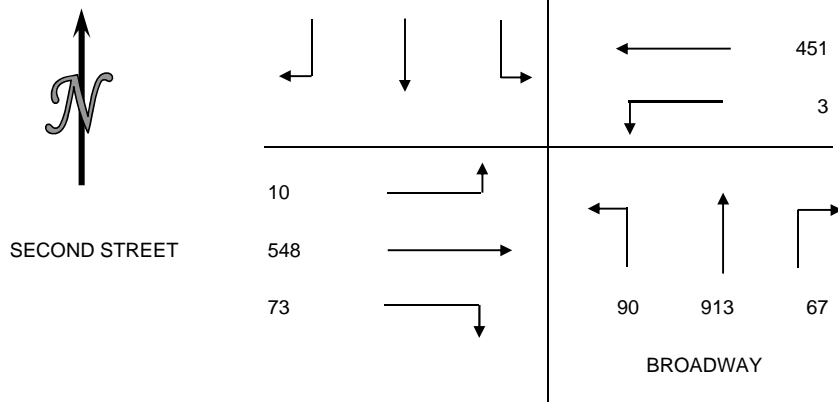
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 28, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S BROADWAY  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	5	156	6	8	96	3	17	175	10	17	113	4	610
415-430	5	133	6	6	94	0	14	180	23	21	110	2	594
430-445	9	149	2	6	97	0	19	202	18	23	116	2	643
445-500	5	146	2	7	98	0	17	224	30	23	133	0	685
500-515	14	123	7	13	114	0	20	235	24	15	153	1	719
515-530	12	147	8	8	113	1	11	232	11	14	136	4	697
530-545	0	128	7	10	126	2	19	222	25	21	126	5	691
545-600	7	119	3	11	105	0	17	225	21	14	114	2	638
HOUR TOTALS													
400-500	24	584	16	27	385	3	67	781	81	84	472	8	2532
415-515	33	551	17	32	403	0	70	841	95	82	512	5	2641
430-530	40	565	19	34	422	1	67	893	83	75	538	7	2744
445-545	31	544	24	38	451	3	67	913	90	73	548	10	2792
500-600	33	517	25	42	458	3	67	914	81	64	529	12	2745

PM PEAK HOUR  
445-545



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	7	28	36	33
415-430	14	31	34	18
430-445	20	36	34	40
445-500	9	20	34	12
500-515	8	47	33	23
515-530	6	21	23	15
530-545	10	24	32	14
545-600	8	14	15	13
HOUR TOTALS				
400-500	50	115	138	103
415-515	51	134	135	93
430-530	43	124	124	90
445-545	33	112	122	64
500-600	32	106	103	65

# CITY TRAFFIC COUNTERS

626.991.7522

www.ctcounters.com

Int. 17

File Name : Broadway\_3rd

Site Code : 00000000

Start Date : 8/7/2014

Page No : 1

## Groups Printed- Unshifted

	Broadway Southbound			3rd St Westbound			Broadway Northbound			3rd St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	73	26	4	371	9	10	88	0	0	0	0	581
07:15 AM	0	58	32	1	368	15	11	77	0	0	0	0	562
07:30 AM	0	75	27	3	354	13	16	96	0	0	0	0	584
07:45 AM	0	62	29	2	355	18	21	94	0	0	0	0	581
Total	0	268	114	10	1448	55	58	355	0	0	0	0	2308
08:00 AM	0	74	33	6	330	23	19	104	0	0	0	0	589
08:15 AM	0	73	38	4	304	9	14	85	0	0	0	0	527
08:30 AM	0	74	27	7	320	13	20	86	0	0	0	0	547
08:45 AM	0	102	30	7	326	9	17	79	0	0	0	0	570
Total	0	323	128	24	1280	54	70	354	0	0	0	0	2233
09:00 AM	0	77	32	5	333	9	19	70	0	0	0	0	545
09:15 AM	0	69	45	6	277	5	12	73	0	0	0	0	487
09:30 AM	0	62	28	8	229	21	16	70	0	0	0	0	434
09:45 AM	0	56	27	7	225	10	13	63	0	0	0	0	401
Total	0	264	132	26	1064	45	60	276	0	0	0	0	1867
03:00 PM	0	56	24	17	230	18	16	77	0	0	0	0	438
03:15 PM	0	83	23	4	249	22	18	79	0	0	0	0	478
03:30 PM	0	81	19	12	257	20	17	82	0	0	0	0	488
03:45 PM	0	75	22	9	250	13	20	100	0	0	0	0	489
Total	0	295	88	42	986	73	71	338	0	0	0	0	1893
04:00 PM	0	73	28	17	242	24	21	108	0	0	0	0	513
04:15 PM	0	77	32	8	249	26	29	137	0	0	0	0	558
04:30 PM	0	80	33	8	233	28	28	140	0	0	0	0	550
04:45 PM	0	74	30	14	251	17	24	146	0	0	0	0	556
Total	0	304	123	47	975	95	102	531	0	0	0	0	2177
05:00 PM	0	77	27	19	240	19	20	159	0	0	0	0	561
05:15 PM	0	83	25	11	231	17	31	164	0	0	0	0	562
05:30 PM	0	77	20	10	255	26	21	170	0	0	0	0	579
05:45 PM	0	73	18	11	243	15	33	139	0	0	0	0	532
Total	0	310	90	51	969	77	105	632	0	0	0	0	2234
Grand Total	0	1764	675	200	6722	399	466	2486	0	0	0	0	12712
Apprch %	0	72.3	27.7	2.7	91.8	5.5	15.8	84.2	0	0	0	0	
Total %	0	13.9	5.3	1.6	52.9	3.1	3.7	19.6	0	0	0	0	

# CITY TRAFFIC COUNTERS

626.991.7522

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Int. 17

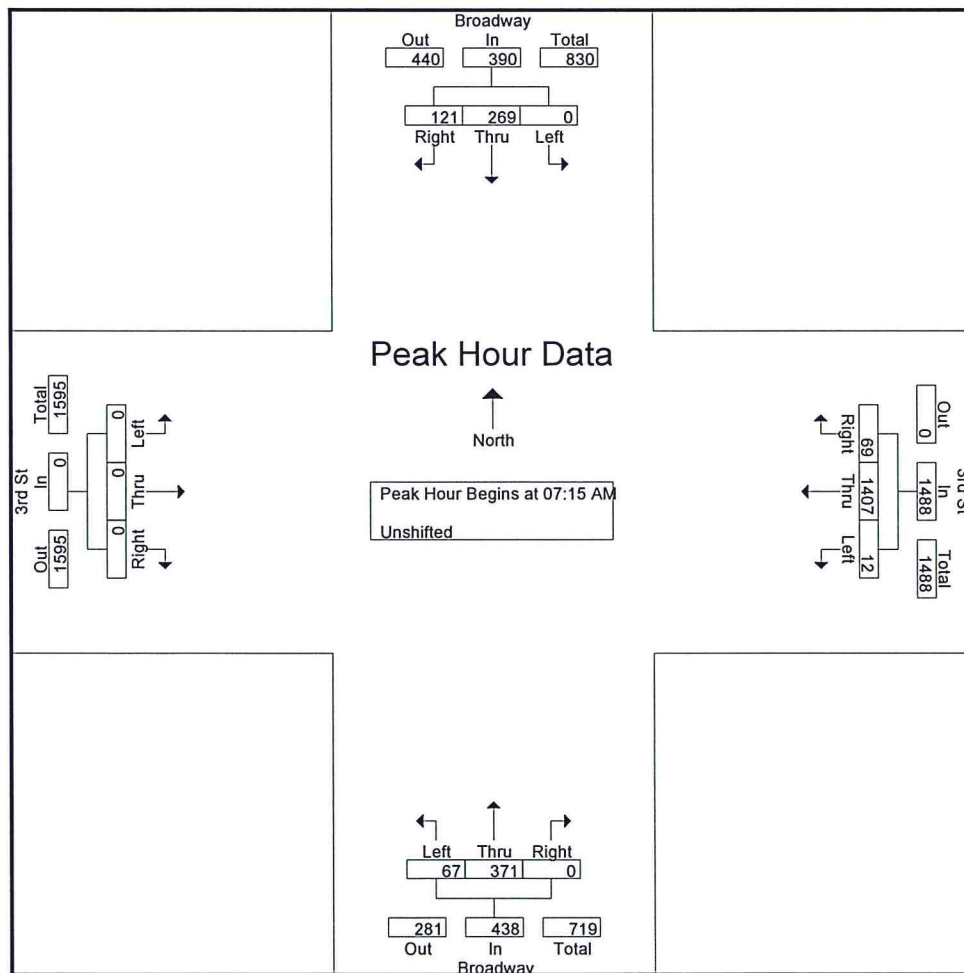
File Name : Broadway\_3rd

Site Code : 00000000

Start Date : 8/7/2014

Page No : 2

	Broadway Southbound				3rd St Westbound				Broadway Northbound				3rd St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	58	32	90	1	368	15	384	11	77	0	88	0	0	0	0	562
07:30 AM	0	75	27	102	3	354	13	370	16	96	0	112	0	0	0	0	584
07:45 AM	0	62	29	91	2	355	18	375	21	94	0	115	0	0	0	0	581
08:00 AM	0	74	33	107	6	330	23	359	19	104	0	123	0	0	0	0	589
Total Volume	0	269	121	390	12	1407	69	1488	67	371	0	438	0	0	0	0	2316
% App. Total	0	69	31		0.8	94.6	4.6		15.3	84.7	0		0	0	0		
PHF	.000	.897	.917	.911	.500	.956	.750	.969	.798	.892	.000	.890	.000	.000	.000	.000	.983



# CITY TRAFFIC COUNTERS

626.991.7522

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Int. 17

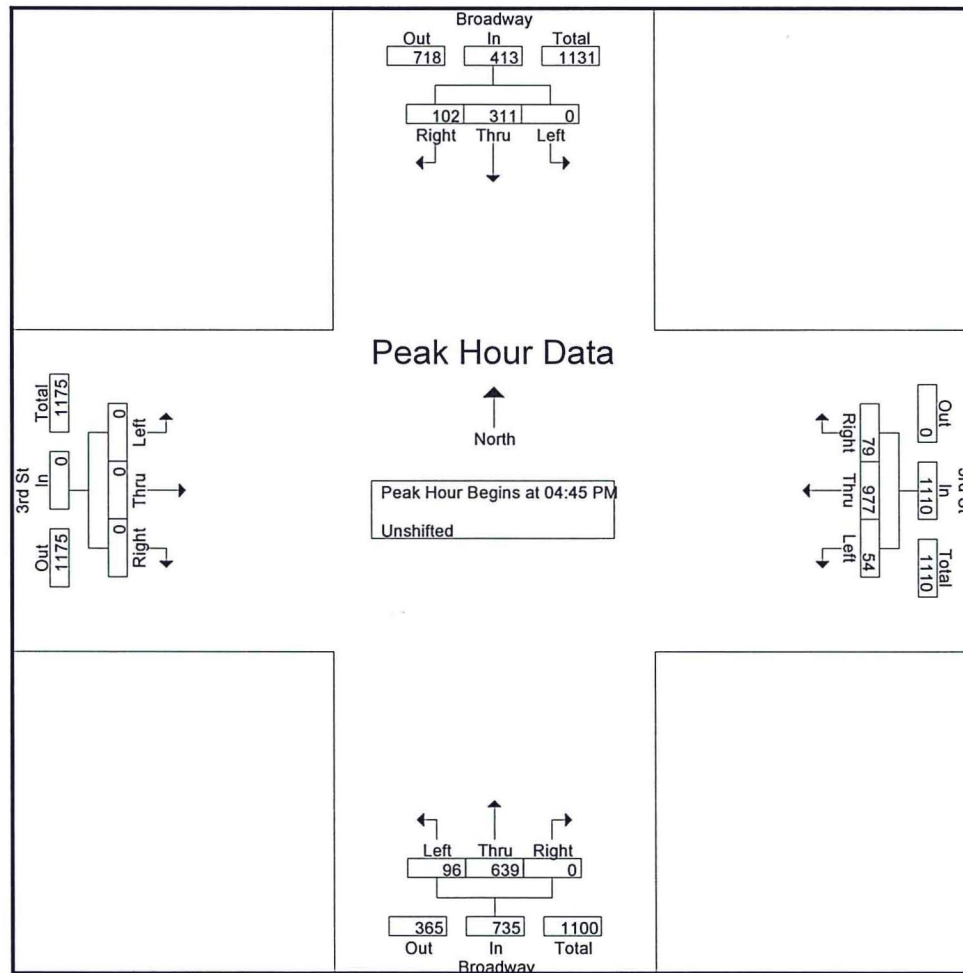
File Name : Broadway\_3rd

Site Code : 00000000

Start Date : 8/7/2014

Page No : 3

	Broadway Southbound				3rd St Westbound				Broadway Northbound				3rd St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	74	30	104	14	251	17	282	24	146	0	170	0	0	0	0	556
05:00 PM	0	77	27	104	19	240	19	278	20	159	0	179	0	0	0	0	561
05:15 PM	0	83	25	108	11	231	17	259	31	164	0	195	0	0	0	0	562
05:30 PM	0	77	20	97	10	255	26	291	21	170	0	191	0	0	0	0	579
Total Volume	0	311	102	413	54	977	79	1110	96	639	0	735	0	0	0	0	2258
% App. Total	0	75.3	24.7		4.9	88	7.1		13.1	86.9	0		0	0	0		
PHF	.000	.937	.850	.956	.711	.958	.760	.954	.774	.940	.000	.942	.000	.000	.000	.000	.975



# CITY TRAFFIC COUNTERS

626.991.7522

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Int. 18

File Name : Broadway\_4th

Site Code : 00000000

Start Date : 8/7/2014

Page No : 1

## Groups Printed- Unshifted

Start Time	Broadway Southbound			4th St Westbound			Broadway Northbound			4th St Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	1	68	0	0	0	0	0	85	9	21	128	5	317
07:15 AM	0	63	0	0	0	0	0	88	19	19	116	7	312
07:30 AM	1	74	0	0	0	0	0	118	11	12	147	11	374
07:45 AM	0	74	0	0	0	0	0	105	17	20	185	12	413
Total	2	279	0	0	0	0	0	396	56	72	576	35	1416
08:00 AM	0	88	0	0	0	0	0	140	23	20	189	10	470
08:15 AM	2	79	0	0	0	0	0	116	12	21	177	18	425
08:30 AM	1	89	0	0	0	0	0	108	19	24	178	16	435
08:45 AM	3	108	0	0	0	0	0	92	27	23	189	16	458
Total	6	364	0	0	0	0	0	456	81	88	733	60	1788
09:00 AM	1	82	0	0	0	0	0	98	20	24	179	17	421
09:15 AM	2	90	0	0	0	0	0	92	14	25	186	18	427
09:30 AM	4	73	0	0	0	0	0	89	29	26	180	20	421
09:45 AM	2	78	0	0	0	0	0	72	24	31	172	19	398
Total	9	323	0	0	0	0	0	351	87	106	717	74	1667
03:00 PM	4	81	0	0	0	0	0	115	26	15	157	24	422
03:15 PM	0	75	0	0	0	0	0	94	20	23	167	19	398
03:30 PM	1	112	0	0	0	0	0	111	30	17	208	18	497
03:45 PM	1	90	0	0	0	0	0	123	26	26	199	27	492
Total	6	358	0	0	0	0	0	443	102	81	731	88	1809
04:00 PM	1	102	0	0	0	0	0	128	45	20	238	26	560
04:15 PM	2	88	0	0	0	0	0	154	37	36	259	20	596
04:30 PM	0	98	0	0	0	0	0	153	28	30	299	20	628
04:45 PM	3	106	0	0	0	0	0	159	30	48	295	25	666
Total	6	394	0	0	0	0	0	594	140	134	1091	91	2450
05:00 PM	1	92	0	0	0	0	0	180	37	29	301	30	670
05:15 PM	2	104	0	0	0	0	0	177	36	31	322	13	685
05:30 PM	1	84	0	0	0	0	0	184	43	25	299	16	652
05:45 PM	1	87	0	0	0	0	0	172	43	23	289	18	633
Total	5	367	0	0	0	0	0	713	159	108	1211	77	2640
Grand Total	34	2085	0	0	0	0	0	2953	625	589	5059	425	11770
Apprch %	1.6	98.4	0	0	0	0	0	82.5	17.5	9.7	83.3	7	
Total %	0.3	17.7	0	0	0	0	0	25.1	5.3	5	43	3.6	

# CITY TRAFFIC COUNTERS

626.991.7522

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Int. 18

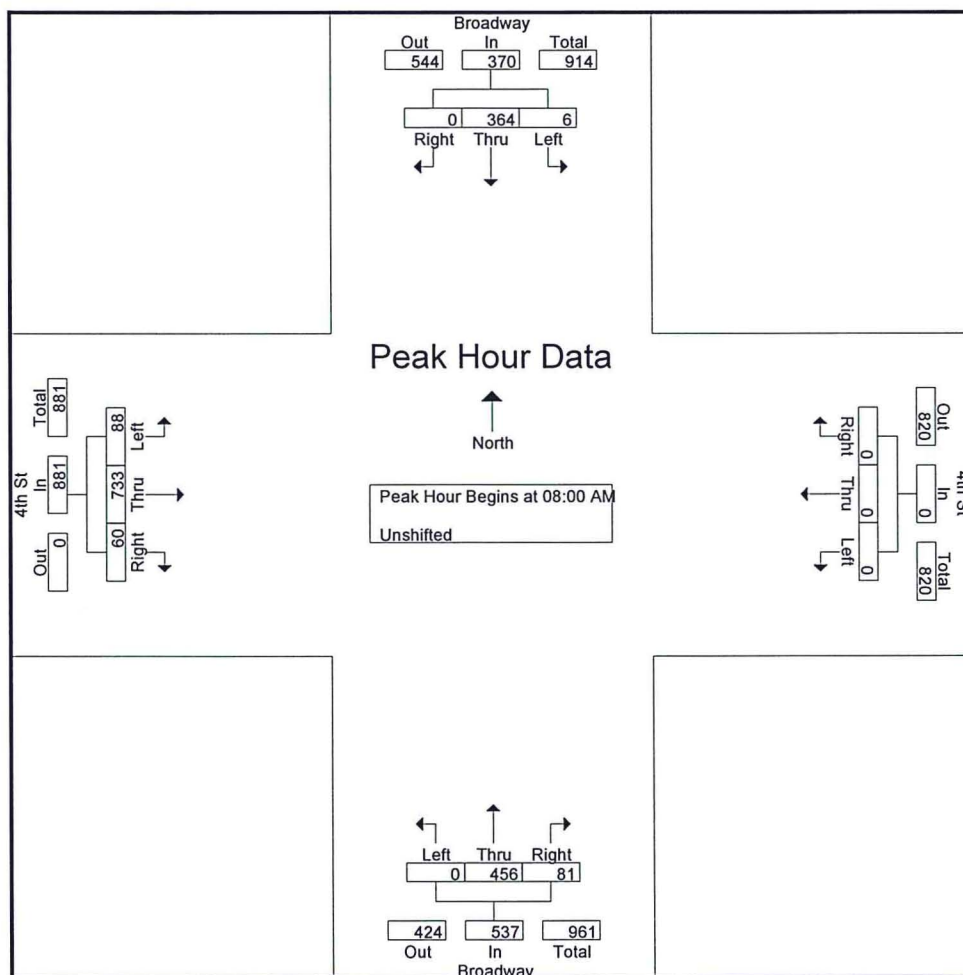
File Name : Broadway\_4th

Site Code : 00000000

Start Date : 8/7/2014

Page No : 2

	Broadway Southbound				4th St Westbound				Broadway Northbound				4th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	88	0	88	0	0	0	0	0	140	23	163	20	189	10	219	470
08:15 AM	2	79	0	81	0	0	0	0	0	116	12	128	21	177	18	216	425
08:30 AM	1	89	0	90	0	0	0	0	0	108	19	127	24	178	16	218	435
08:45 AM	3	108	0	111	0	0	0	0	0	92	27	119	23	189	16	228	458
Total Volume	6	364	0	370	0	0	0	0	0	456	81	537	88	733	60	881	1788
% App. Total	1.6	98.4	0		0	0	0		0	84.9	15.1		10	83.2	6.8		
PHF	.500	.843	.000	.833	.000	.000	.000	.000	.000	.814	.750	.824	.917	.970	.833	.966	.951





# CITY TRAFFIC COUNTERS

626.991.7522

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Int. 18

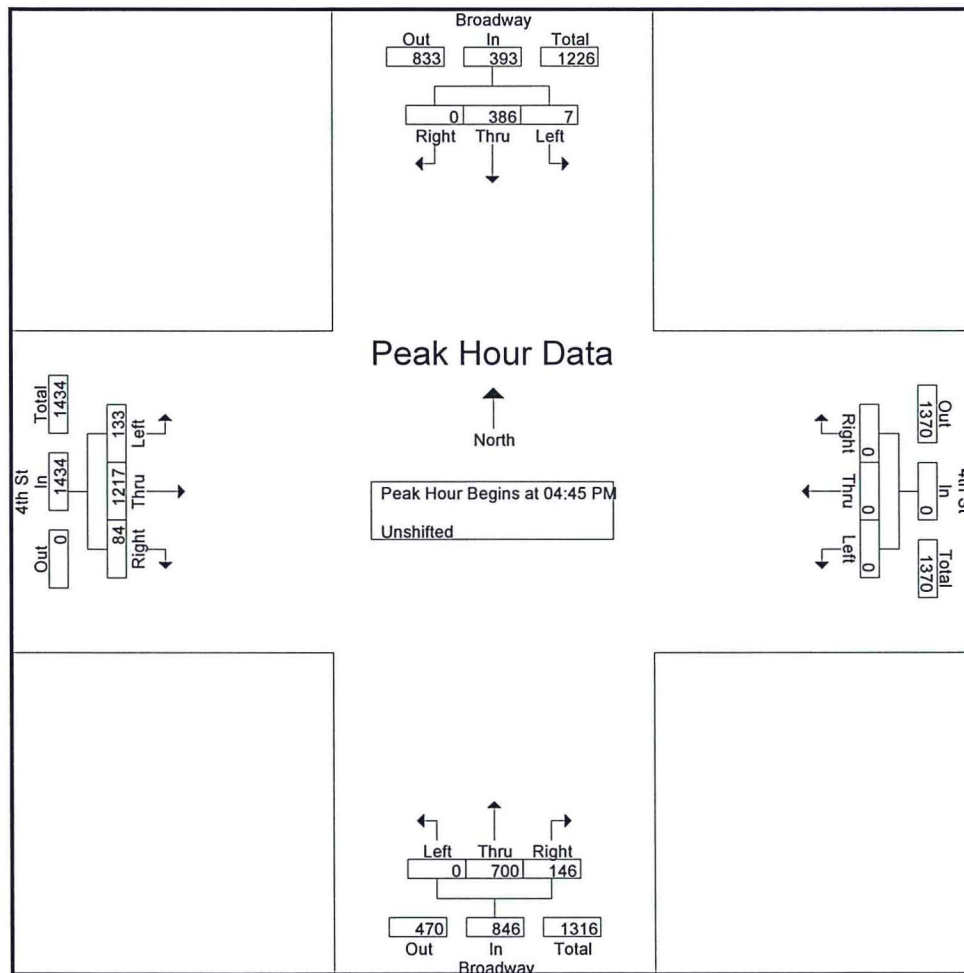
File Name : Broadway\_4th

Site Code : 00000000

Start Date : 8/7/2014

Page No : 3

	Broadway Southbound				4th St Westbound				Broadway Northbound				4th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	3	106	0	109	0	0	0	0	0	159	30	189	48	295	25	368	666
05:00 PM	1	92	0	93	0	0	0	0	0	180	37	217	29	301	30	360	670
05:15 PM	2	104	0	106	0	0	0	0	0	177	36	213	31	322	13	366	685
05:30 PM	1	84	0	85	0	0	0	0	0	184	43	227	25	299	16	340	652
Total Volume	7	386	0	393	0	0	0	0	0	700	146	846	133	1217	84	1434	2673
% App. Total	1.8	98.2	0		0	0	0		0	82.7	17.3		9.3	84.9	5.9		
PHF	.583	.910	.000	.901	.000	.000	.000	.000	.000	.951	.849	.932	.693	.945	.700	.974	.976



# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

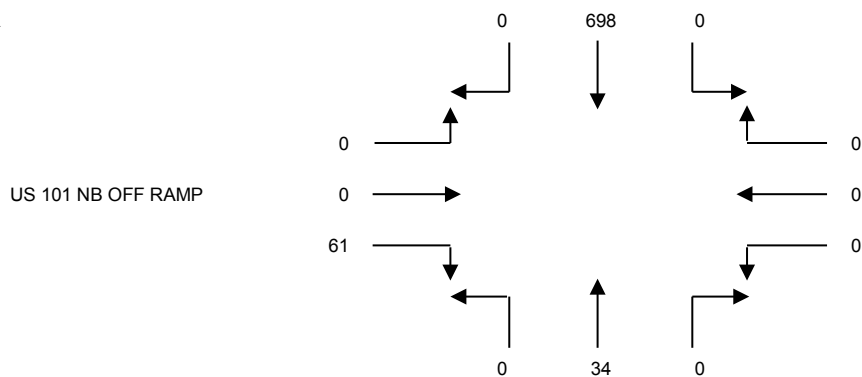
Int. 19

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 07:00 AM TO 10:00 AM  
 INTERSECTION: N/S SPRING STREET  
 E/W US 101 NB OFF RAMP  
 FILE NUMBER: 3-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	0	111	0	0	0	0	0	8	0	12	0	0
0715-0730	0	159	0	0	0	0	0	12	0	8	0	0
0730-0745	0	115	0	0	0	0	0	10	0	11	0	0
0745-0800	0	151	0	0	0	0	0	13	0	13	0	0
0800-0815	0	193	0	0	0	0	0	8	0	15	0	0
0815-0830	0	157	0	0	0	0	0	5	0	19	0	0
0830-0845	0	197	0	0	0	0	0	8	0	14	0	0
0845-0900	0	153	0	0	0	0	0	6	0	13	0	0
0900-0915	0	120	0	0	0	0	0	7	0	14	0	0
0915-0930	0	113	0	0	0	0	0	11	0	19	0	0
0930-0945	0	100	0	0	0	0	0	7	0	15	0	0
0945-1000	0	79	0	0	0	0	0	11	0	7	0	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0700-0800	0	536	0	0	0	0	0	43	0	44	0	0	623
0715-0815	0	618	0	0	0	0	0	43	0	47	0	0	708
0730-0830	0	616	0	0	0	0	0	36	0	58	0	0	710
0745-0845	0	698	0	0	0	0	0	34	0	61	0	0	793
0800-0900	0	700	0	0	0	0	0	27	0	61	0	0	788
0815-0915	0	627	0	0	0	0	0	26	0	60	0	0	713
0830-0930	0	583	0	0	0	0	0	32	0	60	0	0	675
0845-0945	0	486	0	0	0	0	0	31	0	61	0	0	578
0900-1000	0	412	0	0	0	0	0	36	0	55	0	0	503

A.M. PEAK HOUR  
 0745-0845



DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877



# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

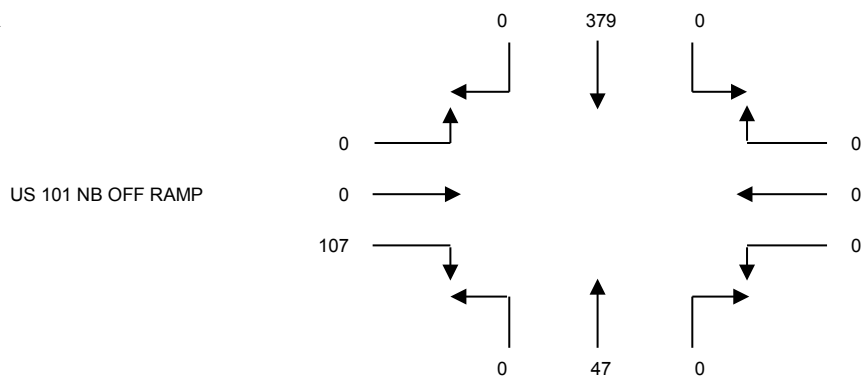
Int. 19

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 03:00 PM TO 06:00 PM  
 INTERSECTION: N/S SPRING STREET  
 E/W US 101 NB OFF RAMP  
 FILE NUMBER: 3-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	0	66	0	0	0	0	0	11	0	19	0	0
0315-0330	0	85	0	0	0	0	0	8	0	23	0	0
0330-0345	0	79	0	0	0	0	0	7	0	18	0	0
0345-0400	0	98	0	0	0	0	0	11	0	25	0	0
0400-0415	0	92	0	0	0	0	0	8	0	27	0	0
0415-0430	0	90	0	0	0	0	0	15	0	32	0	0
0430-0445	0	99	0	0	0	0	0	13	0	23	0	0
0445-0500	0	88	0	0	0	0	0	10	0	16	0	0
0500-0515	0	104	0	0	0	0	0	14	0	17	0	0
0515-0530	0	95	0	0	0	0	0	14	0	19	0	0
0530-0545	0	110	0	0	0	0	0	12	0	13	0	0
0545-0600	0	91	0	0	0	0	0	14	0	18	0	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0300-0400	0	328	0	0	0	0	0	37	0	85	0	0	450
0315-0415	0	354	0	0	0	0	0	34	0	93	0	0	481
0330-0430	0	359	0	0	0	0	0	41	0	102	0	0	502
0345-0445	0	379	0	0	0	0	0	47	0	107	0	0	533
0400-0500	0	369	0	0	0	0	0	46	0	98	0	0	513
0415-0515	0	381	0	0	0	0	0	52	0	88	0	0	521
0430-0530	0	386	0	0	0	0	0	51	0	75	0	0	512
0445-0545	0	397	0	0	0	0	0	50	0	65	0	0	512
0500-0600	0	400	0	0	0	0	0	54	0	67	0	0	521

P.M. PEAK HOUR  
 0345-0445



DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC tel: 951 249 3226 pacific@aimtd.com

DATE:  
Tue, Mar 18, 14

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

China Town  
Spring  
Aliso

PROJECT #:  
LOCATION #:  
CONTROL:

SC0325  
12  
SIGNAL

NOTES:

AM

PM

MD

OTHER

OTHER

▲

N

◀

W

▶

E

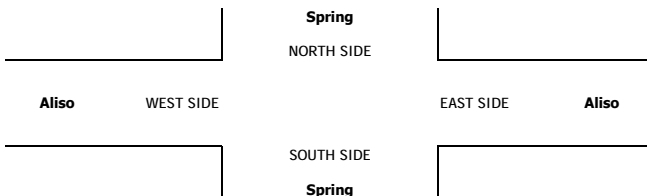
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S

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	Spring NT	NR	SL	Spring ST	SR	EL	Aliso ET	ER	WL	Aliso WT	WR	TOTAL
LANES:	X	2	0	1	4	X	X	3	0	X	X	X	
7:00 AM	0	9	5	17	205	0	0	46	28	0	0	0	310
7:15 AM	0	10	4	29	254	0	0	68	19	0	0	0	384
7:30 AM	0	11	6	38	307	0	0	55	28	0	0	0	445
7:45 AM	0	12	5	38	342	0	0	79	29	0	0	0	505
8:00 AM	0	10	4	37	345	0	0	76	18	0	0	0	490
8:15 AM	0	12	5	45	396	0	0	82	39	0	0	0	579
8:30 AM	0	9	8	31	327	0	0	66	39	0	0	0	480
8:45 AM	0	12	6	34	401	0	0	64	48	0	0	0	565
9:00 AM	0	11	3	39	367	0	0	77	37	0	0	0	534
9:15 AM	0	10	5	33	254	0	0	60	29	0	0	0	391
9:30 AM	0	14	6	26	260	0	0	79	27	0	0	0	412
9:45 AM	0	12	6	25	232	0	0	86	23	0	0	0	384
VOLUMES	0	132	63	392	3,690	0	0	838	364	0	0	0	5,479
APPROACH %	0%	68%	32%	10%	90%	0%	0%	70%	30%	0%	0%	0%	
APP/DEPART	195	/	132	4,082	/	4,054	1,202	/	1,293	0	/	0	0
BEGIN PEAK HR	8:15 AM												
VOLUMES	0	44	22	149	1,491	0	0	289	163	0	0	0	2,158
APPROACH %	0%	67%	33%	9%	91%	0%	0%	64%	36%	0%	0%	0%	
PEAK HR FACTOR	0.917			0.930			0.934			0.000			0.932
APP/DEPART	66	/	44	1,640	/	1,654	452	/	460	0	/	0	0
03:00 PM	0	15	4	23	99	0	0	137	9	0	0	0	287
3:15 PM	0	8	9	16	113	0	0	141	9	0	0	0	296
3:30 PM	0	8	10	33	115	0	0	132	4	0	0	0	302
3:45 PM	0	8	10	27	139	0	0	104	4	0	0	0	292
4:00 PM	0	9	13	27	88	0	0	137	7	0	0	0	281
4:15 PM	0	7	12	14	116	0	0	129	3	0	0	0	281
4:30 PM	0	10	17	25	118	0	0	136	6	0	0	0	312
4:45 PM	0	11	15	26	134	0	0	126	7	0	0	0	319
5:00 PM	0	7	16	27	149	0	0	113	5	0	0	0	317
5:15 PM	0	11	14	35	152	0	1	115	5	0	0	0	333
5:30 PM	0	14	15	22	150	0	1	112	3	0	0	0	317
5:45 PM	0	9	22	23	140	0	0	117	5	0	0	0	316
VOLUMES	0	117	157	298	1,513	0	2	1,499	67	0	0	0	3,653
APPROACH %	0%	43%	57%	16%	84%	0%	0%	96%	4%	0%	0%	0%	
APP/DEPART	274	/	119	1,811	/	1,580	1,568	/	1,954	0	/	0	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	0	43	60	110	585	0	2	466	20	0	0	0	1,286
APPROACH %	0%	42%	58%	16%	84%	0%	0%	95%	4%	0%	0%	0%	
PEAK HR FACTOR	0.888			0.929			0.917			0.000			0.965
APP/DEPART	103	/	45	695	/	605	488	/	636	0	/	0	0

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0



AM	PM
7:00 AM	3:00 PM
7:15 AM	3:15 PM
7:30 AM	3:30 PM
7:45 AM	3:45 PM
8:00 AM	4:00 PM
8:15 AM	4:15 PM
8:30 AM	4:30 PM
8:45 AM	4:45 PM
9:00 AM	5:00 PM
9:15 AM	5:15 PM
9:30 AM	5:30 PM
9:45 AM	5:45 PM
TOTAL	TOTAL

ALL PED AND BIKE				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
9	0	11	9	29
13	0	13	12	38
4	0	12	16	32
4	2	14	29	49
7	2	10	13	32
6	2	18	24	50
1	0	16	19	36
1	0	11	27	39
4	0	17	26	47
4	0	13	22	39
5	2	13	13	33
7	0	16	22	45
65	8	164	232	469
2	8	6	5	21
2	2	23	8	35
5	0	9	2	16
3	0	12	8	23
22	4	14	12	52
5	2	8	10	25
10	0	4	16	30
5	0	15	5	25
13	0	23	11	47
6	0	12	7	25
4	3	11	5	23
8	0	20	16	44
85	19	157	105	366

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
9	0	9	6	24
13	0	13	10	36
4	0	11	12	27
4	0	14	21	39
7	0	8	9	24
6	0	14	23	43
1	0	16	14	31
1	0	10	23	34
4	0	15	22	41
4	0	12	18	34
5	0	13	10	28
7	0	15	18	40
65	0	150	186	401
2	0	6	3	11
2	0	22	7	31
5	0	9	2	16
3	0	12	6	21
21	0	10	7	38
5	0	8	9	22
10	0	4	15	29
5	0	9	3	17
13	0	22	9	44
6	0	12	5	23
4	0	10	3	17
7	0	19	14	40
83	0	143	83	309

BICYCLE CROSSINGS					SCHOOL AGE PED				
NS	SS	ES	WS	TOTAL	NS	SS	ES	WS	TOTAL
0	0	0	3	3	0	0	2	0	2
0	0	0	2	2	0	0	0	0	0
0	0	1	4	5	0	0	0	0	0
0	0	0	8	8	0	2	0	0	2
0	0	0	4	4	0	2	2	0	4
0	0	0	1	1	0	2	4	0	6
0	0	0	5	5	0	0	0	0	0
0	0	1	4	5	0	0	0	0	0
0	0	2	4	6	0	0	0	0	0
0	0	1	4	5	0	0	0	0	0
0	0	0	3	3	0	2	0	0	2
0	0	1	4	5	0	0	0	0	0
0	0	6	46	52	0	8	8	0	16
0	0	0	2	2	0	8	0	0	8
0	0	1	1	2	0	2	0	0	2
0	0	0	0	0	0	0	0	0	0
0	0	0	2	2	0	0	0	0	0
1	0	0	5	6	0	4	4	0	8
0	0	0	1	1	0	2	0	0	2
0	0	0	1	1	0	0	0	0	0
0	0	6	2	8	0	0	0	0	0
0	0	1	2	3	0	0	0	0	0
0	0	0	2	2	0	0	0	0	0
0	1	1	2	4	0	2	0	0	2
1	0	1	2	4	0	0	0	0	0
2	1	10	22	35	0	18	4	0	22

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC tel: 951 249 3226 pacific@aimtd.com

DATE:  
Tue, Mar 18, 14

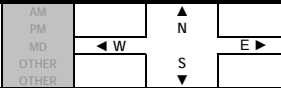
LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

China Town  
Spring  
Temple

PROJECT #:  
LOCATION #:  
CONTROL:

SC0325  
13  
SIGNAL

NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	Spring NT	NR	SL	Spring ST	SR	EL	ET	ER	WL	Spring WT	WR	TOTAL
LANES:	0	2	0	1	4	0	X	2	0	1	2	X	

U-TURNS					
NB	SB	EB	WB	TTL	
X	X	X	X		

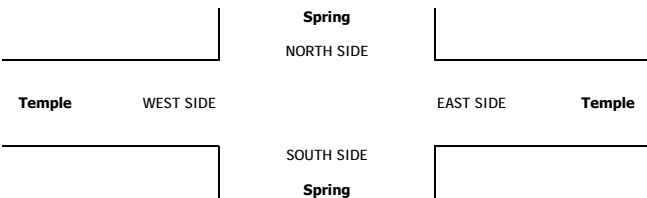
AM	7:00 AM	1	20	0	8	200	27	0	91	20	11	120	0	498
	7:15 AM	0	15	0	3	237	25	0	97	34	14	115	0	540
	7:30 AM	0	13	0	9	290	30	0	105	28	16	138	0	629
	7:45 AM	0	20	0	16	336	44	0	91	36	19	138	1	701
	8:00 AM	0	12	2	7	330	16	0	101	32	11	153	0	664
	8:15 AM	0	15	0	15	398	37	0	122	48	19	138	0	792
	8:30 AM	0	19	0	16	342	36	0	159	41	15	144	1	773
	8:45 AM	1	17	2	23	387	40	0	142	50	18	159	1	840
	9:00 AM	0	18	1	13	348	29	0	150	43	37	131	1	771
	9:15 AM	0	11	1	12	251	23	0	113	46	23	120	0	600
	9:30 AM	0	17	2	8	246	30	1	129	44	12	112	1	602
	9:45 AM	0	16	3	9	194	26	1	123	29	17	99	4	521

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	1	1	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	2	2	

VOLUMES	2	193	11	139	3,559	363	2	1,423	451	212	1,567	9	7,931
APPROACH %	1%	94%	5%	3%	88%	9%	0%	76%	24%	12%	88%	1%	
APP/DEPART	206	/	204	4,061	/	4,222	1,876	/	1,573	1,788	/	1,932	0
BEGIN PEAK HR	8:15 AM												
VOLUMES	1	69	3	67	1,475	142	0	573	182	89	572	3	3,176
APPROACH %	1%	95%	4%	4%	88%	8%	0%	76%	24%	13%	86%	0%	
PEAK HR FACTOR	0.913			0.936			0.944			0.933			0.945
APP/DEPART	73	/	72	1,684	/	1,746	755	/	643	664	/	715	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

PM	03:00 PM	0	13	0	14	87	6	0	104	14	15	129	0	382
	3:15 PM	0	17	0	9	97	14	0	110	20	21	116	0	404
	3:30 PM	0	17	2	8	102	17	0	124	14	12	178	0	474
	3:45 PM	0	21	1	3	135	18	0	133	17	18	146	0	492
	4:00 PM	1	18	0	5	83	10	0	116	17	16	160	0	426
	4:15 PM	0	23	1	16	82	19	0	140	12	13	162	0	468
	4:30 PM	0	32	0	6	110	15	0	174	9	20	174	0	540
	4:45 PM	1	24	0	13	122	11	0	169	28	15	182	0	565
	5:00 PM	0	24	0	10	135	16	0	221	23	12	176	0	617
	5:15 PM	0	26	1	5	132	10	0	227	11	13	215	0	640
	5:30 PM	0	24	0	7	121	12	0	175	16	19	194	4	572
	5:45 PM	0	31	0	6	127	15	0	159	11	18	218	0	585
	VOLUMES	2	270	5	102	1,333	163	0	1,852	192	192	2,050	4	6,165
APPROACH %	1%	97%	2%	6%	83%	10%	0%	91%	9%	9%	91%	0%		
APP/DEPART	277	/	274	1,598	/	1,717	2,044	/	1,959	2,246	/	2,215	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	0	105	1	28	515	53	0	782	61	62	803	4	2,414	
APPROACH %	0%	99%	1%	5%	86%	9%	0%	93%	7%	7%	92%	0%		
PEAK HR FACTOR	0.855			0.925			0.864			0.921			0.943	
APP/DEPART	106	/	109	596	/	638	843	/	811	869	/	856	0	



AM	7:00 AM	1	20	0	8	200	27	0	91	20	11	120	0	498
	7:15 AM	0	15	0	3	237	25	0	97	34	14	115	0	540
	7:30 AM	0	13	0	9	290	30	0	105	28	16	138	0	629
	7:45 AM	0	20	0	16	336	44	0	91	36	19	138	1	701
	8:00 AM	0	12	2	7	330	16	0	101	32	11	153	0	664
	8:15 AM	0	15	0	15	398	37	0	122	48	19	138	0	792
	8:30 AM	0	19	0	16	342	36	0	159	41	15	144	1	773
	8:45 AM	1	17	2	23	387	40	0	142	50	18	159	1	840
	9:00 AM	0	18	1	13	348	29	0	150	43	37	131	1	771
	9:15 AM	0	11	1	12	251	23	0	113	46	23	120	0	600
	9:30 AM	0	17	2	8	246	30	1	129	44	12	112	1	602
	9:45 AM	0	16	3	9	194	26	1	123	29	17	99	4	521
TOTAL		2	193	11	139	3,559	363	2	1,423	451	212	1,567	9	7,931

ALL PED AND BIKE					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
31	54	13	62	160	
40	82	36	85	243	
62	58	46	62	228	
54	65	57	75	251	
52	77	16	67	212	
65	79	24	99	267	
36	123	33	66	258	
23	68	25	30	146	
60	51	29	27	167	
23	70	32	33	158	
31	65	28	38	162	
36	49	15	47	147	
513	841	354	691	2,399	
13	41	18	9	81	
22	66	28	12	128	
11	44	19	8	82	
30	64	20	17	131	
44	98	19	29	190	
22	110	27	34	193	
36	104	28	28	196	
27	87	27	25	166	
39	75	36	41	191	
18	49	20	22	109	
6	31	21	16	74	
5	36	20	9	70	
273	805	283	250	1,611	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
31	54	13	59	157
40	82	36	83	241
35	55	25	59	174
48	64	37	70	219
52	77	16	65	210
65	77	24	99	265
33	116	33	62	244
23	68	24	26	141
57	49	27	27	160
23	70	32	30	155
29	65	28	34	156
36	46	14	44	140
472	823	309	658	2,262
9	37	17	6	69
21	62	26	11	120
11	43	19	8	81
24	58	18	16	116
36	94	19	23	172
20	107	26	32	185
28	102	28	28	186
25	87	21	23	156
39	75	35	40	189
17	47	20	18	102
6	29	20	12	67
3	32	17	7	59
239	773	266	224	1,502

BICYCLE CROSSINGS					SCHOOL AGE PED				
NS	SS	ES	WS	TOTAL	NS	SS	ES	WS	TOTAL
0	0	0	3	3	0	0	0	0	0
0	0	0	2	2	0	0	0	0	0
1	1	1	3	6	26	2	20	0	48
0	1	0	5	6	6	0	20	0	26
0	0	0	2	2	0	0	0	0	0
0	0	0	0	0	0	2	0	0	2
1	1	0	4	6	2	6	0	0	8
0	0	1	4	5	0	0	0	0	0
1	2	2	0	5	2	0	0	0	2
0	0	0	3	3	0	0	0	0	0
0	0	0	4	4	2	0	0	0	2
0	1	1	3	5	0	2	0	0	2
3	6	5	33	47	38	12	40	0	90
0	0	1	3	4	4	4	0	0	8
1	0	2	1	4	0	4	0	0	4
0	1	0	0	1	0	0	0	0	0
2	2	2	1	7	4	4	0	0	8
0	2	0	6	8	8	2	0	0	10
0	1	1	2	4	2	2	0	0	4
0	0	0	0	0	8	2	0	0	10
2	0	6	2	10	0	0	0	0	0
0	0	1	1	2	0	0	0	0	0
1	2	0	4	7	0	0	0	0	0
0	2	1	4	7	0	0	0	0	0
0	4	3	2	9	2	0	0	0	2
6	14	17	26	63	28	18	0	0	46



City Of Los Angeles  
Department Of Transportation

# MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

SPRING ST.

East/West

1st ST.

Day: TUESDAY Date: March 19, 2013 Weather: SUNNY

Hours: 7-10AM 3-6PM Chekrs: MIOVISION

School Day: YES District: CENTRAL I/S CODE 8245

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	57	63	66
BIKES	0	67	12	24
BUSES	0	628	207	152

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	0 7.00	356 7.45	165 9.00	216 7.15
PM PK 15 MIN	0 3.00	156 4.45	271 4.45	189 5.30
AM PK HOUR	0 7.00	1309 7.45	622 9.00	810 7.00
PM PK HOUR	0 3.00	564 4.00	1027 4.30	726 5.00

## NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	51	887	210	1148
8-9	61	1062	+50169	1292
9-10	40	723	154	917
3-4	42	358	102	502
4-5	38	378	148	564
5-6	25	-150341	82	448
TOTAL	257	3749	865	4871

## TOTAL

N-S
1148
1292
917
502
564
448
4871

## XING S/L

Ped	Sch
55	0
56	0
96	0
74	0
61	0
45	0
387	0

## XING N/L

Ped	Sch
100	0
137	0
121	0
140	0
130	0
82	0
710	0

## EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	364	71	435
8-9	0	486	101	587
9-10	0	512	110	622
3-4	0	614	59	673
4-5	0	878	49	927
5-6	0	-100912	50	962
TOTAL	0	3766	440	4206

## WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	74	736	0	810
8-9	88	657	0	745
9-10	71	563	0	634
3-4	47	461	0	508
4-5	43	519	0	562
5-6	42	684	0	726
TOTAL	365	3620	0	3985

## TOTAL

E-W
1245
1332
1256
1181
1489
1688
8191

## XING W/L

Ped	Sch
146	0
207	0
152	0
92	0
108	0
92	0
797	0

## XING E/L

Ped	Sch
94	0
98	0
116	0
85	0
133	0
111	0
637	0

# WILTEC

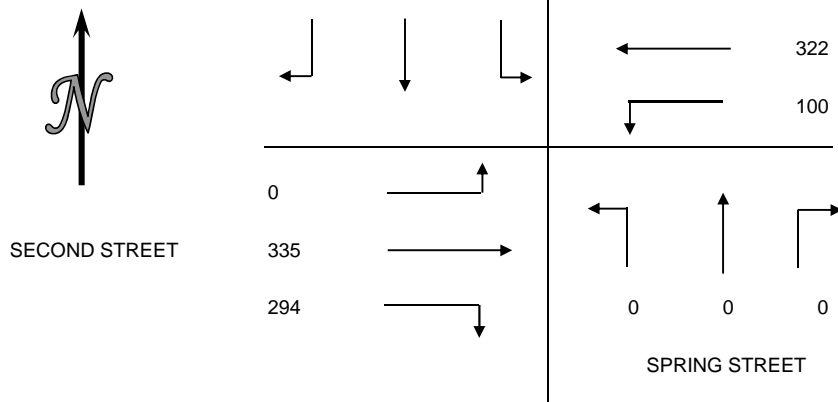
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 28, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S SPRING STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	6	166	9	0	56	12	0	0	0	40	63	0	352
715-730	12	190	6	0	46	14	0	0	0	56	73	0	397
730-745	12	228	3	0	76	16	0	0	0	54	80	0	469
745-800	17	238	2	0	92	16	0	0	0	62	90	0	517
800-815	15	230	3	0	96	20	0	0	0	72	82	0	518
815-830	19	253	4	0	76	28	0	0	0	77	95	0	552
830-845	24	265	5	0	73	25	0	0	0	72	82	0	546
845-900	21	276	11	0	77	27	0	0	0	73	76	0	561
HOUR TOTALS													
700-800	47	822	20	0	270	58	0	0	0	212	306	0	1735
715-815	56	886	14	0	310	66	0	0	0	244	325	0	1901
730-830	63	949	12	0	340	80	0	0	0	265	347	0	2056
745-845	75	986	14	0	337	89	0	0	0	283	349	0	2133
800-900	79	1024	23	0	322	100	0	0	0	294	335	0	2177

AM PEAK HOUR  
800-900



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	7	25	14	39
715-730	9	10	22	29
730-745	13	15	12	37
745-800	8	16	22	43
800-815	9	16	27	52
815-830	10	15	30	67
830-845	8	18	31	87
845-900	23	26	45	73
HOUR TOTALS				
700-800	37	66	70	148
715-815	39	57	83	161
730-830	40	62	91	199
745-845	35	65	110	249
800-900	50	75	133	279

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

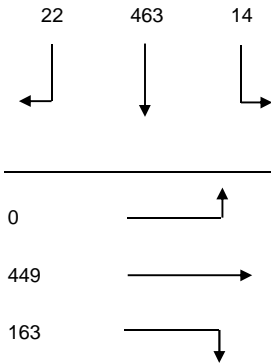
CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 28, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S SPRING STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	5	133	6	0	85	12	0	0	0	26	89	0	356
415-430	1	141	10	0	95	13	0	0	0	34	101	0	395
430-445	7	117	3	0	109	11	0	0	0	28	111	0	386
445-500	9	127	4	0	137	13	0	0	0	34	102	0	426
500-515	5	134	3	0	103	19	0	0	0	51	116	0	431
515-530	2	103	2	0	113	10	0	0	0	42	123	0	395
530-545	6	99	5	0	140	10	0	0	0	36	108	0	404
545-600	6	95	6	0	123	11	0	0	0	41	87	0	369
HOUR TOTALS													
400-500	22	518	23	0	426	49	0	0	0	122	403	0	1563
415-515	22	519	20	0	444	56	0	0	0	147	430	0	1638
430-530	23	481	12	0	462	53	0	0	0	155	452	0	1638
445-545	22	463	14	0	493	52	0	0	0	163	449	0	1656
500-600	19	431	16	0	479	50	0	0	0	170	434	0	1599

PM PEAK HOUR  
445-545



SECOND STREET



SPRING STREET

PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	19	26	30	48
415-430	10	8	48	56
430-445	9	9	41	61
445-500	22	25	34	70
500-515	10	11	55	102
515-530	8	7	27	68
530-545	8	11	14	64
545-600	10	8	20	68
HOUR TOTALS				
400-500	60	68	153	235
415-515	51	53	178	289
430-530	49	52	157	301
445-545	48	54	130	304
500-600	36	37	116	302



City Of Los Angeles  
Department Of Transportation

# MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

SPRING ST.

East/West

3rd ST.

Day: THURSDAY Date: May 2, 2013 Weather: SUNNY

Hours: 7-10AM 3-6PM Staff: LW & KS

School Day: YES District: CENTRAL I/S CODE 8574

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	77	0	97
BIKES	0	98	0	34
BUSES	0	365	0	87

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	0 7.00	330 8.45	0 7.00	446 8.45
PM PK 15 MIN	0 3.00	293 5.00	0 3.00	401 5.45
AM PK HOUR	0 7.00	1266 8.15	0 7.00	1746 8.15
PM PK HOUR	0 3.00	1039 4.30	0 3.00	1411 5.00

## NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	827	167	994
8-9	0	999	227	1226
9-10	0	856	157	1013
3-4	0	495	170	665
4-5	0	629	244	873
5-6	0	671	265	936
TOTAL	0	4477	1230	5707

## TOTAL

N-S
994
1226
1013
665
873
936
5707

## XING S/L

Ped	Sch
58	0
86	0
96	0
109	0
128	0
112	0
589	0

## XING N/L

Ped	Sch
66	0
79	0
86	0
99	0
89	0
91	0
510	0

## EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	328	1409	0	1737
8-9	467	1251	0	1718
9-10	324	1139	0	1463
3-4	177	797	0	974
4-5	171	920	0	1091
5-6	313	1098	0	1411
TOTAL	1780	6614	0	8394

## TOTAL

E-W
1737
1718
1463
974
1091
1411
8394

## XING W/L

Ped	Sch
91	0
110	0
109	0
165	0
126	0
123	0
724	0

## XING E/L

Ped	Sch
112	0
165	0
138	0
135	0
123	0
117	0
790	0

# WILTEC

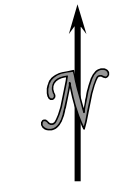
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

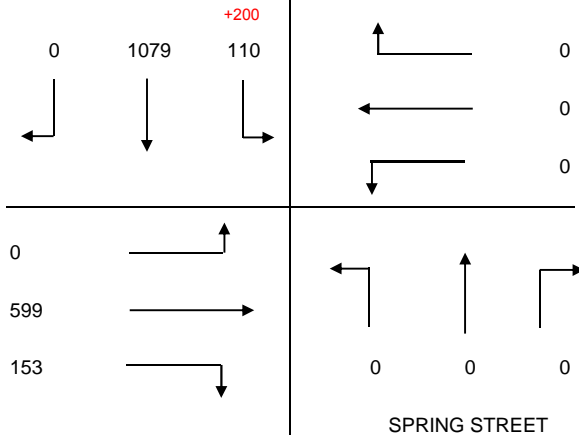
CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY MAY 27, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S SPRING STREET  
 E/W 4TH STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	0	173	21	0	0	0	0	0	0	23	98	0	315
715-730	0	188	18	0	0	0	0	0	0	22	105	0	333
730-745	0	230	20	0	0	0	0	0	0	27	122	0	399
745-800	0	280	25	0	0	0	0	0	0	31	137	0	473
800-815	0	256	27	0	0	0	0	0	0	25	155	0	463
815-830	0	261	30	0	0	0	0	0	0	32	134	0	457
830-845	0	245	26	0	0	0	0	0	0	46	161	0	478
845-900	0	317	27	0	0	0	0	0	0	50	149	0	543
HOUR TOTALS													
700-800	0	871	84	0	0	0	0	0	0	103	462	0	1520
715-815	0	954	90	0	0	0	0	0	0	105	519	0	1668
730-830	0	1027	102	0	0	0	0	0	0	115	548	0	1792
745-845	0	1042	108	0	0	0	0	0	0	134	587	0	1871
800-900	0	1079	110	0	0	0	0	0	0	153	599	0	1941

AM PEAK HOUR  
800-900



4TH STREET



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	20	9	8	8
715-730	16	12	13	13
730-745	29	12	12	8
745-800	33	18	15	10
800-815	33	19	25	17
815-830	26	14	18	14
830-845	39	28	41	17
845-900	31	21	37	18
HOUR TOTALS				
700-800	98	51	48	39
715-815	111	61	65	48
730-830	121	63	70	49
745-845	131	79	99	58
800-900	129	82	121	66



# WILTEC

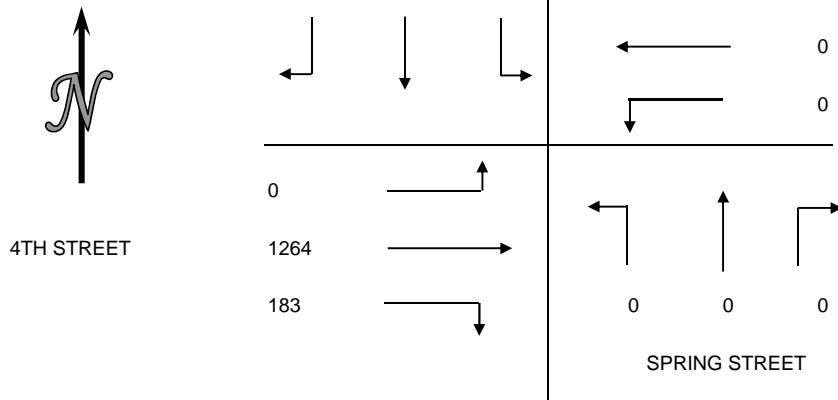
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY MAY 27, 2009  
 PERIOD: 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S SPRING STREET  
 E/W 4TH STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	0	165	55	0	0	0	0	0	0	35	251	0	506
415-430	0	175	44	0	0	0	0	0	0	37	255	0	511
430-445	0	219	69	0	0	0	0	0	0	48	316	0	652
445-500	0	194	57	0	0	0	0	0	0	43	275	0	569
500-515	0	239	85	0	0	0	0	0	0	52	333	0	709
515-530	0	216	57	0	0	0	0	0	0	40	340	0	653
530-545	0	205	64	0	0	0	0	0	0	38	320	0	627
545-600	0	152	42	0	0	0	0	0	0	30	238	0	462
HOUR TOTALS													
400-500	0	753	225	0	0	0	0	0	0	163	1097	0	2238
415-515	0	827	255	0	0	0	0	0	0	180	1179	0	2441
430-530	0	868	268	0	0	0	0	0	0	183	1264	0	2583
445-545	0	854	263	0	0	0	0	0	0	173	1268	0	2558
500-600	0	812	248	0	0	0	0	0	0	160	1231	0	2451

PM PEAK HOUR  
430-530



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	43	36	39	12
415-430	21	32	50	10
430-445	15	43	41	14
445-500	50	24	30	17
500-515	45	24	45	14
515-530	32	19	43	4
530-545	40	33	43	12
545-600	17	15	26	4
HOUR TOTALS				
400-500	129	135	160	53
415-515	131	123	166	55
430-530	142	110	159	49
445-545	167	100	161	47
500-600	134	91	157	34



City Of Los Angeles  
Department Of Transportation

# MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

MAIN ST.

East/West

1st ST.

Day: WEDNESDAY Date: March 27, 2013 Weather: SUNNY

Hours: 7-10AM 3-6PM Chekrs: MIOVISION

School Day: YES District: CENTRAL I/S CODE 8546

	N/B	S/B	E/B	W/B
DUAL-WHEELED	66	0	39	45
BIKES	0	0	0	0
BUSES	255	0	220	173

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	166 8.30	0 7.00	166 8.45	220 7.45
PM PK 15 MIN	383 5.00	0 3.00	268 5.00	183 5.00
AM PK HOUR	571 8.00	0 7.00	623 8.00	792 7.30
PM PK HOUR	1306 4.30	0 3.00	999 4.45	648 4.45

## NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	52	357	54	463
8-9	46	448	77	571
9-10	53	434	73	560
3-4	48	742	119	909
4-5	72	1018	122	1212
5-6	57	1040	122	1219
TOTAL	328	4039	567	4934

## SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## TOTAL

N-S
463
571
560
909
1212
1219
4934

## XING S/L

Ped	Sch
216	0
220	0
270	0
245	0
229	0
204	0
1384	0

## XING N/L

Ped	Sch
73	0
140	0
94	0
129	0
183	0
116	0
735	0

## EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	82	388	0	470
8-9	120	503	0	623
9-10	130	400	0	530
3-4	118	560	0	678
4-5	145	766	0	911
5-6	146	817	0	963
TOTAL	741	3434	0	4175

## WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	684	73	757
8-9	0	661	81	742
9-10	0	573	113	686
3-4	0	435	79	514
4-5	0	510	80	590
5-6	0	100564	71	635
TOTAL	0	3427	497	3924

## TOTAL

E-W
1227
1365
1216
1192
1501
1598
8099

## XING W/L

Ped	Sch
88	0
149	0
133	0
138	0
148	0
91	0
747	0

## XING E/L

Ped	Sch
100	0
144	0
175	0
231	0
214	0
97	0
961	0

# WILTEC

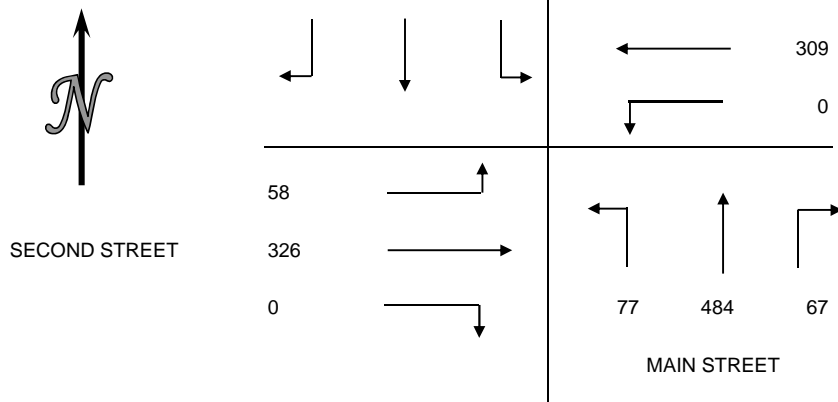
Phone: (626) 564-1944 Fax: (626) 564-0969

## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 22, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S MAIN STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-715	0	0	0	5	47	0	12	84	6	0	56	15	225
715-730	0	0	0	9	50	0	13	88	15	0	70	10	255
730-745	0	0	0	2	59	0	14	96	19	0	75	10	275
745-800	0	0	0	2	89	0	12	94	12	0	81	11	301
800-815	0	0	0	6	88	0	15	117	22	0	79	14	341
815-830	0	0	0	5	79	0	16	148	20	0	91	17	376
830-845	0	0	0	12	67	0	17	103	18	0	78	16	311
845-900	0	0	0	8	75	0	19	116	17	0	78	11	324
HOUR TOTALS													
700-800	0	0	0	18	245	0	51	362	52	0	282	46	1056
715-815	0	0	0	19	286	0	54	395	68	0	305	45	1172
730-830	0	0	0	15	315	0	57	455	73	0	326	52	1293
745-845	0	0	0	25	323	0	60	462	72	0	329	58	1329
800-900	0	0	0	31	309	0	67	484	77	0	326	58	1352

AM PEAK HOUR  
800-900



PEDESTRIAN COUNTS				
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
700-715	8	12	16	11
715-730	18	26	23	19
730-745	17	16	24	22
745-800	12	18	23	15
800-815	8	27	22	13
815-830	10	20	27	17
830-845	16	21	17	17
845-900	23	28	31	26
HOUR TOTALS				
700-800	55	72	86	67
715-815	55	87	92	69
730-830	47	81	96	67
745-845	46	86	89	62
800-900	57	96	97	73

# WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

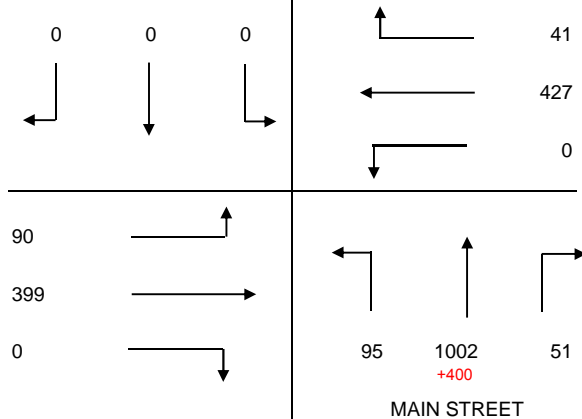
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: INTUEOR  
 PROJECT: DOWNTOWN LOS ANGELES TRAFFIC COUNTS  
 DATE: WEDNESDAY APRIL 22, 2009  
 PERIOD: 7:00 AM TO 9:00 AM  
 INTERSECTION: N/S MAIN STREET  
 E/W SECOND STREET

15 MIN COUNTS PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-415	0	0	0	5	95	0	21	232	21	0	84	13	471
415-430	0	0	0	8	105	0	12	237	17	0	99	17	495
430-445	0	0	0	7	80	0	14	248	21	0	103	20	493
445-500	0	0	0	5	73	0	19	251	20	0	88	19	475
500-515	0	0	0	9	105	0	18	265	18	0	99	27	541
515-530	0	0	0	7	107	0	15	251	29	0	111	23	543
530-545	0	0	0	14	114	0	9	261	25	0	96	26	545
545-600	0	0	0	11	101	0	9	225	23	0	93	14	476
HOUR TOTALS													
400-500	0	0	0	25	353	0	66	968	79	0	374	69	1934
415-515	0	0	0	29	363	0	63	1001	76	0	389	83	2004
430-530	0	0	0	28	365	0	66	1015	88	0	401	89	2052
445-545	0	0	0	35	399	0	61	1028	92	0	394	95	2104
500-600	0	0	0	41	427	0	51	1002	95	0	399	90	2105

PM PEAK HOUR  
500-600

SECOND STREET



### PEDESTRIAN COUNTS

PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
15 MIN COUNTS				
400-415	15	17	36	20
415-430	15	30	41	14
430-445	15	15	41	15
445-500	15	17	34	13
500-515	19	11	31	19
515-530	17	7	15	17
530-545	19	18	32	20
545-600	6	12	27	7
HOUR TOTALS				
400-500	60	79	152	62
415-515	64	73	147	61
430-530	66	50	121	64
445-545	70	53	112	69
500-600	61	48	105	63



City Of Los Angeles  
Department Of Transportation

# MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

MAIN ST.

East/West

3rd ST.

Day: TUESDAY Date: March 5, 2013 Weather: SUNNY

Hours: 7-10AM 3-6PM Chekrs: JC, KL & YT

School Day: YES District: CENTRAL I/S CODE 8585

	N/B	S/B	E/B	W/B
<b>DUAL-WHEELED</b>	195	0	0	104
<b>BIKES</b>	95	14	10	35
<b>BUSES</b>	150	0	0	43

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	314 9.15	0 7.00	0 7.00	634 8.30
PM PK 15 MIN	677 5.30	0 3.00	0 3.00	368 5.30
AM PK HOUR	1114 8.30	0 7.00	0 7.00	2327 7.45
PM PK HOUR	2581 5.00	0 3.00	0 3.00	1400 5.00

## NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	91	515	0	606
8-9	102	898	0	1000
9-10	95	926	0	1021
3-4	158	1313	0	1471
4-5	241	1867	0	2108
5-6	253	2328	0	2581
TOTAL	940	7847	0	8787

## SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## TOTAL

N-S
606
1000
1021
1471
2108
2581
8787

## XING S/L

Ped	Sch
29	0
41	0
17	0
80	0
81	0
72	0
320	0

## XING N/L

Ped	Sch
21	0
25	0
23	0
66	1
53	1
74	3
262	5

## EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	2134	185	2319
8-9	0	2139	170	2309
9-10	0	1725	157	1882
3-4	0	967	99	1066
4-5	0	1028	120	1148
5-6	0	1267	133	1400
TOTAL	0	9260	864	10124

## TOTAL

E-W
2319
2309
1882
1066
1148
1400
10124

## XING W/L

Ped	Sch
34	0
36	0
35	0
71	3
56	0
62	1
294	4

## XING E/L

Ped	Sch
48	0
53	0
53	4
75	0
72	0
78	0
379	4



City Of Los Angeles  
Department Of Transportation

# MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

MAIN ST.

East/West

4th ST.

Day: TUESDAY Date: November 29, 2011 Weather: SUNNY

Hours: 7-10AM 3-6PM Chekrs: JC & KL

School Day: YES District: CR I/S CODE 8948

	N/B	S/B	E/B	W/B
DUAL-WHEELED	253	0	149	0
BIKES	107	0	39	0
BUSES	180	0	45	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	208	9.00	0	7.00	238	9.45	0	7.00
PM PK 15 MIN	647	5.15	0	3.00	442	5.15	0	3.00
AM PK HOUR	812	8.15	0	7.00	896	8.00	0	7.00
PM PK HOUR	2418	5.00	0	3.00	1703	5.00	0	3.00

## NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	548	26	574
8-9	0	727	43	770
9-10	0	700	42	742
3-4	0	972	40	1012
4-5	0	1383	60	1443
5-6	0	2294	124	2418
TOTAL	0	6624	335	6959

## SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## TOTAL

N-S
574
770
742
1012
1443
2418
6959

## XING S/L

Ped	Sch
45	0
74	0
101	0
128	0
88	0
167	0
603	0

## XING N/L

Ped	Sch
42	0
60	0
54	0
56	0
55	0
74	0
341	0

## EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	159	515	0	674
8-9	188	708	0	896
9-10	180	660	0	840
3-4	162	794	0	956
4-5	236	1155	0	1391
5-6	263	1440	0	1703
TOTAL	1188	5272	0	6460

## WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## TOTAL

E-W
674
896
840
956
1391
1703
6460

## XING W/L

Ped	Sch
124	0
121	0
81	0
187	2
173	0
195	0
881	2

## XING E/L

Ped	Sch
35	0
47	0
60	0
71	0
84	3
93	0
390	3

# Intersection Turning Movement

Prepared by:

## National Data & Surveying Services

Int. 30

Project ID: CA12\_5253\_005

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/6/2012

AM

NS/EW Streets: Los Angeles St Los Angeles St Aliso St/US 101 SB on-ramp Aliso St/US 101 SB on-ramp

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 0	NT 2	NR 1	SL 0	ST 3	SR 0	EL 0	ET 3	ER 0	WL 0	WT 0	WR 0	
7:00 AM		50	18	1	121		6	84	12				292
7:15 AM		41	31	1	134		4	66	17				294
7:30 AM		36	35	1	176		2	92	24				366
7:45 AM		57	34	0	161		2	85	38				377
8:00 AM		48	28	2	149		1	99	35				362
8:15 AM		59	34	1	155		5	100	25				379
8:30 AM		55	49	1	147		5	97	32				386
8:45 AM		63	24	0	114		2	82	24				309
9:00 AM		69	41	3	175		4	96	30				418
9:15 AM		64	38	2	108		7	105	27				351
9:30 AM		71	30	2	133		9	105	27				377
9:45 AM		68	47	1	89		5	91	21				322
<b>TOTAL VOLUMES :</b>	NL 0	NT 681	NR 409	SL 15	ST 1662	SR 0	EL 52	ET 1102	ER 312	WL 0	WT 0	WR 0	TOTAL 4233
<b>APPROACH %'s :</b>	0.00%	62.48%	37.52%	0.89%	99.11%	0.00%	3.55%	75.17%	21.28%	#DIV/0!	#DIV/0!	#DIV/0!	
<b>PEAK HR START TIME :</b>	745 AM												<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	219	145	4	612	0	13	381	130	0	0	0	1504
<b>PEAK HR FACTOR :</b>		0.875			0.957			0.970		0.000			0.974

CONTROL : Signalized

# Intersection Turning Movement

Prepared by:

## National Data & Surveying Services

Int. 30

Project ID: CA12\_5253\_005

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/6/2012

PM

NS/EW Streets:	Los Angeles St			Los Angeles St			Aliso St/US 101 SB on-ramp			Aliso St/US 101 SB on-ramp			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
	LANES:	NL 0	NT 2	NR 1	SL 0	ST 3	SR 0	EL 0	ET 3	ER 0	WL 0	WT 0		WR 0
	3:00 PM	109	78	4	49		9	185	8				442	
	3:15 PM	122	87	1	49		8	165	8				440	
	3:30 PM	123	88	2	57		7	208	8				493	
	3:45 PM	107	76	1	53		9	180	13				439	
	4:00 PM	121	73	2	56		6	205	7				470	
	4:15 PM	129	67	0	54		5	218	8				481	
	4:30 PM	146	86	0	47		12	207	2				500	
	4:45 PM	184	76	2	62		13	247	8				592	
	5:00 PM	167	98	0	50		8	205	4				532	
	5:15 PM	217	107	0	68		5	230	3				630	
	5:30 PM	207	99	0	57		11	229	5				608	
	5:45 PM	208	85	1	50		16	224	7				591	
TOTAL VOLUMES :		NL 0	NT 1840	NR 1020	SL 13	ST 652	SR 0	EL 109	ET 2503	ER 81	WL 0	WT 0	WR 0	TOTAL 6218
APPROACH %'s :		0.00%	64.34%	35.66%	1.95%	98.05%	0.00%	4.05%	92.94%	3.01%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :		445 PM												TOTAL
PEAK HR VOL :		0	775	380	2	237	0	37	911	20	0	0	0	2362
PEAK HR FACTOR :		0.891			0.879			0.903			0.000			0.937

CONTROL : Signalized



# ITM Peak Hour Summary

Prepared by:



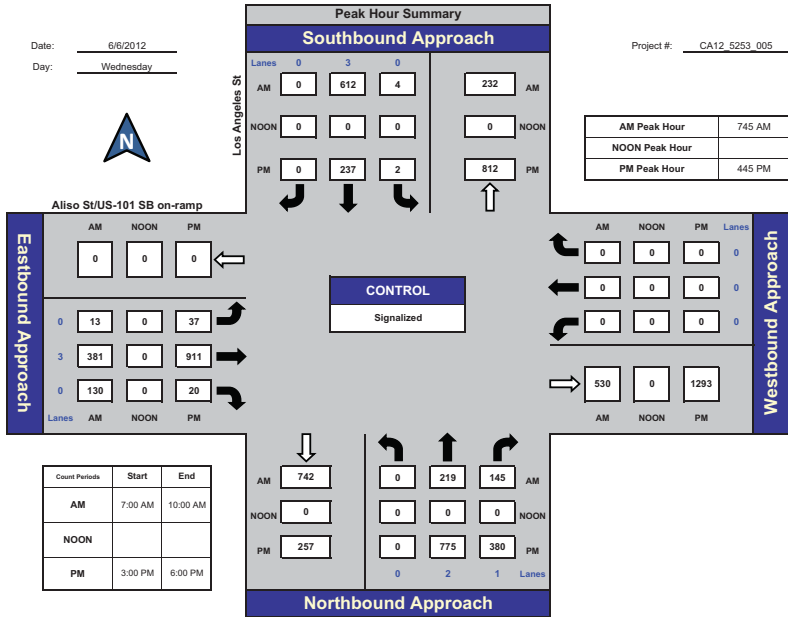
National Data & Surveying Services

Int. 30

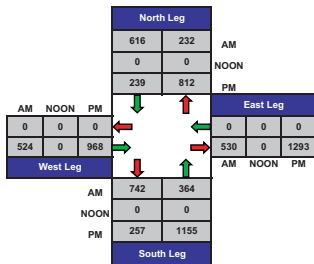
## Los Angeles St and Aliso St/US-101 SB on-ramp , City of Los Angeles

Date: 6/6/2012  
Day: Wednesday

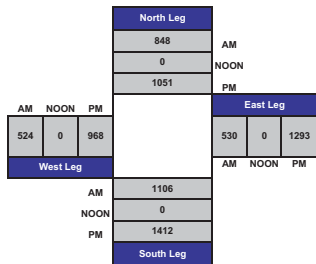
Project #: CA12\_5253\_005



### Total Ins & Outs



### Total Volume Per Leg



**PREPARED BY NATIONAL DATA & SURVEYING SERVICES**

PROJECT#: 12-5253-005  
N/S Street: Los Angeles St  
E/W Street: Aliso St  
DATE: 6/6/2012  
CITY: Los Angeles

DAY: Wednesday

	Start	End
AM	7:00	10:00
PM	15:00	18:00

**A M**
**PEDESTRIANS**

T I M E	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	11	4	33	0	14
7:15 AM	0	0	4	10	5	35	1	15
7:30 AM	0	0	2	6	6	13	1	2
7:45 AM	0	1	0	9	2	27	3	8
8:00 AM	0	0	2	13	11	24	2	7
8:15 AM	0	0	8	12	10	23	4	6
8:30 AM	0	0	5	5	8	10	0	6
8:45 AM	0	0	0	8	9	18	2	6
9:00 AM	0	0	9	16	9	13	6	4
9:15 AM	0	0	5	15	10	10	1	3
9:30 AM	0	0	2	8	14	11	3	3
9:45 AM	0	0	6	15	13	11	5	4
TOTALS	0	1	43	128	101	228	28	78

**BIKES**

T I M E	TURNING MOVEMENTS											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00 AM	0	0	0	0	3	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	1	2	0	0	1	0	0	0	0
7:45 AM	1	0	0	0	2	1	0	0	0	0	0	0
8:00 AM	0	2	0	0	1	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	3	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	3	0	0	1	0	0	1	0
8:45 AM	0	0	1	0	4	0	0	0	0	1	1	0
9:00 AM	0	1	0	0	2	0	1	0	0	0	0	0
9:15 AM	0	0	0	0	1	0	0	0	0	0	0	0
9:30 AM	0	1	0	0	2	0	0	0	0	0	0	0
9:45 AM	0	1	0	0	0	0	0	0	0	0	0	0
TOTALS	1	6	2	2	23	1	1	2	0	1	2	0

**P M**
**PEDESTRIANS**

T I M E	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	4	5	14	4	10	0
3:15 PM	0	0	4	16	22	1	3	3
3:30 PM	0	0	5	13	19	8	3	3
3:45 PM	0	0	11	8	20	8	7	8
4:00 PM	0	0	11	23	45	3	7	5
4:15 PM	0	0	5	15	16	4	5	0
4:30 PM	0	0	7	14	22	2	4	1
4:45 PM	0	0	20	10	13	0	8	0
5:00 PM	0	0	7	10	26	5	5	2
5:15 PM	0	0	7	3	13	3	6	8
5:30 PM	0	0	11	5	13	1	4	0
5:45 PM	0	0	2	4	6	1	4	0
TOTALS	0	0	94	126	229	40	66	30

**BIKES**

T I M E	TURNING MOVEMENTS											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
3:00 PM	0	2	1	0	1	0	0	0	0	0	0	0
3:15 PM	0	4	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	2	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	3	0	0	5	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	3	0	0	1	0	0	2	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	5	0	0	2	0	1	0	0	0	0	0
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	3	0	0	0	0	0	0	0
TOTALS	0	24	1	0	14	0	1	2	0	0	0	1



City Of Los Angeles  
Department Of Transportation

# MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South

ALAMEDA ST.

East/West

ARCADIA ST./ 101 FWY. N/B OFF RAMP

Day: TUESDAY Date: June 10, 2014 Weather: SUNNY

Hours: 7-10AM 3-6PM Chekrs: JC & YT

School Day: YES District: CENTRAL I/S CODE 12341

	N/B	S/B	E/B	W/B
DUAL-WHEELED	376	206	0	256
BIKES	21	43	0	0
BUSES	274	27	0	222

	N/B TIME	S/B TIME	E/B TIME	W/B TIME
AM PK 15 MIN	239 8.30	326 7.45	0 7.00	507 7.45
PM PK 15 MIN	445 5.15	264 3.45	0 3.00	236 4.00
AM PK HOUR	898 8.15	1172 7.15	0 7.00	1877 7.15
PM PK HOUR	1732 5.00	943 3.45	0 3.00	918 3.30

## NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	43	813	0	856
8-9	48	834	0	882
9-10	39	738	0	777
3-4	34	1524	0	1558
4-5	17	1657	0	1674
5-6	8	1724	0	1732
TOTAL	189	7290	0	7479

## SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1107	40	1147
8-9	0	987	49	1036
9-10	0	825	33	858
3-4	6	882	22	910
4-5	0	869	21	890
5-6	0	719	29	748
TOTAL	6	5389	194	5589

## TOTAL

N-S
2003
1918
1635
2468
2564
2480
13068

## XING S/L

Ped	Sch
0	0
0	0
0	0
0	0
0	0
0	0
0	0

## XING N/L

Ped	Sch
164	1
67	1
33	0
147	0
203	3
123	0
737	5

## EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

## WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	264	1326	151	1741
8-9	301	1265	155	1721
9-10	240	1189	167	1596
3-4	157	569	146	872
4-5	188	499	204	891
5-6	146	554	177	877
TOTAL	1296	5402	1000	7698

## TOTAL

E-W
1741
1721
1596
872
891
877
7698

## XING W/L

Ped	Sch
139	1
51	0
29	1
141	1
168	2
79	2
607	7

## XING E/L

Ped	Sch
143	0
183	0
117	0
48	2
122	0
69	0
682	2

# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

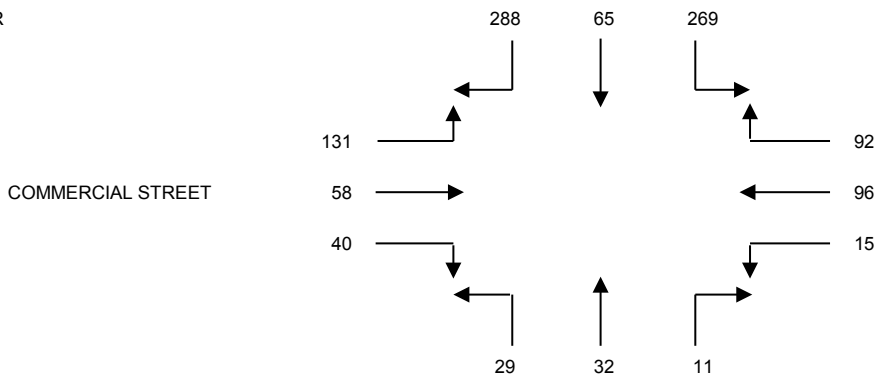
Int. 32

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 07:00 AM TO 10:00 AM  
 INTERSECTION: N/S US 101 SB RAMPS / GAREY STREET  
 E/W COMMERCIAL STREET  
 FILE NUMBER: 4-AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	45	19	45	26	20	2	1	16	15	13	5	35
0715-0730	30	13	38	21	18	2	2	12	21	9	3	27
0730-0745	32	12	43	34	16	6	0	10	23	6	6	27
0745-0800	31	17	50	28	15	4	3	5	13	8	7	20
0800-0815	50	20	63	21	21	3	1	8	6	11	6	27
0815-0830	90	19	46	20	17	6	2	7	9	14	11	29
0830-0845	82	20	66	26	20	3	5	10	7	11	18	36
0845-0900	53	14	81	22	30	2	2	6	6	7	19	36
0900-0915	63	12	76	24	29	4	2	9	7	8	10	30
0915-0930	50	11	70	22	20	5	2	11	6	10	11	29
0930-0945	45	12	87	34	17	4	6	14	3	14	10	39
0945-1000	41	10	75	26	18	5	3	10	4	12	9	35

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	
0700-0800	138	61	176	109	69	14	6	43	72	36	21	109	854
0715-0815	143	62	194	104	70	15	6	35	63	34	22	101	849
0730-0830	203	68	202	103	69	19	6	30	51	39	30	103	923
0745-0845	253	76	225	95	73	16	11	30	35	44	42	112	1012
0800-0900	275	73	256	89	88	14	10	31	28	43	54	128	1089
0815-0915	288	65	269	92	96	15	11	32	29	40	58	131	1126
0830-0930	248	57	293	94	99	14	11	36	26	36	58	131	1103
0845-0945	211	49	314	102	96	15	12	40	22	39	50	134	1084
0900-1000	199	45	308	106	84	18	13	44	20	44	40	133	1054

A.M. PEAK HOUR  
 0815-0915



DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877

US 101 SB RAMPS / GAREY STREET

# INTERSECTION TURNING MOVEMENT COUNT SUMMARY

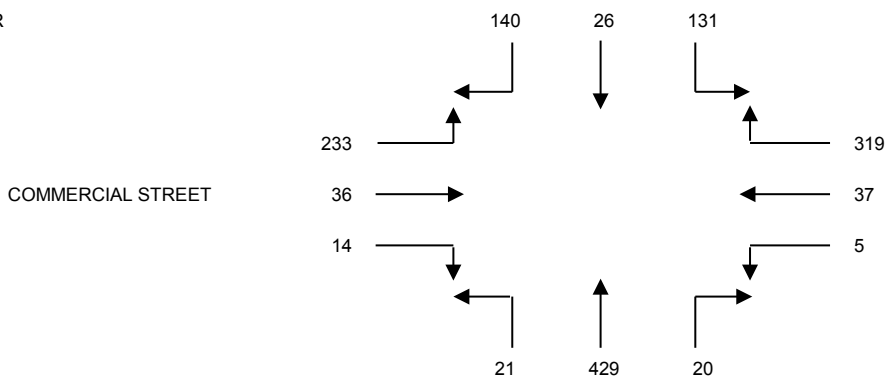
Int. 32

CLIENT: LLG - PASADENA  
 PROJECT: TRIBUNE - LOS ANGELES  
 DATE: THURSDAY, SEPTEMBER 15, 2016  
 PERIOD: 03:00 PM TO 06:00 PM  
 INTERSECTION: N/S US 101 SB RAMPS / GAREY STREET  
 E/W COMMERCIAL STREET  
 FILE NUMBER: 4-PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0300-0315	22	12	39	74	13	7	5	44	3	9	7	80
0315-0330	36	11	33	54	10	7	3	53	8	15	9	86
0330-0345	42	14	28	67	6	6	5	78	4	16	11	53
0345-0400	31	9	25	76	7	4	10	105	7	13	16	67
0400-0415	33	8	20	70	10	1	11	97	6	8	14	85
0415-0430	25	4	22	92	14	1	6	88	3	6	17	53
0430-0445	33	8	24	67	12	3	5	95	4	6	10	53
0445-0500	26	8	24	81	10	1	7	94	7	4	11	66
0500-0515	27	6	30	77	11	0	5	112	5	7	8	68
0515-0530	37	6	34	92	9	0	8	110	5	3	12	44
0530-0545	38	9	35	72	6	2	4	109	5	3	6	63
0545-0600	38	5	32	78	11	3	3	98	6	1	10	58

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0300-0400	131	46	125	271	36	24	23	280	22	53	43	286	1340
0315-0415	142	42	106	267	33	18	29	333	25	52	50	291	1388
0330-0430	131	35	95	305	37	12	32	368	20	43	58	258	1394
0345-0445	122	29	91	305	43	9	32	385	20	33	57	258	1384
0400-0500	117	28	90	310	46	6	29	374	20	24	52	257	1353
0415-0515	111	26	100	317	47	5	23	389	19	23	46	240	1346
0430-0530	123	28	112	317	42	4	25	411	21	20	41	231	1375
0445-0545	128	29	123	322	36	3	24	425	22	17	37	241	1407
0500-0600	140	26	131	319	37	5	20	429	21	14	36	233	1411

P.M. PEAK HOUR  
 0500-0600



DATA PROVIDED BY:

THE TRAFFIC SOLUTION  
 329 DIAMOND STREET  
 ARCADIA, CALIFORNIA 91005  
 PH: 626-446-7978  
 FAX: 626-446-2877

US 101 SB RAMPS / GAREY STREET

## APPENDIX C

### CMA AND LEVELS OF SERVICE EXPLANATION CMA DATA WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS

## CRITICAL MOVEMENT ANALYSIS (CMA) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Level of Service concept denotes any one of a number of differing combinations of operating conditions which may take place as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

Critical Movement Analysis (CMA) is a procedure which provides a capacity and level of service geometry and traffic signal operation and results in a level of service determination for the intersection as a whole operating unit.

The per lane volume for each movement in the intersection is determined and the per lane intersection capacity based on the Transportation Research Board (TRB) Report 212 (*Interim Materials on Highway Capacity*). The resulting CMA represents the ratio of the intersection's cumulative volume over its respective capacity (V/C ratio). Critical Movement Analysis takes into account lane widths, bus and truck operations, pedestrian activity and parking activity, as well as number of lanes and geometrics.

The Level of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding CMA and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Critical Movement Analysis Characteristics		
Level of Service	Load Factor	Equivalent CMA
A (free flow)	0.0	0.00 - 0.60
B (rural design)	0.0 - 0.1	0.61 - 0.70
C (urban design)	0.1 - 0.3	0.71 - 0.80
D (maximum urban design)	0.3 - 0.7	0.81 - 0.90
E (capacity)	0.7 - 1.0	0.91 - 1.00
F (force flow)	Not Applicable	Not Applicable

### SERVICE LEVEL A

There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

### SERVICE LEVEL B

This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

### SERVICE LEVEL C

At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

### SERVICE LEVEL D

This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

### SERVICE LEVEL E

This represents near capacity and capacity operation. At capacity (CMA = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

### SERVICE LEVEL F

Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Belmont Avenue-Loma Drive			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		10/18/2017	
1		East-West Street:			Beverly Boulevard			Projection Year:			2025		Peak Hour:			AM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2		2			2			2			2				
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					2			2			2		2			2			2			2				
Override Capacity					0			0			0		0			0			0			0				
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	67	1	67	0	67	67	0	73	1	73	0	73	1	73	0	73	1	73						
		Left-Through		0							0				0				0							
		Through	42	0	81	0	42	81	0	45	0	87	0	45	0	87	0	45	0	87						
		Through-Right		1							1				1				1							
		Right	39	0	0	0	39	0	0	42	0	0	0	42	0	0	0	42	0	0						
SOUTHBOUND		Left	44	1	44	0	44	44	0	48	1	48	0	48	1	48	0	48	1	48						
		Left-Through		0							0				0				0							
		Through	29	0	144	0	29	144	0	31	0	156	0	31	0	156	0	31	0	156						
		Through-Right		1							1				1				1							
		Right	115	0	0	0	115	0	0	125	0	0	0	125	0	0	0	125	0	0						
EASTBOUND		Left	123	1	123	0	123	123	0	133	1	133	0	133	1	133	0	133	1	133						
		Left-Through		0							0				0				0							
		Through	1098	2	396	19	1117	402	35	1224	2	440	19	1243	2	446	0	1243	2	446						
		Through-Right		1							1				1				1							
		Right	89	0	89	0	89	89	0	96	0	96	0	96	0	96	0	96	0	96						
WESTBOUND		Left	30	1	30	0	30	30	0	32	1	32	0	32	1	32	0	32	1	32						
		Left-Through		0							0				0				0							
		Through	831	1	453	4	835	455	144	1044	1	562	4	1048	1	564	0	1048	1	564						
		Through-Right		1							1				1				1							
		Right	74	0	74	0	74	74	0	80	0	80	0	80	0	80	0	80	0	80						
CRITICAL VOLUMES					North-South: 211 East-West: 576 SUM: 787			North-South: 211 East-West: 578 SUM: 789			North-South: 229 East-West: 695 SUM: 924				North-South: 229 East-West: 697 SUM: 926				North-South: 229 East-West: 697 SUM: 926							
VOLUME/CAPACITY (V/C) RATIO:					0.525			0.526			0.616				0.617				0.617							
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.425			0.426			0.516				0.517				0.517							
LEVEL OF SERVICE (LOS):					A			A			A				A				A							

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.001	Δv/c after mitigation:	0.001
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Belmont Avenue-Loma Drive			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017			
1		East-West Street:			Beverly Boulevard			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2			2				
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0				
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2			2			2	
Override Capacity					0			0			0			0			0			0			0			0	
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION								
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume					
NORTHBOUND		Left	19	1	19	0	19	19	0	21	1	21	0	21	1	21	0	21	1	21	0	21	1	21			
		Left-Through		0							0				0				0			0					
		Through	9	0	28	0	9	28	0	10	0	31	0	10	0	31	0	10	0	31	0	10	0	31			
		Through-Right		1							1				1				1			1					
		Right	19	0	0	0	19	0	0	21	0	0	0	21	0	0	0	21	0	0	0	21	0	0			
		Left-Through-Right		0							0				0				0			0					
SOUTHBOUND		Left	23	1	23	0	23	23	0	25	1	25	0	25	1	25	0	25	1	25	0	25	1	25			
		Left-Through		0							0				0				0			0					
		Through	11	0	82	0	11	82	0	12	0	89	0	12	0	89	0	12	0	89	0	12	0	89			
		Through-Right		1							1				1				1			1					
		Right	71	0	0	0	71	0	0	77	0	0	0	77	0	0	0	77	0	0	0	77	0	0			
		Left-Through-Right		0							0				0				0			0					
EASTBOUND		Left	97	1	97	0	97	97	0	105	1	105	0	105	1	105	0	105	1	105	0	105	1	105			
		Left-Through		0							0				0				0			0					
		Through	893	2	447	5	898	449	140	1107	2	377	5	1112	2	379	0	1112	2	379	0	1112	2	379			
		Through-Right		0							1				1				1			1					
		Right	22	1	13	0	22	13	0	24	0	24	0	24	0	24	0	24	0	24	0	24	0	24			
		Left-Through-Right		0							0				0				0			0					
WESTBOUND		Left	22	1	22	0	22	22	0	24	1	24	0	24	1	24	0	24	1	24	0	24	1	24			
		Left-Through		0							0				0				0			0					
		Through	1066	1	562	17	1083	570	78	1232	1	647	17	1249	1	656	0	1249	1	656	0	1249	1	656			
		Through-Right		1							1				1				1			1					
		Right	57	0	57	0	57	57	0	62	0	62	0	62	0	62	0	62	0	62	0	62	0	62			
		Left-Through-Right		0							0				0				0			0					
CRITICAL VOLUMES					North-South: 101 East-West: 659 SUM: 760			North-South: 101 East-West: 667 SUM: 768			North-South: 110 East-West: 752 SUM: 862				North-South: 110 East-West: 761 SUM: 871				North-South: 110 East-West: 761 SUM: 871								
VOLUME/CAPACITY (V/C) RATIO:					0.507			0.512			0.575				0.581				0.581								
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.407			0.412			0.475				0.481				0.481								
LEVEL OF SERVICE (LOS):					A			A			A				A				A								

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.006	Δv/c after mitigation:	0.006
Significant impacted?	NO	Fully mitigated?	N/A

**LINSCOTT, LAW & GREENSPAN, ENGINEERS**

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(626) 796.2322 Fax (626) 792-0941

N-S St: Glendale Boulevard  
E-W St: Court Street  
SW St: Laveta Terrace  
Project: 222 West 2nd Street Project/1-16-4154-2  
File Name: CMA2  
Counts by: The Traffic Solution

**CRITICAL MOVEMENT ANALYSIS**

Glendale Boulevard @  
Court Street @ Laveta Terrace  
Peak Hour: AM  
Annual Growth: 1.0%

Date: 10/31/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	2	1	2	0	2	1	2	0	2	1	2	0	2	1	2	0	2	1	2	0	2	1	2
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	623	1	320	3	626	1	322	0	626	1	322	230	853	1	438	3	856	1	440	0	856	1	440
Comb. T-R		1	320			1	322			1	322			1	438			1	440			1	440
NB Right	17	0	-	0	17	0	-	0	17	0	-	6	23	0	-	0	23	0	-	0	23	0	-
Comb. L-T-R		0				0				0				0				0				0	
SB Left	10	1	10	0	10	1	10	0	10	1	10	9	19	1	19	0	19	1	19	0	19	1	19
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	1404	1	702	14	1418	1	709	0	1418	1	709	189	1593	1	797	14	1607	1	804	0	1607	1	804
Comb. T-R		1	702			1	709			1	709			1	797			1	804			1	804
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R		0				0				0				0				0				0	
EB Left	7	0	-	0	7	0	-	0	7	0	-	1	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	2	0	15	0	2	0	15	0	2	0	15	0	2	0	16	0	2	0	16	0	2	0	16
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R		1				1				1				1				1				1	
WB Left	33	0	-	0	33	0	-	0	33	0	-	24	57	0	-	0	57	0	-	0	57	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	11	0	64	0	11	0	64	0	11	0	64	1	12	0	124	0	12	0	124	0	12	0	124
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	20	0	-	0	20	0	-	0	20	0	-	36	56	0	-	0	56	0	-	0	56	0	-
Comb. L-T-R		1				1				1				1				1				1	
SWB Left	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-	0	1	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
SWB Thru	3	0	8	0	3	0	8	0	3	0	8	0	3	0	9	0	3	0	9	0	3	0	9
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
SWB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R		1				1				1				1				1				1	
Crit. Volumes:	N-S:	704		N-S:	711			N-S:	711			N-S:	799			N-S:	806			N-S:	806		
	E-W:	71		E-W:	71			E-W:	71			E-W:	132			E-W:	132			E-W:	132		
	S-W:	8		S-W:	8			S-W:	8			S-W:	9			S-W:	9			S-W:	9		
	SUM:	783		SUM:	790			SUM:	790			SUM:	939			SUM:	946			SUM:	946		
No. of Phases:	4			4				4				4				4				4			
(N/A=0, ATSC=1, ATCS=2)	2			2				2				2				2				2			
Volume / Capacity:	0.469			0.475				0.475				0.583				0.588				0.588			
Level of Service:	A			A				A				A				A				A			

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.

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**CRITICAL MOVEMENT ANALYSIS**

Glendale Boulevard @  
Court Street @ Laveta Terrace  
Peak Hour: PM  
Annual Growth: 1.0%

Date: 10/31/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	No. of Volume	Lane Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	9	1	9	0	9	1	9	0	9	1	9	1	10	1	10	0	10	1	10	0	10	1	10
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	1137	1	576	13	1150	1	583	0	1150	1	583	226	1363	1	700	13	1376	1	706	0	1376	1	706
Comb. T-R		1	576			1	583			1	583			1	700			1	706			1	706
NB Right	15	0	-	0	15	0	-	0	15	0	-	21	36	0	-	0	36	0	-	0	36	0	-
Comb. L-T-R -		0				0				0				0				0				0	
SB Left	10	1	10	0	10	1	10	0	10	1	10	35	45	1	45	0	45	1	45	0	45	1	45
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	893	1	449	4	897	1	451	0	897	1	451	264	1157	1	581	4	1161	1	583	0	1161	1	583
Comb. T-R		1	449			1	451			1	451			1	581			1	583			1	583
SB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R -		0				0				0				0				0				0	
EB Left	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	4	0	14	0	4	0	14	0	4	0	14	0	4	0	15	0	4	0	15	0	4	0	15
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
EB Right	7	0	-	0	7	0	-	0	7	0	-	1	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T-R -		1				1				1				1				1				1	
WB Left	15	0	-	0	15	0	-	0	15	0	-	12	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	8	0	43	0	8	0	43	0	8	0	43	1	9	0	76	0	9	0	76	0	9	0	76
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	20	0	-	0	20	0	-	0	20	0	-	20	40	0	-	0	40	0	-	0	40	0	-
Comb. L-T-R -		1				1				1				1				1				1	
SWB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
SWB Thru	5	0	11	0	5	0	11	0	5	0	11	0	5	0	12	0	5	0	12	0	5	0	12
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
SWB Right	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -		1				1				1				1				1				1	
Crit. Volumes:	N-S:	586				N-S:	593			N-S:	593			N-S:	745			N-S:	751			N-S:	751
	E-W:	46				E-W:	46			E-W:	46			E-W:	79			E-W:	79			E-W:	79
	S-W:	11				S-W:	11			S-W:	11			S-W:	12			S-W:	12			S-W:	12
	SUM:	643				SUM:	650			SUM:	650			SUM:	835			SUM:	842			SUM:	842
No. of Phases:	4					4				4				4				4				4	
(N/A=0, ATSC=1, ATCS=2)	2					2				2				2				2				2	
Volume / Capacity:	0.368					0.372				0.372				0.507				0.512				0.512	
Level of Service:	A					A				A				A				A				A	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.

**LINSCOTT, LAW & GREENSPAN, ENGINEERS**

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(626) 796.2322 Fax (626) 792-0941

N-S St: Glendale Boulevard-Lucas Avenue  
 E-W St: Beverly Boulevard-2nd Street  
 NW-SE St: 1st Street  
 Project: 222 West 2nd Street Project/1-16-4154-2  
 File Name: CMA3  
 Counts by: The Traffic Solution

**CRITICAL MOVEMENT ANALYSIS**

Glendale Boulevard-Lucas Avenue @  
 Beverly Boulevard-2nd Street @ 1st Street  
 Peak Hour: AM  
 Annual Growth: 1.0%

Date: 10/31/2017  
 Date of Count: 2017  
 Buildout Year: 2025

2017 EXIST. TRAFFIC				2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	199	1	121	0	199	1	121	0	199	1	121	118	317	1	186	0	317	1	186	0	317	1	186
Comb. T-R		1	121			1	121			1	121			1	186			1	186			1	186
NB Right	43	0	-	0	43	0	-	0	43	0	-	12	55	0	-	0	55	0	-	0	55	0	-
Comb. L-T-R -		0				0				0				0				0				0	
SB Left	1050	2	578	14	1064	2	585	0	1064	2	585	116	1166	2	641	14	1180	2	649	0	1180	2	649
Comb. L-T	0	0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	706	0	-	0	706	0	-	0	706	0	-	114	820	0	-	0	820	0	-	0	820	0	-
Comb. T-R		1	747			1	747			1	747			1	867			1	867			1	867
SB Right	41	0	-	0	41	0	-	0	41	0	-	5	46	0	-	0	46	0	-	0	46	0	-
Comb. L-T-R -		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	211	1	135	9	220	1	139	0	220	1	139	46	257	1	161	9	266	1	166	0	266	1	166
Comb. T-R		1	135			1	139			1	139			1	161			1	166			1	166
EB Right	58	0	-	0	58	0	-	0	58	0	-	7	65	0	-	0	65	0	-	0	65	0	-
Comb. L-T-R -		0				0				0				0				0				0	
WB Left	210	1	210	2	212	1	212	0	212	1	212	110	320	1	320	2	322	1	322	0	322	1	322
Comb. L-T	0	0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	148	2	81	3	151	2	83	0	151	2	83	84	232	2	128	3	235	2	129	0	235	2	129
Comb. L-T-R -		0				0				0				0				0				0	
NWB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	0	-			0	-			0	-			0	-			0	-			0	-
NWB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
NWB Right[1]	34	1	0	0	34	1	0	0	34	1	0	3	37	1	0	0	37	1	0	0	37	1	0
Comb. L-T-R -		0				0				0				0				0				0	
Crit. Volumes:	N-S:	747				N-S:	747			N-S:	747			N-S:	867			N-S:	867			N-S:	867
	E-W:	345				E-W:	351			E-W:	351			E-W:	482			E-W:	488			E-W:	488
	N-W:	0				N-W:	0			N-W:	0			N-W:	0			N-W:	0			N-W:	0
	SUM:	1092				SUM:	1098			SUM:	1098			SUM:	1348			SUM:	1355			SUM:	1355
No. of Phases:		4					4				4				4				4				4
(N/A=0, ATCS=1, ATCS=2)		2					2				2				2				2				2
Volume / Capacity:		0.694					0.699				0.699				0.881				0.885				0.885
Level of Service:		B					B				B				D				D				D

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
 For dual turn lanes, 55% of volume is assigned to heavier lane.  
 For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
 Right turns on red from excl. lanes = 50% of overlapping left turn.  
 [1] The northwest approach right-turn movement (i.e., First Street approach right-turn movement) operates concurrently during the southbound left-turn phase.

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N-S St: Glendale Boulevard-Lucas Avenue  
E-W St: Beverly Boulevard-2nd Street  
NW-SE St: 1st Street  
Project: 222 West 2nd Street Project/1-16-4154-2  
File Name: CMA3  
Counts by: The Traffic Solution

**CRITICAL MOVEMENT ANALYSIS**

Glendale Boulevard-Lucas Avenue @  
Beverly Boulevard-2nd Street @ 1st Street  
Peak Hour: PM  
Annual Growth: 1.0%

Date: 10/31/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
NB Thru	676	1	352	0	676	1	352	0	676	1	352	145	821	1	429	0	821	1	429	0	821	1	429
Comb. T-R		1	352			1	352			1	352			1	429			1	429			1	429
NB Right	28	0	-	0	28	0	-	0	28	0	-	8	36	0	-	0	36	0	-	0	36	0	-
Comb. L-T-R -		0				0				0				0				0				0	
SB Left	325	2	179	4	329	2	181	0	329	2	181	95	420	2	231	4	424	2	233	0	424	2	233
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
SB Thru	308	0	-	0	308	0	-	0	308	0	-	149	457	0	-	0	457	0	-	0	457	0	-
Comb. T-R		1	363			1	363			1	363			1	523			1	523			1	523
SB Right	55	0	-	0	55	0	-	0	55	0	-	12	67	0	-	0	67	0	-	0	67	0	-
Comb. L-T-R -		0				0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
EB Thru	142	1	82	2	144	1	83	0	144	1	83	101	243	1	133	2	245	1	134	0	245	1	134
Comb. T-R		1	82			1	83			1	83			1	133			1	134			1	134
EB Right	21	0	-	0	21	0	-	0	21	0	-	3	24	0	-	0	24	0	-	0	24	0	-
Comb. L-T-R -		0				0				0				0				0				0	
WB Left	256	1	256	8	264	1	264	0	264	1	264	79	335	1	335	8	343	1	343	0	343	1	343
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
WB Right	679	2	373	13	692	2	381	0	692	2	381	108	787	2	433	13	800	2	440	0	800	2	440
Comb. L-T-R -		0				0				0				0				0				0	
NWB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-			0	-
NWB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-			0	-
NWB Right[1]	138	1	0	0	138	1	0	0	138	1	0	11	149	1	0	0	149	1	0	0	149	1	0
Comb. L-T-R -		0				0				0				0				0				0	
Crit. Volumes:	N-S:	531				N-S:	533			N-S:	533			N-S:	660			N-S:	662			N-S:	662
	E-W:	373				E-W:	381			E-W:	381			E-W:	468			E-W:	477			E-W:	477
	N-W:	0				N-W:	0			N-W:	0			N-W:	0			N-W:	0			N-W:	0
	SUM:	904				SUM:	914			SUM:	914			SUM:	1128			SUM:	1139			SUM:	1139
No. of Phases:		4					4				4				4				4				4
(N/A=0, ATCS=1, ATCS=2)		2					2				2				2				2				2
Volume / Capacity:		0.558					0.564				0.564				0.720				0.729				0.729
Level of Service:		A					A				A				C				C				C

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.  
[1] The northwest approach right-turn movement (i.e., First Street approach right-turn movement) operates concurrently during the southbound left-turn phase.

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Beaudry Avenue			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
4		East-West Street:		1st Street			Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2			2				2				2				2			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0				0				0				0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0				NB-- 0 SB-- 0 EB-- 0 WB-- 0				NB-- 0 SB-- 0 EB-- 0 WB-- 0				NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2			2				2				2				2			
Override Capacity				0			0				0				0				0			
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	62	1	62	0	62	62	0	67	1	67	0	67	1	67	0	67	1	67		
		Left-Through		0						0					0				0			
		Through	202	1	152	0	202	152	137	356	1	233	0	356	1	233	0	356	1	233		
		Through-Right		1						1					1				1			
		Right	101	0	101	0	101	101	0	109	0	109	0	109	0	109	0	109	0	109		
		Left-Through-Right		0						0					0				0			
SOUTHBOUND		Left	254	1	254	0	254	254	0	275	1	275	0	275	1	275	0	275	1	275		
		Left-Through		0						0					0				0			
		Through	865	2	433	0	865	433	27	964	2	482	0	964	2	482	0	964	2	482		
		Through-Right		0						0					0				0			
		Right	135	1	96	0	135	96	105	251	1	196	0	251	1	196	0	251	1	196		
		Left-Through-Right		0						0					0				0			
EASTBOUND		Left	78	1	78	0	78	78	27	111	1	111	0	111	1	111	0	111	1	111		
		Left-Through		0						0					0				0			
		Through	647	2	324	9	656	328	14	715	2	358	9	724	2	362	0	724	2	362		
		Through-Right		0						0					0				0			
		Right	36	1	5	0	36	5	0	39	1	6	0	39	1	6	0	39	1	6		
		Left-Through-Right		0						0					0				0			
WESTBOUND		Left	79	1	79	0	79	79	0	86	1	86	0	86	1	86	0	86	1	86		
		Left-Through		0						0					0				0			
		Through	615	2	223	2	617	224	15	681	2	258	2	683	2	259	0	683	2	259		
		Through-Right		1						1					1				1			
		Right	54	0	54	0	54	54	36	94	0	94	0	94	0	94	0	94	0	94		
		Left-Through-Right		0						0					0				0			
CRITICAL VOLUMES			North-South: 495 East-West: 403 SUM: 898			North-South: 495 East-West: 407 SUM: 902			North-South: 549 East-West: 444 SUM: 993				North-South: 549 East-West: 448 SUM: 997				North-South: 549 East-West: 448 SUM: 997					
VOLUME/CAPACITY (V/C) RATIO:			0.599			0.601			0.662				0.665				0.665					
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.499			0.501			0.562				0.565				0.565					
LEVEL OF SERVICE (LOS):			A			A			A				A				A					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.003	Δv/c after mitigation:	0.003
Significant impacted?	NO	Fully mitigated?	N/A



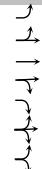
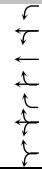
# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Beaudry Avenue		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
4		East-West Street:		1st Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2		2				2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 0 WB-- 0		0		0		EB-- 0 WB-- 0		0		0		0		EB-- 0 WB-- 0		0	
Override Capacity						2		2				2				2				2	
						0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	61	1	61	0	61	61	0	66	1	66	0	66	1	66	0	66	1	66	
		Left-Through		0							0				0				0		
		Through	1254	1	693	0	1254	693	181	1539	1	841	0	1539	1	841	0	1539	1	841	
		Through-Right		1							1				1				1		
		Right	131	0	131	0	131	131	0	142	0	142	0	142	0	142	0	142	0	142	
		Left-Through-Right		0							0				0				0		
SOUTHBOUND		Left	55	1	55	0	55	55	0	60	1	60	0	60	1	60	0	60	1	60	
		Left-Through		0							0				0				0		
		Through	298	2	149	0	298	149	128	451	2	226	0	451	2	226	0	451	2	226	
		Through-Right		0							0				0				0		
		Right	97	1	39	0	97	39	62	167	1	49	0	167	1	49	0	167	1	49	
		Left-Through-Right		0							0				0				0		
EASTBOUND		Left	116	1	116	0	116	116	110	236	1	236	0	236	1	236	0	236	1	236	
		Left-Through		0							0				0				0		
		Through	631	2	316	2	633	317	15	698	2	349	2	700	2	350	0	700	2	350	
		Through-Right		0							0				0				0		
		Right	26	1	0	0	26	0	0	28	1	0	0	28	1	0	0	28	1	0	
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left	69	1	69	0	69	69	0	75	1	75	0	75	1	75	0	75	1	75	
		Left-Through		0							0				0				0		
		Through	1028	2	436	8	1036	439	18	1131	2	527	8	1139	2	530	0	1139	2	530	
		Through-Right		1							1				1				1		
		Right	281	0	281	0	281	281	147	451	0	451	0	451	0	451	0	451	0	451	
		Left-Through-Right		0							0				0				0		
CRITICAL VOLUMES				North-South: 748		748		North-South: 901				901				North-South: 901					
				East-West: 552		555		East-West: 763				766				East-West: 766					
				SUM: 1300		1303		SUM: 1664				1667				SUM: 1667					
VOLUME/CAPACITY (V/C) RATIO:						0.867		0.869		1.109				1.111				1.111			
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.767		0.769		1.009				1.011				1.011			
LEVEL OF SERVICE (LOS):						C		C		F				F				F			

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Beaudry Avenue			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
		East-West Street:		2nd Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2			2			2			2			2			2					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0								
ATSAC-1 or ATSAC+ATCS-2?				2			2			2			2			2			2					
Override Capacity				0			0			0			0			0			0					
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	56	0	56	0	56	56	44	105	0	105	0	105	0	105	0	105	0	105				
		Left-Through		1							1				1				1					
		Through	282	1	253	0	282	253	140	445	1	433	0	445	1	433	0	445	1	433				
		Through-Right		0							0				0				0					
		Right	89	1	47	14	103	61	3	99	1	53	14	113	1	67	0	113	1	67				
SOUTHBOUND		Left-Through-Right		0							0			0				0						
		Left-Right		0							0			0				0						
		Left	144	0	144	0	144	144	0	156	0	156	0	156	0	156	0	156	0	156				
		Left-Through		1							1				1				1					
		Through	774	0	546	0	774	546	101	939	0	642	0	939	0	642	0	939	0	642				
EASTBOUND		Through-Right		1							1			1				1						
		Right	30	0	546	0	30	546	0	32	0	642	0	32	0	642	0	32	0	642				
		Left-Through-Right		0							0				0				0					
		Left-Right		0							0				0				0					
		Left	46	1	46	0	46	46	0	50	1	50	0	50	1	50	0	50	1	50				
WESTBOUND		Left-Through		0							0			0				0						
		Through	845	2	423	23	868	434	71	986	2	493	23	1009	2	505	0	1009	2	505				
		Through-Right		0							0				0				0					
		Right	365	1	365	0	365	365	9	404	1	404	0	404	1	404	0	404	1	404				
		Left-Through-Right		0							0				0				0					
CRITICAL VOLUMES		Left-Right		0							0			0				0						
		Left	85	1	85	0	85	85	0	92	1	92	0	92	1	92	0	92	1	92				
		Left-Through		0							0			0				0						
		Through	232	1	232	5	237	237	70	321	1	321	5	326	1	326	0	326	1	326				
		Through-Right		0							0				0				0					
VOLUME/CAPACITY (V/C) RATIO:		Right	64	1	64	0	64	64	0	69	1	69	0	69	1	69	0	69	1	69				
		Left-Through-Right		0							0				0				0					
		Left-Right		0							0				0				0					
		Left																						
		Left-Through																						
V/C LESS ATSAC/ATCS ADJUSTMENT:		Through																						
		Through-Right																						
		Right																						
		Left-Through-Right																						
		Left-Right																						
LEVEL OF SERVICE (LOS):		Left																						
		Left-Through																						
		Through																						
		Through-Right																						
		Right																						
REMARKS:		Left-Through-Right																						
		Left-Right																						
		Left																						
		Left-Through																						
		Through																						
Change in v/c due to project:		Through-Right																						
		Right																						
		Left-Through-Right																						
		Left-Right																						
		Left																						
Fully mitigated?		Left-Through																						
		Through																						
		Through-Right																						
		Right																						
		Left-Through-Right																						
Significant impacted?		Left-Right																						
		Left																						
		Left-Through																						
		Through																						
		Through-Right																						
Project IMPACT		Right																						
		Left-Through-Right																						
		Left-Right																						
		Left																						
		Left-Through																						
Change in LOS due to project:		Through																						
		Through-Right																						
		Right																						
		Left-Through-Right																						
		Left-Right																						
Overall Project IMPACT		Left																						
		Left-Through																						
		Through																						
		Through-Right																						
		Right																						
Overall Project LOS		Left-Through-Right																						
		Left-Right																						
		Left																						
		Left-Through																						
		Through																						
Overall Project V/C		Through-Right																						
		Right																						
		Left-Through-Right																						
		Left-Right																						
		Left																						
Overall Project V/C LESS ATSAC/ATCS ADJUSTMENT:		Left-Through																						
		Through																						
		Through-Right																						
		Right																						
		Left-Through-Right																						
Overall Project LOS		Left-Right																						
		Left																						
		Left-Through																						
		Through																						
		Through-Right																						
Overall Project V/C		Right																						
		Left-Through-Right																						
		Left-Right																						
		Left																						
		Left-Through																						
Overall Project V/C LESS ATSAC/ATCS ADJUSTMENT:		Through																						
		Through-Right																						
		Right																						
		Left-Through-Right																						
		Left-Right																						
Overall Project LOS		Left																						
		Left-Through																						
		Through																						
		Through-Right																						
		Right																						
Overall Project V/C		Left-Through-Right																						
		Left-Right																						
		Left																						
		Left-Through																						
		Through																						
Overall Project V/C LESS ATSAC/ATCS ADJUSTMENT:		Through-Right																						
		Right																						
		Left-Through-Right																						
		Left-Right																						
		Left																						
Overall Project LOS		Left-Through																						

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project: **0.008** Δv/c after mitigation: **0.008**  
Significant impacted? **NO** Fully mitigated? **N/A**





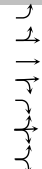
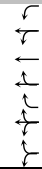
# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Beaudry Avenue			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017			
5		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2			2				
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0				
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2			2			2	
Override Capacity					0			0			0			0			0			0			0			0	
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION								
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume					
NORTHBOUND		Left	209	0	209	0	209	209	28	254	0	254	0	254	0	254	0	254	0	254	0	254	0	254			
		Left-Through		1							1			1			1		1		1		1				
		Through	1033	1	726	0	1033	726	152	1271	1	890	0	1271	1	890	0	1271	1	890	0	1271	1	890			
		Through-Right		0							0				0				0				0				
		Right	273	1	211	4	277	215	14	310	1	243	4	314	1	247	0	314	1	247	0	314	1	247			
		Left-Through-Right		0							0				0				0				0				
SOUTHBOUND		Left	63	0	63	0	63	63	0	68	0	68	0	68	0	68	0	68	0	68	0	68	0	68			
		Left-Through		1							1				1				1				1				
		Through	331	0	344	0	331	344	181	539	0	481	0	539	0	481	0	539	0	481	0	539	0	481			
		Through-Right		1							1				1				1				1				
		Right	13	0	0	0	13	0	0	14	0	481	0	14	0	481	0	14	0	481	0	14	0	481			
		Left-Through-Right		0							0				0				0				0				
EASTBOUND		Left	49	1	49	0	49	49	0	53	1	53	0	53	1	53	0	53	1	53	0	53	1	53			
		Left-Through		0							0				0				0				0				
		Through	457	2	229	6	463	232	65	560	2	280	6	566	2	283	0	566	2	283	0	566	2	283			
		Through-Right		0							0				0				0				0				
		Right	152	1	152	0	152	152	46	211	1	211	0	211	1	211	0	211	1	211	0	211	1	211			
		Left-Through-Right		0							0				0				0				0				
WESTBOUND		Left	125	1	125	0	125	125	0	135	1	135	0	135	1	135	0	135	1	135	0	135	1	135			
		Left-Through		0							0				0				0				0				
		Through	656	1	656	21	677	677	80	790	1	790	21	811	1	811	0	811	1	811	0	811	1	811			
		Through-Right		0							0				0				0				0				
		Right	121	1	90	0	121	90	0	131	1	131	0	131	1	131	0	131	1	131	0	131	1	131			
		Left-Through-Right		0							0				0				0				0				
CRITICAL VOLUMES					North-South: 789 East-West: 705 SUM: 1494			North-South: 789 East-West: 726 SUM: 1515			North-South: 958 East-West: 843 SUM: 1801				North-South: 958 East-West: 864 SUM: 1822				North-South: 958 East-West: 864 SUM: 1822								
VOLUME/CAPACITY (V/C) RATIO:					0.996			1.010			1.201				1.215				1.215								
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.896			0.910			1.101				1.115				1.115								
LEVEL OF SERVICE (LOS):					D			E			F				F				F								

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Beaudry Avenue		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
6		East-West Street:		SR-110 SB Off-Ramp		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2		2				2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?						2		2				2				2				2	
Override Capacity						0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	27	0	27	0	27	27	0	29	0	29	0	29	0	29	0	29	0	29	
		Left-Through		1							1		1		1		1		1		
		Through	420	1	291	0	420	291	173	628	1	401	0	628	1	401	0	628	1	401	
		Through-Right		0							0		0		0		0		0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTHBOUND		Left-Through-Right		0							0		0		0		0		0		
		Left-Right		0							0		0		0		0		0		
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through	1161	1	615	0	1161	615	77	1334	1	704	0	1334	1	704	0	1334	1	704	
		Through-Right		1							1		1		1		1		1		
EASTBOUND		Right	68	0	68	0	68	68	0	74	0	74	0	74	0	74	0	74	0	74	
		Left-Through-Right		0							0		0		0		0		0		
		Left-Right		0							0		0		0		0		0		
		Left	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1	
		Left-Through		0							0		0		0		0		0		
WESTBOUND		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0		0		0		0		0		
		Right	3	0	4	0	3	4	0	3	0	4	0	3	0	4	0	3	0	4	
		Left-Through-Right		0							0		0		0		0		0		
		Left-Right		1							1		1		1		1		1		
CRITICAL VOLUMES				North-South: 642		East-West: 210		SUM: 852		North-South: 642		East-West: 210		SUM: 852		North-South: 733		East-West: 261		SUM: 994	
VOLUME/CAPACITY (V/C) RATIO:						0.568		0.568				0.663		0.663				0.663		0.663	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.468		0.468				0.563		0.563				0.563		0.563	
LEVEL OF SERVICE (LOS):						A		A				A		A				A		A	

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Beaudry Avenue		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
6		East-West Street:		SR-110 SB Off-Ramp		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2		2		2		2		2		2		2		2		2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		1							1				1				1		
		Through	1453	1	727	0	1453	727	140	1713	1	857	0	1713	1	857	0	1713	1	857	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0							0				0				0		
		Through	655	1	328	0	655	328	207	916	1	458	0	916	1	458	0	916	1	458	
		Through-Right		1							1				1				1		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
EASTBOUND		Left	63	0	63	0	63	63	0	68	0	68	0	68	0	68	0	68	0	68	
		Left-Through		0							0				0				0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0				0				0		
		Right	51	0	114	0	51	114	0	55	0	123	0	55	0	123	0	55	0	123	
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left	245	1	74	0	245	74	166	431	1	130	0	431	1	130	0	431	1	130	
		Left-Through		1							1				1				1		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		1							1				1				1		
		Right	77	0	77	4	81	81	48	131	0	131	4	135	0	135	0	135	0	135	
		Left-Through-Right		0							0				0				0		
CRITICAL VOLUMES				North-South: 727 East-West: 188 SUM: 915		North-South: 727 East-West: 188 SUM: 915		North-South: 857 East-West: 253 SUM: 1110				North-South: 857 East-West: 253 SUM: 1110				North-South: 857 East-West: 253 SUM: 1110					
VOLUME/CAPACITY (V/C) RATIO:				0.610		0.610		0.740				0.740				0.740					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.510		0.510		0.640				0.640				0.640					
LEVEL OF SERVICE (LOS):				A		A		B				B				B					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Beaudry Avenue			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
7		East-West Street:			3rd Street-Miramar Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					2			2			2			2			2			2					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0								
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2					
Override Capacity					0			0			0			0			0			0					
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	14	0	14	0	14	14	11	26	0	26	0	26	0	26	0	26	0	26					
		Left-Through		1						1				1				1							
		Through	162	1	123	0	162	123	49	224	1	190	0	224	1	190	0	224	1	190					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0						0				0				0							
		Through	1222	1	769	0	1222	769	53	1376	1	870	0	1376	1	870	0	1376	1	870					
		Through-Right		1						1				1				1							
		Right	315	0	315	0	315	315	22	363	0	363	0	363	0	363	0	363	0	363					
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0						0				0				0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WESTBOUND		Left	508	1	508	0	508	508	0	550	1	550	0	550	1	550	0	550	1	550					
		Left-Through		0						0				0				0							
		Through	1039	3	346	4	1043	348	23	1148	3	383	4	1152	3	384	0	1152	3	384					
		Through-Right		0						0				0				0							
		Right	224	1	224	0	224	224	0	243	1	243	0	243	1	243	0	243	1	243					
CRITICAL VOLUMES					North-South: 783 East-West: 508 SUM: 1291			North-South: 783 East-West: 508 SUM: 1291			North-South: 896 East-West: 550 SUM: 1446				North-South: 896 East-West: 550 SUM: 1446				North-South: 896 East-West: 550 SUM: 1446						
VOLUME/CAPACITY (V/C) RATIO:					0.861			0.861			0.964				0.964				0.964						
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.761			0.761			0.864				0.864				0.864						
LEVEL OF SERVICE (LOS):					C			C			D				D				D						

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Beaudry Avenue			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
7		East-West Street:			3rd Street-Miramar Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2					
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2					
Override Capacity					0			0			0			0			0			0					
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	19	0	19	0	19	19	78	99	0	99	0	99	0	99	0	99	0	99	0	99			
		Left-Through		1						1				1				1			1				
		Through	1128	1	602	0	1128	602	72	1293	1	944	0	1293	1	944	0	1293	1	944	0	1293			
		Through-Right		0						0				0				0			0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through-Right		0						0				0				0			0				
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Left-Through		0						0				0				0			0				
		Through	648	1	452	0	648	452	72	774	1	623	0	774	1	623	0	774	1	623	0	774			
		Through-Right		1						1				1				1			1				
		Right	256	0	256	0	256	256	194	471	0	471	0	471	0	471	0	471	0	471	0	471			
		Left-Through-Right		0						0				0				0			0				
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Left-Through		0						0				0				0			0				
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Through-Right		0						0				0				0			0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through-Right		0						0				0				0			0				
WESTBOUND		Left	104	1	104	0	104	104	0	113	1	113	0	113	1	113	0	113	1	113	0	113			
		Left-Through		0						0				0				0			0				
		Through	760	3	253	17	777	259	73	896	3	299	17	913	3	304	0	913	3	304	0	913			
		Through-Right		0						0				0				0			0				
		Right	327	1	327	0	327	327	0	354	1	354	0	354	1	354	0	354	1	354	0	354			
		Left-Through-Right		0						0				0				0			0				
CRITICAL VOLUMES			North-South: 602 East-West: 327 SUM: 929			North-South: 602 East-West: 327 SUM: 929			North-South: 944 East-West: 354 SUM: 1298				North-South: 944 East-West: 354 SUM: 1298				North-South: 944 East-West: 354 SUM: 1298								
VOLUME/CAPACITY (V/C) RATIO:			0.619			0.619			0.865				0.865				0.865								
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.519			0.519			0.765				0.765				0.765								
LEVEL OF SERVICE (LOS):			A			A			C				C				C								

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figueroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
8		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?								3			3			3			3			3			3		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2			2		
Override Capacity					0			0			0			0			0			0			0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	141	1	141	0	141	141	0	153	1	153	0	153	1	153	0	153	1	153	0	153	1	153	
		Left-Through		0							0				0				0			0			
		Through	720	2	360	0	720	360	379	1159	2	580	0	1159	2	580	0	1159	2	580	0	1159	2	580	
		Through-Right		0						0				0				0				0			
		Right	114	1	91	0	114	91	15	138	1	72	0	138	1	72	0	138	1	72	0	138	1	72	
SOUTHBOUND		Left-Through-Right		0						0				0				0				0			
		Left-Right		0						0				0				0				0			
		Left	208	1	208	0	208	208	8	233	1	233	0	233	1	233	0	233	1	233	0	233	1	233	
		Left-Through		0							0				0				0			0			
		Through	609	1	305	0	609	305	0	659	1	330	0	659	1	330	0	659	1	330	0	659	1	330	
EASTBOUND		Through-Right		1						1				1				1				1			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0							0				0				0				0		
		Left-Right		0							0				0				0				0		
		Left	48	1	48	0	48	48	37	89	1	89	0	89	1	89	0	89	1	89	0	89	1	89	
WESTBOUND		Left-Through		0						0				0				0				0			
		Through	592	1	592	37	629	629	110	751	1	751	37	788	1	788	0	788	1	788	0	788	1	788	
		Through-Right		0							0				0				0				0		
		Right	440	1	299	0	440	299	0	476	1	323	0	476	1	323	0	476	1	323	0	476	1	323	
		Left-Through-Right		0							0				0				0				0		
CRITICAL VOLUMES		Left-Through-Right		0						0				0				0				0			
		Left-Right		0						0				0				0				0			
		Left	47	1	47	0	47	47	82	133	1	133	0	133	1	133	0	133	1	133	0	133	1	133	
		Left-Through		0							0				0				0				0		
		Through	275	1	275	5	280	280	52	350	1	350	5	355	1	355	0	355	1	355	0	355	1	355	
VOLUME/CAPACITY (V/C) RATIO: V/C LESS ATSAC/ATCS ADJUSTMENT: LEVEL OF SERVICE (LOS):		Through-Right		0						0				0				0				0			
		Right	39	1	0	0	39	0	14	56	1	0	0	56	1	0	0	56	1	0	0	56	1	0	
		Left-Through-Right		0							0				0				0				0		
		Left-Right		0							0				0				0				0		
		Left			0.847			0.873				1.191				1.217						1.217			
					0.747			0.773			1.091			1.117			1.117					1.117			
					C			C			F			F			F					F			

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	<b>0.026</b>	Δv/c after mitigation:	<b>0.026</b>
Significant impacted?	<b>YES</b>	Fully mitigated?	<b>NO</b>

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Figueroa Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
8		East-West Street:		2nd Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						3		3				3				3				3	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 3 WB-- 0		0		0		EB-- 3 WB-- 0		0		EB-- 3 WB-- 0		0		EB-- 3 WB-- 0		0	
Override Capacity						2		2				2				2				2	
				0		0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	460	1	460	0	460	460	0	498	1	498	0	498	1	498	0	498	1	498	
		Left-Through		0							0				0				0		
		Through	1904	2	952	0	1904	952	491	2553	2	1277	0	2553	2	1277	0	2553	2	1277	
		Through-Right		0							0				0				0		
		Right	165	1	133	0	165	133	9	188	1	99	0	188	1	99	0	188	1	99	
SOUTHBOUND		Left-Through-Right		0							0				0				0		
		Left-Right		0							0				0				0		
		Left	129	1	129	0	129	129	16	156	1	156	0	156	1	156	0	156	1	156	
		Left-Through		0							0				0				0		
		Through	337	1	206	0	337	206	0	365	1	223	0	365	1	223	0	365	1	223	
EASTBOUND		Through-Right		1							1				1				1		
		Right	74	0	74	0	74	74	0	80	0	80	0	80	0	80	0	80	0	80	
		Left-Through-Right		0							0				0				0		
		Left-Right		0							0				0				0		
		Left	90	1	90	0	90	90	22	119	1	119	0	119	1	119	0	119	1	119	
WESTBOUND		Left-Through		0							0				0				0		
		Through	382	1	382	9	391	391	124	538	1	538	9	547	1	547	0	547	1	547	
		Through-Right		0							0				0				0		
		Right	365	1	0	0	365	0	0	395	1	0	0	395	1	0	0	395	1	0	
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left-Right		0							0				0				0		
		Left	65	1	65	0	65	65	108	178	1	178	0	178	1	178	0	178	1	178	
		Left-Through		0							0				0				0		
		Through	480	1	480	21	501	501	64	584	1	584	21	605	1	605	0	605	1	605	
		Through-Right		0							0				0				0		
WESTBOUND		Right	24	1	0	0	24	0	9	35	1	0	0	35	1	0	0	35	1	0	
		Left-Through-Right		0							0				0				0		
		Left-Right		0							0				0				0		
		Left																			
		Left-Through																			
CRITICAL VOLUMES				North-South: 1081		North-South: 1081		North-South: 1433				North-South: 1433				North-South: 1433					
				East-West: 570		East-West: 591		East-West: 716				East-West: 725				East-West: 725					
				SUM: 1651		SUM: 1672		SUM: 2149				SUM: 2158				SUM: 2158					
VOLUME/CAPACITY (V/C) RATIO:						1.159		1.173		1.508				1.514				1.514			
V/C LESS ATSAC/ATCS ADJUSTMENT:						1.059		1.073		1.408				1.414				1.414			
LEVEL OF SERVICE (LOS):						F		F		F				F				F			

REMARKS:



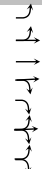
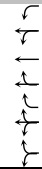
Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.006	Δv/c after mitigation:	0.006
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figueroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
9		East-West Street:			3rd Street-SR 110 Ramps			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0		
Override Capacity					2			2			2			2			2			2			2		
					1000			1000			1000			1000			1000			1000			1000		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	145	3	51	0	145	51	7	164	3	57	0	164	3	57	0	164	3	57					
		Left-Through		0					0		0			0		0		0							
		Through	838	2	341	0	838	341	439	1346	2	515	0	1346	2	515	0	1346	2	515					
		Through-Right		1					1		0			1		0		1		0					
		Right	184	0	184	0	184	184	0	199	0	199	0	199	0	199	0	199	0	199					
SOUTHBOUND		Left-Through-Right		0					0		0			0		0		0		0					
		Left-Right		0					0		0			0		0		0		0					
		Left	19	1	19	0	19	19	0	21	1	21	0	21	1	21	0	21	1	21					
		Left-Through		0					0		0			0		0		0		0					
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
EASTBOUND		Through-Right		0					0		0			0		0		0		0					
		Right	1101	2	606	0	1101	606	53	1245	2	685	0	1245	2	685	0	1245	2	685					
		Left-Through-Right		0					0		0			0		0		0		0					
		Left-Right		0					0		0			0		0		0		0					
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
WESTBOUND		Left-Through		0					0		0			0		0		0		0					
		Through	463	2	232	0	463	232	0	501	2	251	0	501	2	251	0	501	2	251					
		Through-Right		0					0		0			0		0		0		0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0					0		0			0		0		0		0					
CRITICAL VOLUMES		Left-Right		0					0		0			0		0		0		0					
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0					0		0			0		0		0		0					
		Through	972	5	194	19	991	198	188	1241	5	248	19	1260	5	252	0	1260	5	252					
		Through-Right		0					0		0			0		0		0		0					
VOLUME/CAPACITY (V/C) RATIO:		Right	100	1	91	0	100	91	0	108	1	98	0	108	1	98	0	108	1	98					
		Left-Through-Right		0					0		0			0		0		0		0					
		Left-Right		0					0		0			0		0		0		0					
		Left																							
		Left-Through																							
W/C LESS ATSAC/ATCS ADJUSTMENT:			0.889			0.889			0.993			0.994			0.994			0.994							
LEVEL OF SERVICE (LOS):			0.789			0.789			0.893			0.894			0.894			0.894							
			C			C			D			D			D			D							

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.001	Δv/c after mitigation:	0.001
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figueroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
9		East-West Street:			3rd Street-SR 110 Ramps			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0		
Override Capacity					2			2			2			2			2			2			2		
					1000			1000			1000			1000			1000			1000			1000		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	922	3	323	0	922	323	5	1003	3	351	0	1003	3	351	0	1003	3	351					
		Left-Through		0						0				0				0							
		Through	2447	2	842	0	2447	842	550	3200	2	1096	0	3200	2	1096	0	3200	2	1096					
		Through-Right		1						1				1				1							
		Right	80	0	80	0	80	80	0	87	0	87	0	87	0	87	0	87	0	87					
		Left-Through-Right		0						0				0				0							
SOUTHBOUND		Left	24	1	24	0	24	24	0	26	1	26	0	26	1	26	0	26	1	26					
		Left-Through		0						0				0				0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0						0				0				0							
		Right	696	2	383	0	696	383	131	885	2	487	0	885	2	487	0	885	2	487					
		Left-Through-Right		0						0				0				0							
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0						0				0				0							
		Through	61	2	31	0	61	31	0	66	2	33	0	66	2	33	0	66	2	33					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0				0				0							
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0						0				0				0							
		Through	1824	5	365	85	1909	382	162	2137	5	427	85	2222	5	444	0	2222	5	444					
		Through-Right		0						0				0				0							
		Right	116	1	104	0	116	104	0	126	1	113	0	126	1	113	0	126	1	113					
		Left-Through-Right		0						0				0				0							
CRITICAL VOLUMES			North-South: 866			North-South: 866			North-South: 1122			North-South: 1122			North-South: 1122			North-South: 1122							
			East-West: 365			East-West: 382			East-West: 427			East-West: 444			East-West: 444			East-West: 444							
			SUM: 1231			SUM: 1248			SUM: 1549			SUM: 1566			SUM: 1566			SUM: 1566							
VOLUME/CAPACITY (V/C) RATIO:			1.231			1.248			1.549			1.566			1.566			1.566							
V/C LESS ATSAC/ATCS ADJUSTMENT:			1.131			1.148			1.449			1.466			1.466			1.466							
LEVEL OF SERVICE (LOS):			F			F			F			F			F			F							

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.017	Δv/c after mitigation:	0.017
Significant impacted?	YES	Fully mitigated?	NO

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figuroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		10/18/2017	
10		East-West Street:			SR-110 NB and SB On-Ramps-5th St			Projection Year:			2025		Peak Hour:			AM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0						
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0						
Override Capacity					2			2			2			2			2			2						
					1000			1000			1000			1000			1000			1000						
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	496	3	174	0	496	174	80	617	3	216	0	617	3	216	0	617	3	216						
		Left-Through		0						0				0				0								
		Through	1308	3	436	0	1308	436	411	1827	3	609	0	1827	3	609	0	1827	3	609						
		Through-Right		0						0				0				0								
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through-Right		0						0				0				0								
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0						0				0				0								
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Through-Right		0						0				0				0								
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0						0				0				0								
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0						0				0				0								
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Through-Right		0						0				0				0								
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0						0				0				0								
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0						0				0				0								
		Through	1261	5	227	7	1268	228	302	1667	5	289	7	1674	5	290	0	1674	5	290						
		Through-Right		1						1				1				1								
		Right	328	1	0	0	328	0	0	355	1	0	0	355	1	0	0	355	1	0						
		Left-Through-Right		0						0				0				0								
CRITICAL VOLUMES					North-South: 436			North-South: 436			North-South: 609				North-South: 609				North-South: 609							
					East-West: 227			East-West: 228			East-West: 289				East-West: 290				East-West: 290							
					SUM: 663			SUM: 664			SUM: 898				SUM: 899				SUM: 899							
VOLUME/CAPACITY (V/C) RATIO:					0.663			0.664			0.898				0.899				0.899							
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.563			0.564			0.798				0.799				0.799							
LEVEL OF SERVICE (LOS):					A			A			C				C				C							

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.001	Δv/c after mitigation:	0.001
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figueroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		10/18/2017	
10		East-West Street:			SR-110 NB and SB On-Ramps-5th St			Projection Year:			2025		Peak Hour:			PM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0						
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2						
Override Capacity					1000			1000			1000			1000			1000			1000						
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	801	3	280	0	801	280	96	963	3	337	0	963	3	337	0	963	3	337						
		Left-Through		0						0		0			0		0		0							
		Through	1956	3	652	0	1956	652	514	2632	3	877	0	2632	3	877	0	2632	3	877						
		Through-Right		0						0		0			0		0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through-Right		0						0		0			0		0		0							
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0						0		0			0		0		0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Through-Right		0						0		0			0		0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0						0		0			0		0		0							
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0						0		0			0		0		0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Through-Right		0						0		0			0		0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0						0		0			0		0		0							
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0						0		0			0		0		0							
		Through	1670	5	283	34	1704	288	348	2156	5	359	34	2190	5	365	0	2190	5	365						
		Through-Right		1						1		1			1		1		1							
		Right	314	1	0	0	314	0	0	340	1	340	0	340	1	340	0	340	1	340						
		Left-Through-Right		0						0		0			0		0		0							
CRITICAL VOLUMES			North-South: 652 East-West: 283 SUM: 935			North-South: 652 East-West: 288 SUM: 940			North-South: 877 East-West: 359 SUM: 1236			North-South: 877 East-West: 365 SUM: 1242			North-South: 877 East-West: 365 SUM: 1242											
VOLUME/CAPACITY (V/C) RATIO:			0.935			0.940			1.236			1.242			1.242											
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.835			0.840			1.136			1.142			1.142											
LEVEL OF SERVICE (LOS):			D			D			F			F			F											

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.006	Δv/c after mitigation:	0.006
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figueroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
11		East-West Street:			SR-110 NB and SB Off-Ramps-6th St			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0					
Override Capacity					2			2			2			2			2			2					
					1000			1000			1000			1000			1000			1000					
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0					0		0			0		0		0							
		Through	1556	5	311	0	1556	311	426	2111	5	422	0	2111	5	422	0	2111	5	422					
		Through-Right		0					0		0			0		0		0							
		Right	200	1	200	0	200	200	38	255	1	255	0	255	1	255	0	255	1	255					
SOUTHBOUND		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0					0		0			0		0		0							
		Through		0					0		0			0		0		0							
EASTBOUND		Through-Right		0					0		0			0		0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left	233	1	233	0	233	233	39	291	1	291	0	291	1	291	0	291	1	291					
WESTBOUND		Left-Through		1					1		1			1		1		1							
		Through	2307	4	461	37	2344	469	338	2836	4	567	37	2873	4	575	0	2873	4	575					
		Through-Right		0					0		0			0		0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through-Right		0					0		0			0		0		0							
CRITICAL VOLUMES		Left-Right		0					0		0			0		0		0							
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0					0		0			0		0		0							
		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
VOLUME/CAPACITY (V/C) RATIO:		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
V/C LESS ATSAC/ATCS ADJUSTMENT:		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
LEVEL OF SERVICE (LOS):		Left		0					0		0			0		0		0							
		Left-Through		0					0		0			0		0		0							
		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
SUM:		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
SUM:		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
SUM:		Left-Through		0					0		0			0		0		0							
		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
SUM:		Left-Right		0					0		0			0		0		0							
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
		Through-Right		0						0				0			0								
SUM:		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
SUM:		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
SUM:		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
		Through-Right		0						0				0			0								
		Right		0						0				0			0								
SUM:		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
SUM:		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
SUM:		Left-Through		0					0		0			0		0		0							
		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
SUM:		Left-Right		0					0		0			0		0		0							
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
		Through-Right		0						0				0			0								
SUM:		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
SUM:		Through		0					0		0			0		0		0							
		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
SUM:		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
		Through-Right		0						0				0			0								
		Right		0						0				0			0								
SUM:		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0			0								
		Left		0						0				0			0								
		Left-Through		0						0				0			0								
		Through		0						0				0			0								
SUM:		Through-Right		0					0		0			0		0		0							
		Right		0					0		0			0		0		0							
		Left-Through-Right		0					0		0			0		0		0							
		Left-Right		0						0				0											

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.008	Δv/c after mitigation:	0.008
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figuroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		10/18/2017	
11		East-West Street:			SR-110 NB and SB Off-Ramps-6th St			Projection Year:			2025		Peak Hour:			PM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0						
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0						
Override Capacity					2			2			2			2			2			2						
					1000			1000			1000			1000			1000			1000						
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0					0		0			0			0		0							
		Through	2347	5	469	0	2347	469	720	3261	5	652	0	3261	5	652	0	3261	5	652						
		Through-Right		0					0		0			0			0		0							
		Right	221	1	221	0	221	221	112	351	1	351	0	351	1	351	0	351	1	351						
		Left-Through-Right		0					0		0			0			0		0							
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0					0		0			0			0		0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Through-Right		0					0		0			0			0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0					0		0			0			0		0							
EASTBOUND		Left	298	1	245	0	298	247	33	356	1	351	0	356	1	353	0	356	1	353						
		Left-Through		1					1		1			1			1		1							
		Through	1174	4	245	9	1183	247	480	1751	4	351	9	1760	4	353	0	1760	4	353						
		Through-Right		0					0		0			0			0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0					0		0			0			0		0							
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through		0					0		0			0			0		0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Through-Right		0					0		0			0			0		0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		Left-Through-Right		0					0		0			0			0		0							
CRITICAL VOLUMES			North-South: 469 East-West: 245 SUM: 714			North-South: 469 East-West: 247 SUM: 716			North-South: 652 East-West: 351 SUM: 1003			North-South: 652 East-West: 353 SUM: 1005			North-South: 652 East-West: 353 SUM: 1005											
VOLUME/CAPACITY (V/C) RATIO:			0.714			0.716			1.003			1.005			1.005											
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.614			0.616			0.903			0.905			0.905											
LEVEL OF SERVICE (LOS):			B			B			E			E			E											

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.002	Δv/c after mitigation:	0.002
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Hill Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017			
12		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2			2				
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2				
ATSAC-1 or ATSAC+ATCS-2?					0			0			0			0			0			0			0			0	
Override Capacity					2			2			2			2			2			2			2			2	
					0			0			0			0			0			0			0			0	
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION								
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume					
NORTHBOUND		Left	64	1	64	4	68	68	19	88	1	88	4	92	1	92	0	92	1	92							
		Left-Through		0						0				0				0									
		Through	293	1	171	0	293	171	46	363	1	214	0	363	1	214	0	363	1	214							
		Through-Right		1						1				1				1									
		Right	48	0	48	0	48	48	13	65	0	65	0	65	0	65	0	65	0	65							
SOUTHBOUND		Left	45	1	45	28	73	73	13	62	1	62	28	90	1	90	0	90	1	90							
		Left-Through		0						0				0				0									
		Through	936	2	362	0	936	362	77	1091	2	418	0	1091	2	418	0	1091	2	418							
		Through-Right		1						1				1				1									
		Right	151	0	151	0	151	151	0	164	0	164	0	164	0	164	0	164	0	164							
EASTBOUND		Left	6	0	6	0	6	6	0	6	0	6	0	6	0	6	0	6	0	6							
		Left-Through		1						1				1				1									
		Through	544	0	550	37	581	587	80	669	0	675	37	706	0	712	0	706	0	712							
		Through-Right		0						0				0				0									
		Right	378	1	346	0	378	344	5	414	1	370	0	414	1	368	0	414	1	368							
WESTBOUND		Left	75	0	75	0	75	75	11	92	0	92	0	92	0	92	0	92	0	92							
		Left-Through		1						1				1				1									
		Through	397	0	368	1	398	368	207	637	0	631	1	638	0	631	0	638	0	631							
		Through-Right		1						1				1				1									
		Right	38	0	368	0	38	368	31	72	0	631	0	72	0	631	0	72	0	631							
CRITICAL VOLUMES		North-South:	426		North-South:	430		North-South:	506		506	North-South:	510		510	North-South:	510		510								
		East-West:	625		East-West:	662		East-West:	767		767	East-West:	804		804	East-West:	804		804								
		SUM:	1051		SUM:	1092		SUM:	1273		1273	SUM:	1314		1314	SUM:	1314		1314								
VOLUME/CAPACITY (V/C) RATIO:					0.701			0.728			0.849			0.876			0.876			0.876							
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.601			0.628			0.749			0.776			0.776			0.776							
LEVEL OF SERVICE (LOS):					B			B			C			C			C			C							

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.027	Δv/c after mitigation:	0.027
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Hill Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017			
12		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2			2				
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2			NB-- 0 SB-- 2				
ATSAC-1 or ATSAC+ATCS-2?					0			0			0			0			0			0			0			0	
Override Capacity					2			2			2			2			2			2			2			2	
					0			0			0			0			0			0			0			0	
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION								
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume					
NORTHBOUND		Left	91	1	91	17	108	108	11	110	1	110	17	127	1	127	0	127	1	127							
		Left-Through		0						0				0				0									
		Through	683	1	377	0	683	377	44	784	1	443	0	784	1	443	0	784	1	443							
		Through-Right		1						1				1				1									
		Right	71	0	71	0	71	71	24	101	0	101	0	101	0	101	0	101	0	101							
SOUTHBOUND		Left	64	1	64	7	71	71	33	102	1	102	7	109	1	109	0	109	1	109							
		Left-Through		0						0				0				0									
		Through	928	2	323	0	928	323	83	1088	2	377	0	1088	2	377	0	1088	2	377							
		Through-Right		1						1				1				1									
		Right	41	0	41	0	41	41	0	44	0	44	0	44	0	44	0	44	0	44							
EASTBOUND		Left	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2							
		Left-Through		1						1				1				1									
		Through	522	0	524	9	531	533	181	746	0	748	9	755	0	757	0	755	0	757							
		Through-Right		0						0				0				0									
		Right	121	1	76	0	121	67	20	151	1	96	0	151	1	88	0	151	1	88							
WESTBOUND		Left	53	0	53	0	53	53	11	68	0	68	0	68	0	68	0	68	0	68							
		Left-Through		1						1				1				1									
		Through	522	0	389	4	526	391	160	725	0	529	4	729	0	531	0	729	0	531							
		Through-Right		1						1				1				1									
		Right	44	0	389	0	44	391	13	61	0	529	0	61	0	531	0	61	0	531							
CRITICAL VOLUMES		North-South:	441		North-South:	448		North-South:	545		North-South:	552		North-South:	552		North-South:	552		North-South:	552						
		East-West:	577		East-West:	586		East-West:	816		East-West:	825		East-West:	825		East-West:	825		East-West:	825						
		SUM:	1018		SUM:	1034		SUM:	1361		SUM:	1377		SUM:	1377		SUM:	1377		SUM:	1377						
VOLUME/CAPACITY (V/C) RATIO:					0.679			0.689			0.907			0.918			0.918			0.918							
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.579			0.589			0.807			0.818			0.818			0.818							
LEVEL OF SERVICE (LOS):					A			A			D			D			D			D							

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.011	Δv/c after mitigation:	0.011
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Broadway		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/26/2017	
13		East-West Street:		US-101 SB Off-Ramp-Aliso Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2		2		2		2		2		2		2		2		2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?				0		0		0		0		0		0		0		0		0	
Override Capacity				2		2		2		2		2		2		2		2		2	
				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0				0				0		
		Through	311	2	156	17	328	164	216	553	2	277	17	570	2	285	0	570	2	285	
		Through-Right		0							0				0				0		
		Right	82	1	82	15	97	97	62	151	1	151	15	166	1	166	0	166	1	166	
		Left-Through-Right		0							0				0				0		
SOUTHBOUND		Left	154	1	154	0	154	154	45	212	1	212	0	212	1	212	0	212	1	212	
		Left-Through		0							0				0				0		
		Through	950	2	475	42	992	496	186	1215	2	608	42	1257	2	629	0	1257	2	629	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
EASTBOUND		Left	108	0	108	0	108	108	16	133	0	133	0	133	0	133	0	133	0	133	
		Left-Through		1							1				1				1		
		Through	210	1	159	0	210	159	79	306	1	220	0	306	1	220	0	306	1	220	
		Through-Right		0							0				0				0		
		Right	143	1	143	19	162	162	51	206	1	206	19	225	1	225	0	225	1	225	
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0				0				0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
CRITICAL VOLUMES				North-South: 475		North-South: 496		North-South: 608				North-South: 629				North-South: 629					
				East-West: 159		East-West: 162		East-West: 220				East-West: 225				East-West: 225					
				SUM: 634		SUM: 658		SUM: 828				SUM: 854				SUM: 854					
VOLUME/CAPACITY (V/C) RATIO:				0.423		0.439		0.552				0.569				0.569					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.323		0.339		0.452				0.469				0.469					
LEVEL OF SERVICE (LOS):				A		A		A				A				A					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.017	Δv/c after mitigation:	0.017
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/26/2017	
13		East-West Street:			US-101 SB Off-Ramp-Aliso Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					2			2			2			2			2			2					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0								
ATSAC-1 or ATSAC+ATCS-2?					0			0			0			0			0			0					
Override Capacity					2			2			2			2			2			2					
					0			0			0			0			0			0					
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0						0				0				0							
		Through	860	2	430	76	936	468	261	1192	2	596	76	1268	2	634	0	1268	2	634					
		Through-Right		0						0				0				0							
		Right	164	1	164	68	232	232	36	214	1	214	68	282	1	282	0	282	1	282					
		Left-Through-Right		0						0				0				0							
SOUTHBOUND		Left	108	1	108	0	108	108	35	152	1	152	0	152	1	152	0	152	1	152					
		Left-Through		0						0				0				0							
		Through	668	2	334	11	679	340	236	959	2	480	11	970	2	485	0	970	2	485					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0				0				0							
EASTBOUND		Left	88	0	88	0	88	88	19	114	0	114	0	114	0	114	0	114	0	114					
		Left-Through		1						1				1				1							
		Through	270	1	179	0	270	179	38	330	1	222	0	330	1	222	0	330	1	222					
		Through-Right		0						0				0				0							
		Right	69	1	69	5	74	74	36	111	1	111	5	116	1	116	0	116	1	116					
		Left-Through-Right		0						0				0				0							
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0						0				0				0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0				0				0							
CRITICAL VOLUMES			North-South: 538			North-South: 576			North-South: 748			North-South: 786			North-South: 786										
			East-West: 179			East-West: 179			East-West: 222			East-West: 222			East-West: 222										
			SUM: 717			SUM: 755			SUM: 970			SUM: 1008			SUM: 1008										
VOLUME/CAPACITY (V/C) RATIO:			0.478			0.503			0.647			0.672			0.672										
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.378			0.403			0.547			0.572			0.572										
LEVEL OF SERVICE (LOS):			A			A			A			A			A										

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.025	Δv/c after mitigation:	0.025
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/26/2017	
14		East-West Street:			Temple Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?								3			3			3			3			3			3		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0		
Override Capacity					2			2			2			2			2			2			2		
					0			0			0			0			0			0			0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	70	1	70	2	72	72	8	84	1	84	2	86	1	86	0	86	1	86					
		Left-Through		0							0				0				0						
		Through	280	2	124	32	312	135	248	551	2	217	32	583	2	228	0	583	2	228					
		Through-Right		1							1				1				1						
		Left-Through-Right	92	0	92	0	92	92	0	100	0	100	0	100	0	100	0	100	0	100					
		Left-Right		0							0				0				0						
SOUTHBOUND		Left	98	1	98	0	98	98	11	117	1	117	0	117	1	117	0	117	1	117					
		Left-Through		0							0				0				0						
		Through	727	1	476	61	788	506	129	916	1	604	61	977	1	634	0	977	1	634					
		Through-Right		1							1				1				1						
		Right	224	0	224	0	224	224	48	291	0	291	0	291	0	291	0	291	0	291					
		Left-Through-Right		0							0				0				0						
EASTBOUND		Left	29	1	29	0	29	29	28	59	1	59	0	59	1	59	0	59	1	59					
		Left-Through		0							0				0				0						
		Through	538	1	305	0	538	309	10	593	1	336	0	593	1	341	0	593	1	341					
		Through-Right		1							1				1				1						
		Right	71	0	71	9	80	80	2	79	0	79	9	88	0	88	0	88	0	88					
		Left-Through-Right		0							0				0				0						
WESTBOUND		Left	69	1	69	0	69	69	4	79	1	79	0	79	1	79	0	79	1	79					
		Left-Through		0							0				0				0						
		Through	665	1	351	0	665	351	2	722	1	390	0	722	1	390	0	722	1	390					
		Through-Right		1							1				1				1						
		Right	37	0	37	0	37	37	18	58	0	58	0	58	0	58	0	58	0	58					
		Left-Through-Right		0							0				0				0						
CRITICAL VOLUMES			North-South: 546		546		North-South: 578		578		North-South: 688		688		North-South: 720		720		North-South: 720		720				
			East-West: 380		380		East-West: 380		380		East-West: 449		449		East-West: 449		449		East-West: 449		449				
			SUM: 926		926		SUM: 958		958		SUM: 1137		1137		SUM: 1169		1169		SUM: 1169		1169				
VOLUME/CAPACITY (V/C) RATIO:					0.650				0.672				0.798				0.820				0.820				
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.550				0.572				0.698				0.720				0.720				
LEVEL OF SERVICE (LOS):					A				A				B				C				C				

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.022	Δv/c after mitigation:	0.022
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/26/2017	
14		East-West Street:			Temple Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?								3			3			3			3			3			3		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0		
Override Capacity					2			2			2			2			2			2			2		
					0			0			0			0			0			0			0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	92	1	92	8	100	100	7	107	1	107	8	115	1	115	0	115	1	115					
		Left-Through		0							0				0				0						
		Through	803	2	295	144	947	343	177	1047	2	379	144	1191	2	427	0	1191	2	427					
		Through-Right		1							1				1				1						
		Right	83	0	83	0	83	83	0	90	0	90	0	90	0	90	0	90	0	90					
		Left-Through-Right		0							0				0				0						
SOUTHBOUND		Left	71	1	71	0	71	71	9	86	1	86	0	86	1	86	0	86	1	86					
		Left-Through		0							0				0				0						
		Through	508	1	362	15	523	369	212	762	1	522	15	777	1	529	0	777	1	529					
		Through-Right		1							1				1				1						
		Right	215	0	215	0	215	215	48	281	0	281	0	281	0	281	0	281	0	281					
		Left-Through-Right		0							0				0				0						
EASTBOUND		Left	72	1	72	0	72	72	50	128	1	128	0	128	1	128	0	128	1	128					
		Left-Through		0							0				0				0						
		Through	710	1	372	0	710	373	11	780	1	412	0	780	1	413	0	780	1	413					
		Through-Right		1							1				1				1						
		Right	34	0	34	2	36	36	6	43	0	43	2	45	0	45	0	45	0	45					
		Left-Through-Right		0							0				0				0						
WESTBOUND		Left	31	1	31	0	31	31	4	38	1	38	0	38	1	38	0	38	1	38					
		Left-Through		0							0				0				0						
		Through	748	1	422	0	748	422	14	824	1	471	0	824	1	471	0	824	1	471					
		Through-Right		1							1				1				1						
		Right	96	0	96	0	96	96	14	118	0	118	0	118	0	118	0	118	0	118					
		Left-Through-Right		0							0				0				0						
CRITICAL VOLUMES			North-South: 454			North-South: 469			North-South: 629			North-South: 644			North-South: 644										
			East-West: 494			East-West: 494			East-West: 599			East-West: 599			East-West: 599										
			SUM: 948			SUM: 963			SUM: 1228			SUM: 1243			SUM: 1243										
VOLUME/CAPACITY (V/C) RATIO:			0.665			0.676			0.862			0.872			0.872										
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.565			0.576			0.762			0.772			0.772										
LEVEL OF SERVICE (LOS):			A			A			C			C			C										

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.010	Δv/c after mitigation:	0.010
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
15		East-West Street:		1st Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				3			3			3			3			3			3					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0								
ATSAC-1 or ATSAC+ATCS-2?				2			2			2			2			2			2					
Override Capacity				0			0			0			0			0			0					
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	27	1	27	2	29	29	7	36	1	36	2	38	1	38	0	38	1	38				
		Left-Through		0							0				0				0					
		Through	501	2	183	33	534	194	254	797	2	283	33	830	2	294	0	830	2	294				
		Through-Right		1							1				1				1					
		Right	48	0	48	0	48	48	0	52	0	52	0	52	0	52	0	52	0	52				
		Left-Through-Right		0							0				0				0					
SOUTHBOUND		Left	42	1	42	0	42	42	0	45	1	45	0	45	1	45	0	45	1	45				
		Left-Through		0							0				0				0					
		Through	684	1	429	70	754	464	129	870	1	529	70	940	1	564	0	940	1	564				
		Through-Right		1							1				1				1					
		Right	174	0	174	0	174	174	0	188	0	188	0	188	0	188	0	188	0	188				
		Left-Through-Right		0							0				0				0					
EASTBOUND		Left	106	1	106	0	106	106	0	115	1	115	0	115	1	115	0	115	1	115				
		Left-Through		0							0				0				0					
		Through	545	2	273	0	545	273	59	649	2	325	0	649	2	325	0	649	2	325				
		Through-Right		0							0				0				0					
		Right	41	1	28	9	50	36	2	46	1	28	9	55	1	36	0	55	1	36				
		Left-Through-Right		0							0				0				0					
WESTBOUND		Left	55	1	55	0	55	55	0	60	1	60	0	60	1	60	0	60	1	60				
		Left-Through		0							0				0				0					
		Through	729	2	365	0	729	365	34	823	2	412	0	823	2	412	0	823	2	412				
		Through-Right		0							0				0				0					
		Right	154	1	133	0	154	133	0	167	1	145	0	167	1	145	0	167	1	145				
		Left-Through-Right		0							0				0				0					
CRITICAL VOLUMES				North-South: 456 East-West: 471 SUM: 927			North-South: 493 East-West: 471 SUM: 964			North-South: 565 East-West: 527 SUM: 1092				North-South: 602 East-West: 527 SUM: 1129				North-South: 602 East-West: 527 SUM: 1129						
VOLUME/CAPACITY (V/C) RATIO:				0.651			0.676			0.766				0.792				0.792						
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.551			0.576			0.666				0.692				0.692						
LEVEL OF SERVICE (LOS):				A			A			B				B				B						

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.026	Δv/c after mitigation:	0.026
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
15		East-West Street:		1st Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				3			3			3			3			3			3					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0								
ATSAC-1 or ATSAC+ATCS-2?				2			2			2			2			2			2					
Override Capacity				0			0			0			0			0			0					
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	53	1	53	8	61	61	1	58	1	58	8	66	1	66	0	66	1	66				
		Left-Through		0						0				0		0		0						
		Through	839	2	316	152	991	367	172	1081	2	400	152	1233	2	451	0	1233	2	451				
		Through-Right		1						1				1		1		1						
		Right	110	0	110	0	110	110	0	119	0	119	0	119	0	119	0	119	0	119				
SOUTHBOUND		Left	61	1	61	0	61	61	0	66	1	66	0	66	1	66	0	66	1	66				
		Left-Through		0						0				0		0		0						
		Through	536	1	334	18	554	343	215	795	1	469	18	813	1	478	0	813	1	478				
		Through-Right		1						1				1		1		1						
		Right	131	0	131	0	131	131	0	142	0	142	0	142	0	142	0	142	0	142				
EASTBOUND		Left	235	1	235	0	235	235	0	254	1	254	0	254	1	254	0	254	1	254				
		Left-Through		0						0				0		0		0						
		Through	1087	2	544	0	1087	544	46	1223	2	612	0	1223	2	612	0	1223	2	612				
		Through-Right		0						0				0		0		0						
		Right	41	1	15	2	43	13	6	50	1	21	2	52	1	19	0	52	1	19				
WESTBOUND		Left	44	1	44	0	44	44	0	48	1	48	0	48	1	48	0	48	1	48				
		Left-Through		0						0				0		0		0						
		Through	709	2	355	0	709	355	74	842	2	421	0	842	2	421	0	842	2	421				
		Through-Right		0						0				0		0		0						
		Right	78	1	48	0	78	48	0	84	1	51	0	84	1	51	0	84	1	51				
CRITICAL VOLUMES	North-South: 387			428			527			544			544											
	East-West: 590			590			675			675			675											
	SUM: 977			1018			1202			1219			1219											
VOLUME/CAPACITY (V/C) RATIO:			0.686			0.714			0.844			0.855			0.855									
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.586			0.614			0.744			0.755			0.755									
LEVEL OF SERVICE (LOS):			A			B			C			C			C									

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.011	Δv/c after mitigation:	0.011
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:	Broadway			Year of Count: 2017		Ambient Growth (%):		1.0	Conducted by:	LLG Engineers	Date:	2/16/2018							
	16	East-West Street:	2nd Street			Projection Year: 2025		Peak Hour:		AM	Reviewed by:		Project:	222 West 2nd Project/1-15-4154-2						
No. of Phases		2			2		2		2		2		2							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		0		0		0		0							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0						
ATSAC-1 or ATSAC+ATCS-2?		EB-- 0	WB-- 0		EB-- 0	WB-- 0	EB-- 0	WB-- 0	EB-- 0	WB-- 0	EB-- 0	WB-- 0	EB-- 0	WB-- 0						
Override Capacity		2			2		2		2		2		2							
		0			0		0		0		0		0							
MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	47	1	47	1	48	48	0	51	1	51	1	52	1	52	0	52	1	52
		Left-Through		0							0			0				0		
		Through	556	2	224	35	591	236	169	771	2	304	35	806	2	316	0	806	2	316
		Through-Right		1						1			1			1		1		
		Right	116	0	116	2	118	118	15	141	0	141	2	143	0	143	0	143	0	143
		Left-Through-Right		0						0			0			0		0		
SOUTHBOUND		Left																		
		Left-Through	51	1	51	0	51	51	7	62	1	62	0	62	1	62	0	62	1	62
		Through	641	1	369	79	720	409	163	857	1	490	79	936	1	529	0	936	1	529
		Through-Right		1						1			1			1		1		
		Right	97	0	97	0	97	97	17	122	0	122	0	122	0	122	0	122	0	122
		Left-Through-Right		0						0			0			0		0		
EASTBOUND		Left																		
		Left-Through	4	0	4	0	4	4	0	4	0	4	0	4	0	4	0	4	0	4
		Through	571	0	327	19	590	360	105	723	0	410	19	742	0	443	0	742	0	443
		Through-Right		1						1			1			1		1		
		Right	74	0	327	47	121	360	0	80	0	410	47	127	0	443	0	127	0	443
		Left-Through-Right		0						0			0			0		0		
WESTBOUND		Left																		
		Left-Through	1	0	1	0	1	1	83	84	0	84	0	84	0	84	0	84	0	84
		Through	376	0	210	0	376	210	233	640	0	515	0	640	0	515	0	640	0	515
		Through-Right		1						1			1			1		1		
		Right	39	0	210	0	39	210	11	53	0	515	0	53	0	515	0	53	0	515
		Left-Through-Right		0						0			0			0		0		
CRITICAL VOLUMES		North-South: 416			North-South: 457			North-South: 541				North-South: 581				North-South: 581				
		East-West: 328			East-West: 361			East-West: 519				East-West: 527				East-West: 527				
		SUM: 744			SUM: 818			SUM: 1060				SUM: 1108				SUM: 1108				
VOLUME/CAPACITY (V/C) RATIO:		0.496			0.545			0.707				0.739				0.739				
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.396			0.445			0.607				0.639				0.639				
LEVEL OF SERVICE (LOS):		A			A			B				B				B				

REMARKS:

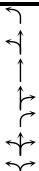
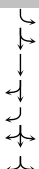
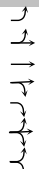
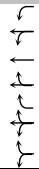
Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.032	Δv/c after mitigation:	0.032
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/16/2018	
16		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:		Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2					
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0								
ATSAC-1 or ATSAC+ATCS-2?					0			0			0			0			0			0					
Override Capacity					2			2			2			2			2			2					
					0			0			0			0			0			0					
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	97	1	97	4	101	101	5	110	1	110	4	114	1	114	0	114	1	114					
		Left-Through		0							0				0				0						
		Through	989	2	354	161	1150	410	274	1345	2	478	161	1506	2	535	0	1506	2	535					
		Through-Right		1							1				1				1						
		Right	73	0	73	8	81	81	11	90	0	90	8	98	0	98	0	98	0	98					
		Left-Through-Right		0							0				0				0						
SOUTHBOUND		Left	26	1	26	0	26	26	15	43	1	43	0	43	1	43	0	43	1	43					
		Left-Through		0							0				0				0						
		Through	589	1	312	20	609	322	171	809	1	424	20	829	1	434	0	829	1	434					
		Through-Right		1							1				1				1						
		Right	34	0	34	0	34	34	2	39	0	39	0	39	0	39	0	39	0	39					
		Left-Through-Right		0							0				0				0						
EASTBOUND		Left	11	0	11	0	11	11	3	15	0	15	0	15	0	15	0	15	0	15					
		Left-Through		1							1				1				1						
		Through	593	0	347	5	598	356	217	859	0	504	5	864	0	512	0	864	0	512					
		Through-Right		1							1				1				1						
		Right	79	0	347	12	91	356	2	88	0	504	12	100	0	512	0	100	0	512					
		Left-Through-Right		0							0				0				0						
WESTBOUND		Left	3	0	3	0	3	3	24	27	0	27	0	27	0	27	0	27	0	27					
		Left-Through		1							1				1				1						
		Through	488	0	271	0	488	271	188	716	0	439	0	716	0	439	0	716	0	439					
		Through-Right		1							1				1				1						
		Right	41	0	271	0	41	271	9	53	0	439	0	53	0	439	0	53	0	439					
		Left-Through-Right		0							0				0				0						
CRITICAL VOLUMES			North-South: 409		436		North-South: 534		531		North-South: 578		539		North-South: 578		539								
			East-West: 350		359		East-West: 531		506		East-West: 539		517		East-West: 539		517								
			SUM: 759		795		SUM: 1065		1117		SUM: 1117		1117		SUM: 1117		1117								
VOLUME/CAPACITY (V/C) RATIO:			0.506		0.530		0.710		0.745		0.745		0.745												
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.406		0.430		0.610		0.645		0.645		0.645												
LEVEL OF SERVICE (LOS):			A		A		B		B		B		B												

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.035	Δv/c after mitigation:	0.035
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/16/2018	
17		East-West Street:			3rd Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?								3			3			3			3			3			3		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0		
Override Capacity					2			2			2			2			2			2			2		
					0			0			0			0			0			0			0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	69	0	69	0	69	69	0	75	0	75	0	75	0	75	0	75	0	75					
		Left-Through		1						1				1				1							
		Through	382	1	260	177	559	349	154	568	1	434	177	745	1	523	0	745	1	523					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0				0				0							
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0						0				0				0							
		Through	277	1	277	7	284	284	145	445	1	445	7	452	1	452	0	452	1	452					
		Through-Right		0						0				0				0							
		Right	125	1	125	30	155	155	96	231	1	231	30	261	1	261	0	261	1	261					
		Left-Through-Right		0						0				0				0							
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0						0				0				0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0				0				0							
WESTBOUND		Left	12	1	12	2	14	14	0	13	1	13	2	15	1	15	0	15	1	15					
		Left-Through		0						0				0				0							
		Through	1450	2	725	4	1454	727	217	1787	2	622	4	1791	2	631	0	1791	2	631					
		Through-Right		0						0				0				0							
		Right	71	1	71	22	93	93	2	79	0	79	22	101	0	101	0	101	0	101					
		Left-Through-Right		0						0				0				0							
CRITICAL VOLUMES			North-South: 346			North-South: 353			North-South: 520			North-South: 527			North-South: 527										
			East-West: 725			East-West: 727			East-West: 622			East-West: 631			East-West: 631										
			SUM: 1071			SUM: 1080			SUM: 1142			SUM: 1158			SUM: 1158										
VOLUME/CAPACITY (V/C) RATIO:			0.752			0.758			0.801			0.813			0.813										
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.652			0.658			0.701			0.713			0.713										
LEVEL OF SERVICE (LOS):			B			B			C			C			C										

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.012	Δv/c after mitigation:	0.012
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Broadway			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/16/2018		
17		East-West Street:		3rd Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				NB-- EB--		0 0		SB-- WB--		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	99	0	99	0	99	99	0	107	0	107	0	107	0	107	0	107	0	107	0	107			
		Left-Through		1							1			1			1			1					
		Through	658	1	428	45	703	451	265	978	1	703	45	1023	1	726	0	1023	1	726	0	726			
		Through-Right		0						0				0			0			0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Left-Through		0						0			0			0			0			0			
		Through	320	1	320	34	354	354	159	506	1	506	34	540	1	540	0	540	1	540	0	540			
		Through-Right		0						0				0			0			0					
		Right	105	1	105	135	240	240	37	151	1	151	135	286	1	286	0	286	1	286	0	286			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Left-Through		0						0			0			0			0			0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Through-Right		0						0				0			0			0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
WESTBOUND		Left	56	1	56	8	64	64	0	61	1	61	8	69	1	69	0	69	1	69	0	69			
		Left-Through		0						0			0			0			0			0			
		Through	1007	2	504	17	1024	512	294	1384	2	493	17	1401	2	519	0	1401	2	519	0	519			
		Through-Right		0						1				1			1			1					
		Right	81	1	81	62	143	143	6	94	0	94	62	156	0	156	0	156	0	156	0	156			
CRITICAL VOLUMES				North-South:		428		North-South:		453		North-South:		703		North-South:		726		North-South:		726			
				East-West:		504		East-West:		512		East-West:		493		East-West:		519		East-West:		519			
				SUM:		932		SUM:		965		SUM:		1196		SUM:		1245		SUM:		1245			
VOLUME/CAPACITY (V/C) RATIO:						0.654				0.677				0.839				0.874				0.874			
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.554				0.577				0.739				0.774				0.774			
LEVEL OF SERVICE (LOS):						A				A				C				C				C			

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.035	Δv/c after mitigation:	0.035
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Broadway		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
18		East-West Street:		4th Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2		2				2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?						2		2				2				2				2	
Override Capacity						0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0					0				0		
		Through	470	1	277	70	540	312	132	641	1	485	70	711	1	520	0	711	1	520	
		Through-Right		1						1					1				1		
		Right	83	0	83	0	83	83	239	329	0	329	0	329	0	329	0	329	0	329	
		Left-Through-Right		0						0					0				0		
SOUTHBOUND		Left	6	0	6	0	6	6	0	6	0	6	0	6	0	6	0	6	0	6	
		Left-Through		1						1					1				1		
		Through	375	0	381	9	384	390	145	551	0	557	9	560	0	566	0	560	0	566	
		Through-Right		0						0					0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0					0				0		
EASTBOUND		Left	91	0	91	107	198	198	48	147	0	147	107	254	0	254	0	254	0	254	
		Left-Through		1						1					1				1		
		Through	755	2	227	0	755	254	518	1336	2	388	0	1336	2	414	0	1336	2	414	
		Through-Right		1						1					1				1		
		Right	62	0	227	0	62	254	0	67	0	388	0	67	0	414	0	67	0	414	
		Left-Through-Right		0						0					0				0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0					0				0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0					0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0					0				0		
CRITICAL VOLUMES				North-South: 381		North-South: 390		North-South: 557		North-South: 566		North-South: 566		North-South: 566		North-South: 566		North-South: 566			
				East-West: 227		East-West: 254		East-West: 388		East-West: 414		East-West: 414		East-West: 414		East-West: 414		East-West: 414			
				SUM: 608		SUM: 644		SUM: 945		SUM: 980		SUM: 980		SUM: 980		SUM: 980		SUM: 980			
VOLUME/CAPACITY (V/C) RATIO:				0.405		0.429		0.630		0.653		0.653		0.653		0.653		0.653			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.305		0.329		0.530		0.553		0.553		0.553		0.553		0.553			
LEVEL OF SERVICE (LOS):				A		A		A		A		A		A		A		A			

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.023	Δv/c after mitigation:	0.023
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Broadway		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
18		East-West Street:		4th Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2		2		2		2		2		2		2		2		2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?				0		0		0		0		0		0		0		0		0	
Override Capacity				2		2		2		2		2		2		2		2		2	
				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0					0				0		
		Through	721	1	436	18	739	445	197	978	1	637	18	996	1	646	0	996	1	646	
		Through-Right		1						1					1				1		
		Right	150	0	150	0	150	150	134	296	0	296	0	296	0	296	0	296	0	296	
		Left-Through-Right		0						0					0				0		
SOUTHBOUND		Left	7	0	7	0	7	7	0	8	0	8	0	8	0	8	0	8	0	8	
		Left-Through		1						1					1				1		
		Through	398	0	405	42	440	447	159	590	0	598	42	632	0	640	0	632	0	640	
		Through-Right		0						0					0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0					0				0		
EASTBOUND		Left	137	0	137	27	164	164	83	231	0	231	27	258	0	258	0	258	0	258	
		Left-Through		1						1					1				1		
		Through	1254	2	370	0	1254	376	502	1860	2	546	0	1860	2	553	0	1860	2	553	
		Through-Right		1						1					1				1		
		Right	87	0	370	0	87	376	0	94	0	546	0	94	0	553	0	94	0	553	
		Left-Through-Right		0						0					0				0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0					0				0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0					0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0					0				0		
CRITICAL VOLUMES				North-South: 443		North-South: 452		North-South: 645		North-South: 654		North-South: 654		North-South: 654		North-South: 654		North-South: 654			
				East-West: 370		East-West: 376		East-West: 546		East-West: 546		East-West: 553		East-West: 553		East-West: 553		East-West: 553			
				SUM: 813		SUM: 828		SUM: 1191		SUM: 1207		SUM: 1207		SUM: 1207		SUM: 1207		SUM: 1207			
VOLUME/CAPACITY (V/C) RATIO:				0.542		0.552		0.794		0.805		0.805		0.805		0.805		0.805		0.805	
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.442		0.452		0.694		0.705		0.705		0.705		0.705		0.705		0.705	
LEVEL OF SERVICE (LOS):				A		A		B		C		C		C		C		C		C	

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.011	Δv/c after mitigation:	0.011
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Spring Street			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
	19	East-West Street:		US-101 NB Off-Ramp			Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0			0			
Override Capacity			1000			1000			1000			1000			1000			1000			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0					0		0		0		0		0		0		
		Through	34	2	17	0	34	17	4	41	2	21	0	41	2	21	0	41	2	21	
		Through-Right		0					0		0		0		0		0		0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0					0		0		0		0		0		0		
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0					0		0		0		0		0		0		
		Through	705	2	353	23	728	364	142	905	2	453	23	928	2	464	0	928	2	464	
		Through-Right		0					0		0		0		0		0		0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0					0		0		0		0		0		0		
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0					0		0		0		0		0		0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Through-Right		0					0		0		0		0		0		0		
		Right	62	2	34	37	99	54	72	139	2	76	37	176	2	97	0	176	2	97	
		Left-Through-Right		0					0		0		0		0		0		0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0					0		0		0		0		0		0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Through-Right		0					0		0		0		0		0		0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0					0		0		0		0		0		0		
CRITICAL VOLUMES			North-South: 353 East-West: 34 SUM: 387			North-South: 364 East-West: 54 SUM: 418			North-South: 453 East-West: 76 SUM: 529				North-South: 464 East-West: 97 SUM: 561				North-South: 464 East-West: 97 SUM: 561				
VOLUME/CAPACITY (V/C) RATIO:			0.387			0.418			0.529				0.561				0.561				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.387			0.418			0.529				0.561				0.561				
LEVEL OF SERVICE (LOS):			A			A			A				A				A				

REMARKS:



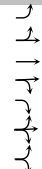
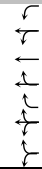
Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.032	Δv/c after mitigation:	0.032
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
19		East-West Street:		US-101 NB Off-Ramp		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				0		0		0		0		0		0		0		0		0	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?				0		0		0		0		0		0		0		0		0	
Override Capacity				1000		1000		1000		1000		1000		1000		1000		1000		1000	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	47	2	24	0	47	24	3	54	2	27	0	54	2	27	0	54	2	27	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	383	2	192	6	389	195	212	627	2	314	6	633	2	317	0	633	2	317	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	108	2	59	9	117	64	111	228	2	125	9	237	2	130	0	237	2	130	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 192		North-South: 195		North-South: 314		North-South: 317		North-South: 317		North-South: 317		North-South: 317		North-South: 317			
				East-West: 59		East-West: 64		East-West: 125		East-West: 130		East-West: 130		East-West: 130		East-West: 130		East-West: 130			
				SUM: 251		SUM: 259		SUM: 439		SUM: 447		SUM: 447		SUM: 447		SUM: 447		SUM: 447			
VOLUME/CAPACITY (V/C) RATIO:				0.251		0.259		0.439		0.447		0.447		0.447		0.447		0.447			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.251		0.259		0.439		0.447		0.447		0.447		0.447		0.447			
LEVEL OF SERVICE (LOS):				A		A		A		A		A		A		A		A			

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.008	Δv/c after mitigation:	0.008
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Spring Street			Year of Count: 2017			Ambient Growth (%):			1.0	Conducted by: LLG Engineers		Date:		10/26/2017			
20	East-West Street:		Aliso Street			Projection Year: 2025			Peak Hour:			AM	Reviewed by:		Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2			2			2			2		
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0			0		
Override Capacity			0			0			0			0			0			0		
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0			0			
		Through	45	1	34	0	45	34	0	49	1	37	0	49	1	37	0	49	1	37
		Through-Right		1						1				1			1			
		Left-Through-Right	23	0	23	0	23	23	0	25	0	25	0	25	0	25	0	25	0	25
		Left-Right		0							0				0			0		
SOUTHBOUND		Left	154	1	154	0	154	154	7	174	1	174	0	174	1	174	0	174	1	174
		Left-Through		0						0				0			0			
		Through	1536	3	512	98	1634	545	227	1890	3	630	98	1988	3	663	0	1988	3	663
		Through-Right		0						0				0			0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0			0		
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0			0			
		Through	298	2	149	15	313	157	82	405	2	203	15	420	2	210	0	420	2	210
		Through-Right		1						1				1			1			
		Right	168	0	168	0	168	168	80	262	0	262	0	262	0	262	0	262	0	262
		Left-Through-Right		0							0				0			0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0			0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0			0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0			0		
CRITICAL VOLUMES			North-South: 512 East-West: 168 SUM: 680			North-South: 545 East-West: 168 SUM: 713			North-South: 630 East-West: 262 SUM: 892			North-South: 663 East-West: 262 SUM: 925			North-South: 663 East-West: 262 SUM: 925					
VOLUME/CAPACITY (V/C) RATIO:			0.453			0.475			0.595			0.617			0.617					
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.353			0.375			0.495			0.517			0.517					
LEVEL OF SERVICE (LOS):			A			A			A			A			A					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.022	Δv/c after mitigation:	0.022
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Spring Street			Year of Count: 2017			Ambient Growth (%):			1.0	Conducted by: LLG Engineers		Date:	10/26/2017				
20	East-West Street:		Aliso Street			Projection Year: 2025			Peak Hour:			PM	Reviewed by:		Project:	222 West 2nd Project/1-15-4154-2				
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity			NB-- 0 SB-- 0 EB-- 0 WB-- 0		2 0 0 2 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		2 0 0 2 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		2 0 0 2 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		2 0 0 2 0			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0			0			
		Through	44	1	44	0	44	44	0	48	1	48	0	48	1	48	0	48	1	48
		Through-Right		1						1				1			1			
		Left-Through-Right	62	0	62	0	62	62	0	67	0	67	0	67	0	67	0	67	0	67
		Left-Right		0						0				0			0			
SOUTHBOUND		Left	113	1	113	0	113	113	8	130	1	130	0	130	1	130	0	130	1	130
		Left-Through		0						0				0			0			
		Through	603	3	201	25	628	209	339	992	3	331	25	1017	3	339	0	1017	3	339
		Through-Right		0						0				0			0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Left-Through-Right		0						0				0			0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0			0			
		Through	482	2	168	68	550	190	73	595	2	216	68	663	2	238	0	663	2	238
		Through-Right		1						1				1			1			
		Right	21	0	21	0	21	21	29	52	0	52	0	52	0	52	0	52	0	52
		Left-Through-Right		0						0				0			0			
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0			0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Through-Right		0						0				0			0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Left-Through-Right		0						0				0			0			
CRITICAL VOLUMES			North-South: 201 East-West: 168 SUM: 369		North-South: 209 East-West: 190 SUM: 399		North-South: 331 East-West: 216 SUM: 547		North-South: 339 East-West: 238 SUM: 577		North-South: 339 East-West: 238 SUM: 577									
VOLUME/CAPACITY (V/C) RATIO:			0.246		0.266		0.365		0.385		0.385									
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.146		0.166		0.265		0.285		0.285									
LEVEL OF SERVICE (LOS):			A		A		A		A		A									

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.020	Δv/c after mitigation:	0.020
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Spring Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/26/2017	
21		East-West Street:			Temple Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							3				3				3				3				3		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0		0		0		0		0		0		0		0		0		0		
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0		0		0		0		0		0		0		0		0		0		
Override Capacity							2				2				2				2				2		
							0				0				0				0				0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1					
		Left-Through		1							1				1				1						
		Through	71	0	40	0	71	40	0	77	0	43	0	77	0	43	0	77	0	43					
		Through-Right		1							1				1				1						
		Left-Through-Right	3	0	40	0	3	40	0	3	0	43	0	3	0	43	0	3	0	43					
		Left-Right		0							0				0				0						
SOUTHBOUND		Left	69	0	69	0	69	69	4	79	0	79	0	79	0	79	0	79	0	79					
		Left-Through		1							1				1				1						
		Through	1520	2	530	98	1618	562	214	1860	2	646	98	1958	2	679	0	1958	2	679					
		Through-Right		0							0				0				0						
		Right	146	1	146	0	146	146	6	164	1	164	0	164	1	164	0	164	1	164					
		Left-Through-Right		0							0				0				0						
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through		0							0				0				0						
		Through	590	1	389	0	590	389	62	701	1	455	0	701	1	455	0	701	1	455					
		Through-Right		1							1				1				1						
		Right	188	0	188	0	188	188	5	209	0	209	0	209	0	209	0	209	0	209					
		Left-Through-Right		0							0				0				0						
WESTBOUND		Left	92	1	92	0	92	92	0	100	1	100	0	100	1	100	0	100	1	100					
		Left-Through		0							0				0				0						
		Through	592	2	296	0	592	296	13	654	2	327	0	654	2	327	0	654	2	327					
		Through-Right		0							0				0				0						
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0							0				0				0						
CRITICAL VOLUMES			North-South: 531 East-West: 481 SUM: 1012			North-South: 563 East-West: 481 SUM: 1044			North-South: 647 East-West: 555 SUM: 1202			North-South: 680 East-West: 555 SUM: 1235			North-South: 680 East-West: 555 SUM: 1235										
VOLUME/CAPACITY (V/C) RATIO:			0.710			0.733			0.844			0.867			0.867										
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.610			0.633			0.744			0.767			0.767										
LEVEL OF SERVICE (LOS):			B			B			C			C			C										

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.023	Δv/c after mitigation:	0.023
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Spring Street			Year of Count: 2017			Ambient Growth (%):			1.0	Conducted by: LLG Engineers		Date:		10/26/2017			
21	East-West Street:		Temple Street			Projection Year: 2025			Peak Hour:			PM	Reviewed by:		Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			3			3			3			3		3		3				
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0				
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2		2		2				
Override Capacity			0			0			0			0		0		0				
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		1						1				1				1		
		Through	108	0	55	0	108	55	0	117	0	59	0	117	0	59	0	117	0	59
		Through-Right		1						1				1				1		
		Left-Through-Right	1	0	55	0	1	55	0	1	0	59	0	1	0	59	0	1	0	59
		Left-Right		0						0				0				0		
SOUTHBOUND		Left	29	0	29	0	29	29	13	44	0	44	0	44	0	44	0	44	0	44
		Left-Through		1						1				1				1		
		Through	531	2	187	25	556	195	351	926	2	323	25	951	2	332	0	951	2	332
		Through-Right		0						0				0				0		
		Right	55	1	55	0	55	55	7	67	1	67	0	67	1	67	0	67	1	67
		Left-Through-Right		0						0				0				0		
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0		
		Through	806	1	435	0	806	435	34	907	1	492	0	907	1	492	0	907	1	492
		Through-Right		1						1				1				1		
		Right	63	0	63	0	63	63	8	76	0	76	0	76	0	76	0	76	0	76
		Left-Through-Right		0						0				0				0		
WESTBOUND		Left	64	1	64	0	64	64	0	69	1	69	0	69	1	69	0	69	1	69
		Left-Through		0						0				0				0		
		Through	831	2	416	0	831	416	68	968	2	484	0	968	2	484	0	968	2	484
		Through-Right		0						0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Left-Through-Right		0						0				0				0		
CRITICAL VOLUMES			North-South: 187 East-West: 499 SUM: 686			North-South: 195 East-West: 499 SUM: 694			North-South: 323 East-West: 561 SUM: 884			North-South: 332 East-West: 561 SUM: 893			North-South: 332 East-West: 561 SUM: 893					
VOLUME/CAPACITY (V/C) RATIO:			0.481			0.487			0.620			0.627			0.627					
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.381			0.387			0.520			0.527			0.527					
LEVEL OF SERVICE (LOS):			A			A			A			A			A					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.007	Δv/c after mitigation:	0.007
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
22		East-West Street:		1st Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				3		3				3				3				3			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0				0				0				0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0		0				0				0				0			
ATSAC-1 or ATSAC+ATCS-2?				2		2				2				2				2			
Override Capacity				0		0				0				0				0			
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	63	0	63	0	63	63	0	68	0	68	0	68	0	68	0	68	0	68	
		Left-Through		1						1				1				1			
		Through	1105	2	389	98	1203	422	217	1414	2	494	98	1512	2	527	0	1512	2	527	
		Through-Right		0						0				0				0			
		Right	228	1	228	0	228	228	0	247	1	247	0	247	1	247	0	247	1	247	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	
		Left-Through		0						0				0				0			
		Through	506	2	204	0	506	204	59	607	2	240	0	607	2	240	0	607	2	240	
		Through-Right		1						1				1				1			
		Right	105	0	105	0	105	105	0	114	0	114	0	114	0	114	0	114	0	114	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	92	1	92	0	92	92	0	100	1	100	0	100	1	100	0	100	1	100	
		Left-Through		0						0				0				0			
		Through	684	2	342	0	684	342	34	775	2	388	0	775	2	388	0	775	2	388	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES		North-South: 389		389		North-South: 422		422		North-South: 494		494		North-South: 527		527		North-South: 527		527	
		East-West: 342		342		East-West: 342		342		East-West: 388		388		East-West: 388		388		East-West: 388		388	
		SUM: 731		731		SUM: 764		764		SUM: 882		882		SUM: 915		915		SUM: 915		915	
VOLUME/CAPACITY (V/C) RATIO:				0.513				0.536				0.619				0.642				0.642	
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.413				0.436				0.519				0.542				0.542	
LEVEL OF SERVICE (LOS):				A				A				A				A				A	

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.023	Δv/c after mitigation:	0.023
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
22		East-West Street:		1st Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				3		3		3		3		3		3		3		3		3	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0	
ATSAC-1 or ATSAC+ATCS-2?				2		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0					0			0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0					0			0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0					0			0			
SOUTHBOUND		Left	26	0	26	0	26	26	0	28	0	28	0	28	0	28	0	28	0	28	
		Left-Through		1						1				1			1				
		Through	511	2	179	25	536	187	356	909	2	312	25	934	2	321	0	934	2	321	
		Through-Right		0						0				0			0				
		Right	85	1	85	0	85	85	0	92	1	92	0	92	1	92	0	92	1	92	
		Left-Through-Right		0						0				0			0				
EASTBOUND		Left	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	
		Left-Through		0						0				0			0				
		Through	1053	2	368	0	1053	368	46	1186	2	414	0	1186	2	414	0	1186	2	414	
		Through-Right		1						1				1			1				
		Right	52	0	52	0	52	52	0	56	0	56	0	56	0	56	0	56	0	56	
		Left-Through-Right		0						0				0			0				
WESTBOUND		Left	44	1	44	0	44	44	0	48	1	48	0	48	1	48	0	48	1	48	
		Left-Through		0						0				0			0				
		Through	712	2	356	0	712	356	74	845	2	423	0	845	2	423	0	845	2	423	
		Through-Right		0						0				0			0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0			0				
CRITICAL VOLUMES				North-South: 179 East-West: 412 SUM: 591		North-South: 187 East-West: 412 SUM: 599		North-South: 312 East-West: 462 SUM: 774				North-South: 321 East-West: 462 SUM: 783				North-South: 321 East-West: 462 SUM: 783					
VOLUME/CAPACITY (V/C) RATIO:				0.415		0.420		0.543				0.549				0.549					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.315		0.320		0.443				0.449				0.449					
LEVEL OF SERVICE (LOS):				A		A		A				A				A					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.006	Δv/c after mitigation:	0.006
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Spring Street			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
	23	East-West Street:		2nd Street			Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2			2			2			2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2			2			
Override Capacity			0			0			0			0			0			0			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	25	0	25	0	25	25	0	27	0	27	0	27	0	27	0	27	0	27	
		Left-Through		1						1				1				1			
		Through	1109	2	378	98	1207	411	197	1398	2	475	98	1496	2	508	0	1496	2	508	
		Through-Right		0						0				0				0			
		Right	86	1	86	0	86	86	20	113	1	113	0	113	1	113	0	113	1	113	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	363	1	363	2	365	365	85	478	1	478	2	480	1	480	0	480	1	480	
		Through-Right		0						0				0				0			
		Right	318	1	318	19	337	337	73	417	1	417	19	436	1	436	0	436	1	436	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	108	1	108	37	145	145	29	146	1	146	37	183	1	183	0	183	1	183	
		Left-Through		0						0				0				0			
		Through	349	1	349	0	349	349	160	538	1	538	0	538	1	538	0	538	1	538	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES			North-South: 378 East-West: 471 SUM: 849			North-South: 411 East-West: 510 SUM: 921			North-South: 475 East-West: 624 SUM: 1099				North-South: 508 East-West: 663 SUM: 1171				North-South: 508 East-West: 663 SUM: 1171				
VOLUME/CAPACITY (V/C) RATIO:			0.566			0.614			0.733				0.781				0.781				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.466			0.514			0.633				0.681				0.681				
LEVEL OF SERVICE (LOS):			A			A			B				B				B				

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.048	Δv/c after mitigation:	0.048
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Spring Street			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
	23	East-West Street:		2nd Street			Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2			2			2			2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2			2			
Override Capacity			0			0			0			0			0			0			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	15	0	15	0	15	15	0	16	0	16	0	16	0	16	0	16	0	16	
		Left-Through		1						1				1				1			
		Through	501	2	172	25	526	180	294	837	2	284	25	862	2	293	0	862	2	293	
		Through-Right		0						0				0				0			
		Right	24	1	24	0	24	24	62	88	1	88	0	88	1	88	0	88	1	88	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	486	1	486	8	494	494	150	676	1	676	8	684	1	684	0	684	1	684	
		Through-Right		0						0				0				0			
		Right	177	1	177	5	182	182	49	241	1	241	5	246	1	246	0	246	1	246	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	56	1	56	9	65	65	32	93	1	93	9	102	1	102	0	102	1	102	
		Left-Through		0						0				0				0			
		Through	534	1	534	0	534	534	149	727	1	727	0	727	1	727	0	727	1	727	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES			North-South: 172 East-West: 542 SUM: 714			North-South: 180 East-West: 559 SUM: 739			North-South: 284 East-West: 769 SUM: 1053				North-South: 293 East-West: 786 SUM: 1079				North-South: 293 East-West: 786 SUM: 1079				
VOLUME/CAPACITY (V/C) RATIO:			0.476			0.493			0.702				0.719				0.719				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.376			0.393			0.602				0.619				0.619				
LEVEL OF SERVICE (LOS):			A			A			B				B				B				

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.017	Δv/c after mitigation:	0.017
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
24		East-West Street:		3rd Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2		2		2		2		2		2		2		2		2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	1040	3	347	12	1052	351	281	1407	3	469	12	1419	3	473	0	1419	3	473	
		Through-Right		0						0				0				0			
		Right	236	1	236	19	255	255	0	256	1	256	19	275	1	275	0	275	1	275	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	486	1	486	0	486	486	91	617	1	617	0	617	1	617	0	617	1	617	
		Left-Through		0						0				0				0			
		Through	1302	2	651	9	1311	656	274	1684	2	842	9	1693	2	847	0	1693	2	847	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 347 East-West: 651 SUM: 998		North-South: 351 East-West: 656 SUM: 1007		North-South: 469 East-West: 842 SUM: 1311				North-South: 473 East-West: 847 SUM: 1320				North-South: 473 East-West: 847 SUM: 1320					
VOLUME/CAPACITY (V/C) RATIO:				0.665		0.671		0.874				0.880				0.880					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.565		0.571		0.774				0.780				0.780					
LEVEL OF SERVICE (LOS):				A		A		C				C				C					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.006	Δv/c after mitigation:	0.006
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
24		East-West Street:		3rd Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2		2				2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		0		0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?						2		2				2				2				2	
Override Capacity						0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	698	3	233	55	753	251	361	1117	3	372	55	1172	3	391	0	1172	3	391	
		Through-Right		0						0				0				0			
		Right	276	1	276	85	361	361	0	299	1	299	85	384	1	384	0	384	1	384	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	326	1	326	0	326	326	134	487	1	487	0	487	1	487	0	487	1	487	
		Left-Through		0						0				0				0			
		Through	1133	2	567	2	1135	568	343	1570	2	785	2	1572	2	786	0	1572	2	786	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 276 East-West: 567 SUM: 843		North-South: 361 East-West: 568 SUM: 929		North-South: 372 East-West: 785 SUM: 1157				North-South: 391 East-West: 786 SUM: 1177				North-South: 391 East-West: 786 SUM: 1177					
VOLUME/CAPACITY (V/C) RATIO:				0.562		0.619		0.771				0.785				0.785					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.462		0.519		0.671				0.685				0.685					
LEVEL OF SERVICE (LOS):				A		A		B				B				B					

REMARKS:



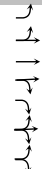
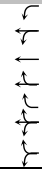
Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.014	Δv/c after mitigation:	0.014
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
25		East-West Street:		4th Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2		2				2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 0 WB-- 0		0		0		EB-- 0 WB-- 0		0		0		0		EB-- 0 WB-- 0		0	
Override Capacity						2		2				2				2				2	
						0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0			0				0		0	
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0			0				0		0	
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0			0				0		0	
SOUTHBOUND		Left	336	0	336	5	341	341	126	490	0	490	5	495	0	495	0	495	0	495	
		Left-Through		1							1			1				1			
		Through	1168	2	501	7	1175	505	310	1575	2	688	7	1582	2	692	0	1582	2	692	
		Through-Right		0							0			0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0			0				0		0	
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0			0				0			
		Through	649	3	204	0	649	204	317	1020	3	340	0	1020	3	340	0	1020	3	340	
		Through-Right		1							1			1				1			
		Right	166	0	166	0	166	166	172	352	0	352	0	352	0	352	0	352	0	352	
		Left-Through-Right		0							0			0				0		0	
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0			0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0			0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0			0				0		0	
CRITICAL VOLUMES				North-South: 501		North-South: 505		North-South: 688		North-South: 692		North-South: 692		North-South: 692		North-South: 692		North-South: 692			
				East-West: 204		East-West: 204		East-West: 352		East-West: 352		East-West: 352		East-West: 352		East-West: 352		East-West: 352			
				SUM: 705		SUM: 709		SUM: 1040		SUM: 1044		SUM: 1044		SUM: 1044		SUM: 1044		SUM: 1044			
VOLUME/CAPACITY (V/C) RATIO:				0.470		0.473		0.693		0.696		0.696		0.696		0.696		0.696			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.370		0.373		0.593		0.596		0.596		0.596		0.596		0.596			
LEVEL OF SERVICE (LOS):				A		A		A		A		A		A		A		A			



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Spring Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
25		East-West Street:		4th Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2		2		2		2		2		2		2		2		2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	398	0	398	21	419	419	106	537	0	537	21	558	0	558	0	558	0	558	
		Left-Through		1						1				1				1			
		Through	940	2	446	34	974	464	362	1380	2	639	34	1414	2	657	0	1414	2	657	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	1369	3	392	0	1369	392	458	1940	3	619	0	1940	3	619	0	1940	3	619	
		Through-Right		1						1				1				1			
		Right	198	0	198	0	198	198	322	536	0	536	0	536	0	536	0	536	0	536	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 446 East-West: 392 SUM: 838		North-South: 464 East-West: 392 SUM: 856		North-South: 639 East-West: 619 SUM: 1258				North-South: 657 East-West: 619 SUM: 1276				North-South: 657 East-West: 619 SUM: 1276					
VOLUME/CAPACITY (V/C) RATIO:				0.559		0.571		0.839				0.851				0.851					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.459		0.471		0.739				0.751				0.751					
LEVEL OF SERVICE (LOS):				A		A		C				C				C					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.012	Δv/c after mitigation:	0.012
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:	Main Street			Year of Count:		2017	Ambient Growth (%):			1.0	Conducted by:		LLG Engineers		Date:		10/18/2017	
26	East-West Street:	1st Street			Projection Year:		2025	Peak Hour:			AM	Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases		3			3		3			3		3		3		3		3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		0			0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB-- 0		NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	NB-- 0	SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?		2			2		2			2		2		2		2		2	
Override Capacity		0			0		0			0		0		0		0		0	
MOVEMENT		EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
		Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	48	0	48	0	48	48	12	64	0	64	0	64	0	64	0	64	0	64
	Left-Through		1							1			1					1	
	Through	466	2	149	0	466	149	311	816	2	242	0	816	2	242	0	816	2	242
	Through-Right		1							1			1					1	
	Right	80	0	149	0	80	149	0	87	0	242	0	87	0	242	0	87	0	242
	Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0		
SOUTHBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		0							0			0					0	
	Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Through-Right		0							0			0					0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0		
EASTBOUND	Left	125	1	125	0	125	125	0	135	1	135	0	135	1	135	0	135	1	135
	Left-Through		0							0			0					0	
	Through	523	2	262	0	523	262	12	578	2	289	0	578	2	289	0	578	2	289
	Through-Right		0							0			0					0	
	Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0		
WESTBOUND	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Left-Through		0							0			0					0	
	Through	688	2	344	0	688	344	16	761	2	381	0	761	2	381	0	761	2	381
	Through-Right		0							0			0					0	
	Right	84	1	84	0	84	84	0	91	1	91	0	91	1	91	0	91	1	91
	Left-Through-Right		0							0				0				0	
Left-Right		0							0				0				0		
CRITICAL VOLUMES		North-South: 149 East-West: 469 SUM: 618			North-South: 149 East-West: 469 SUM: 618			North-South: 242 East-West: 516 SUM: 758				North-South: 242 East-West: 516 SUM: 758				North-South: 242 East-West: 516 SUM: 758			
VOLUME/CAPACITY (V/C) RATIO:		0.434			0.434			0.532				0.532				0.532			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.334			0.334			0.432				0.432				0.432			
LEVEL OF SERVICE (LOS):		A			A			A				A				A			

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Main Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
26		East-West Street:		1st Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				3			3			3			3			3			3					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0								
ATSAC-1 or ATSAC+ATCS-2?				2			2			2			2			2			2					
Override Capacity				0			0			0			0			0			0					
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	59	0	59	0	59	59	8	72	0	72	0	72	0	72	0	72	0	72				
		Left-Through		1							1				1				1					
		Through	1498	2	421	0	1498	421	323	1945	2	539	0	1945	2	539	0	1945	2	539				
		Through-Right		1							1				1				1					
		Right	127	0	421	0	127	421	0	138	0	539	0	138	0	539	0	138	0	539				
		Left-Through-Right		0							0				0				0					
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0							0				0				0					
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0							0				0				0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0							0				0				0					
EASTBOUND		Left	152	1	152	0	152	152	0	165	1	165	0	165	1	165	0	165	1	165				
		Left-Through		0							0				0				0					
		Through	850	2	425	0	850	425	24	944	2	472	0	944	2	472	0	944	2	472				
		Through-Right		0							0				0				0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0							0				0				0					
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0							0				0				0					
		Through	691	2	346	0	691	346	19	767	2	384	0	767	2	384	0	767	2	384				
		Through-Right		0							0				0				0					
		Right	74	1	74	0	74	74	0	80	1	80	0	80	1	80	0	80	1	80				
		Left-Through-Right		0							0				0				0					
CRITICAL VOLUMES				North-South: 421 East-West: 498 SUM: 919			North-South: 421 East-West: 498 SUM: 919			North-South: 539 East-West: 549 SUM: 1088				North-South: 539 East-West: 549 SUM: 1088				North-South: 539 East-West: 549 SUM: 1088						
VOLUME/CAPACITY (V/C) RATIO:				0.645			0.645			0.764				0.764				0.764						
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.545			0.545			0.664				0.664				0.664						
LEVEL OF SERVICE (LOS):				A			A			B				B				B						

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

CMA27.xlsm

CMA27.xlsm

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Main Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
28		East-West Street:		3rd Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2		2		2		2		2		2		2		2		2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	106	0	106	0	106	106	101	216	0	216	0	216	0	216	0	216	0	216	
		Left-Through		1						1				1				1			
		Through	934	2	347	14	948	351	349	1360	2	525	14	1374	2	530	0	1374	2	530	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0							0				0				0		
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	2226	3	742	9	2235	745	194	2604	3	868	9	2613	3	871	0	2613	3	871	
		Through-Right		0						0				0				0			
		Right	177	1	177	0	177	177	23	215	1	215	0	215	1	215	0	215	1	215	
		Left-Through-Right		0							0				0				0		
CRITICAL VOLUMES				North-South: 347 East-West: 742 SUM: 1089		North-South: 351 East-West: 745 SUM: 1096		North-South: 525 East-West: 868 SUM: 1393				North-South: 530 East-West: 871 SUM: 1401				North-South: 530 East-West: 871 SUM: 1401					
VOLUME/CAPACITY (V/C) RATIO:				0.726		0.731		0.929				0.934				0.934					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.626		0.631		0.829				0.834				0.834					
LEVEL OF SERVICE (LOS):				B		B		D				D				D					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.005	Δv/c after mitigation:	0.005
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Main Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		10/18/2017	
28		East-West Street:			3rd Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2			2			2			2						
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0						
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2						
Override Capacity					0			0			0			0			0			0						
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	263	0	263	0	263	263	171	456	0	456	0	456	0	456	0	456	0	456	0	456	0	456		
		Left-Through		1						1				1				1				1				
		Through	2423	2	895	4	2427	897	425	3049	2	1168	4	3053	2	1170	0	3053	2	1170	0	3053	2	1170		
		Through-Right		0						0				0				0				0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0						0				0				0				0				
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through		0						0				0				0				0				
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Through-Right		0						0				0				0				0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through-Right		0						0				0				0				0				
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through		0						0				0				0				0				
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Through-Right		0						0				0				0				0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through-Right		0						0				0				0				0				
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		Left-Through		0						0				0				0				0				
		Through	1318	3	439	2	1320	440	258	1685	3	562	2	1687	3	562	0	1687	3	562	0	1687	3	562		
		Through-Right		0						0				0				0				0				
		Right	138	1	138	0	138	138	35	184	1	184	0	184	1	184	0	184	1	184	0	184	1	184		
		Left-Through-Right		0						0				0				0				0				
CRITICAL VOLUMES			North-South: 895 East-West: 439 SUM: 1334			North-South: 897 East-West: 440 SUM: 1337			North-South: 1168 East-West: 562 SUM: 1730			North-South: 1170 East-West: 562 SUM: 1732			North-South: 1170 East-West: 562 SUM: 1732											
VOLUME/CAPACITY (V/C) RATIO:			0.889			0.891			1.153			1.155			1.155											
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.789			0.791			1.053			1.055			1.055											
LEVEL OF SERVICE (LOS):			C			C			F			F			F											

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.002	Δv/c after mitigation:	0.002
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Main Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
29		East-West Street:		4th Street		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2		2		2		2		2		2		2		2		2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2		2		2		2		2		2		2		2		2	
Override Capacity				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	772	3	257	14	786	262	263	1099	3	366	14	1113	3	371	0	1113	3	371	
		Through-Right		0						0				0				0			
		Right	46	1	46	0	46	46	36	86	1	86	0	86	1	86	0	86	1	86	
SOUTHBOUND		Left-Through-Right		0					0				0				0				
		Left-Right		0						0				0				0			
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EASTBOUND		Through-Right		0					0				0				0				
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0						0				0				0			
		Left-Right		0						0				0				0			
		Left	200	0	200	0	200	200	186	403	0	403	0	403	0	403	0	403	0	403	
WESTBOUND		Left-Through		0					0				0				0				
		Through	752	3	238	5	757	239	299	1113	3	371	5	1118	3	373	0	1118	3	373	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 257 East-West: 238 SUM: 495		North-South: 262 East-West: 239 SUM: 501		North-South: 366 East-West: 403 SUM: 769				North-South: 371 East-West: 403 SUM: 774				North-South: 371 East-West: 403 SUM: 774					
VOLUME/CAPACITY (V/C) RATIO:				0.330		0.334		0.513				0.516				0.516					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.230		0.234		0.413				0.416				0.416					
LEVEL OF SERVICE (LOS):				A		A		A				A				A					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.003	Δv/c after mitigation:	0.003
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Main Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
29		East-West Street:		4th Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						2		2				2				2				2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 0 WB-- 0		0		0		EB-- 0 WB-- 0		0		0		0		EB-- 0 WB-- 0		0	
Override Capacity						2		2				2				2				2	
						0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	2435	3	812	4	2439	813	325	2962	3	987	4	2966	3	989	0	2966	3	989	
		Through-Right		0						0				0				0			
		Right	132	1	132	0	132	132	64	207	1	207	0	207	1	207	0	207	1	207	
SOUTHBOUND		Left-Through-Right		0						0				0				0			
		Left-Right		0						0				0				0			
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EASTBOUND		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
		Left-Right		0						0				0				0			
		Left	279	0	279	0	279	279	271	573	0	573	0	573	0	573	0	573	0	573	
WESTBOUND		Left-Through		1						1				1				1			
		Through	1529	3	452	21	1550	457	371	2027	3	650	21	2048	3	655	0	2048	3	655	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES		North-South:	812		North-South:	813		North-South:	987		989		989		989		989		989		
		East-West:	452		East-West:	457		East-West:	650		655		655		655		655		655		
		SUM:	1264		SUM:	1270		SUM:	1637		1644		1644		1644		1644		1644		
VOLUME/CAPACITY (V/C) RATIO:				0.843		0.847		1.091		1.096		1.096		1.096							
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.743		0.747		0.991		0.996		0.996		0.996							
LEVEL OF SERVICE (LOS):				C		C		E		E		E		E							

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Los Angeles Street			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
	30	East-West Street:		Aliso Street-US-101 SB On-Ramp			Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2
No. of Phases			2			2			2			2			2			2			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0			0			0			0			0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2			2			
Override Capacity			0			0			0			0			0			0			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0				0				0		
		Through	230	1	230	0	230	230	27	276	1	276	0	276	1	276	0	276	1	276	
		Through-Right		0							0				0				0		
		Right	152	1	152	0	152	152	51	216	1	216	0	216	1	216	0	216	1	216	
		Left-Through-Right		0							0				0				0		
SOUTHBOUND		Left	4	0	4	0	4	4	0	4	0	4	0	4	0	4	0	4	0	4	
		Left-Through		1							1				1				1		
		Through	643	1	326	0	643	326	47	743	1	376	0	743	1	376	0	743	1	376	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
EASTBOUND		Left	14	0	14	0	14	14	0	15	0	15	0	15	0	15	0	15	0	15	
		Left-Through		1							1				1				1		
		Through	400	2	138	15	415	142	232	665	2	208	15	680	2	211	0	680	2	211	
		Through-Right		1							1				1				1		
		Right	137	0	138	0	137	142	2	150	0	208	0	150	0	211	0	150	0	211	
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0				0				0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
CRITICAL VOLUMES			North-South: 326 East-West: 138 SUM: 464			North-South: 326 East-West: 142 SUM: 468			North-South: 376 East-West: 208 SUM: 584				North-South: 376 East-West: 211 SUM: 587				North-South: 376 East-West: 211 SUM: 587				
VOLUME/CAPACITY (V/C) RATIO:			0.309			0.312			0.389				0.391				0.391				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.209			0.212			0.289				0.291				0.291				
LEVEL OF SERVICE (LOS):			A			A			A				A				A				

REMARKS:



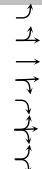
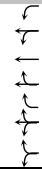

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.002	Δv/c after mitigation:	0.002
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Los Angeles Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		10/18/2017	
30		East-West Street:			Aliso Street-US-101 SB On-Ramp			Projection Year:			2025		Peak Hour:			PM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					2			2			2			2			2			2			2			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0			NB-- 2 SB-- 0 EB-- 0 WB-- 0						
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2			2			
Override Capacity					0			0			0			0			0			0			0			
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION							
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume				
NORTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Left-Through		0						0						0			0							
		Through	815	1	815	0	815	815	163	1046	1	1046	0	1046	1	1046	0	1046	1	1046	0	1046				
		Through-Right		0						0						0			0							
		Right	399	1	399	0	399	399	124	556	1	556	0	556	1	556	0	556	1	556	0	556				
SOUTHBOUND		Left-Through-Right		0					0						0			0								
		Left-Right		0						0					0			0								
		Left	2	0	2	0	2	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2				
		Left-Through		1						1					1			1								
		Through	249	1	131	0	249	131	23	293	1	153	0	293	1	153	0	293	1	153	0	153				
EASTBOUND		Through-Right		0						0						0			0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0						0			0							
		Left-Right		0						0						0			0							
		Left	39	0	39	0	39	39	0	42	0	42	0	42	0	42	0	42	0	42	0	42				
WESTBOUND		Left-Through		1						1					1			1								
		Through	957	2	254	68	1025	271	177	1213	2	320	68	1281	2	337	0	1281	2	337	0	337				
		Through-Right		1						1					1			1								
		Right	21	0	254	0	21	271	3	26	0	320	0	26	0	337	0	26	0	337	0	337				
		Left-Through-Right		0						0						0			0							
WESTBOUND		Left-Right		0						0					0			0								
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0						0					0			0								
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0						0					0			0								
CRITICAL VOLUMES		North-South:	817	North-South:	817	North-South:	1048	North-South:	1048	North-South:	1048	North-South:	1048	North-South:	1048											
		East-West:	254	East-West:	271	East-West:	320	East-West:	337	East-West:	337	East-West:	337													
		SUM:	1071	SUM:	1088	SUM:	1368	SUM:	1385	SUM:	1385	SUM:	1385													
VOLUME/CAPACITY (V/C) RATIO:					0.714			0.725			0.912			0.923			0.923									
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.614			0.625			0.812			0.823			0.823									
LEVEL OF SERVICE (LOS):					B			B			D			D			D									

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.011	Δv/c after mitigation:	0.011
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Alameda Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
31		East-West Street:		Arcadia Street-US-101 NB Off-Ramp		Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2		2				2				2				2			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0				0				0				0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		NB-- 0 SB-- 0				NB-- 0 SB-- 0				NB-- 0 SB-- 0				NB-- 0 SB-- 0			
ATSAC-1 or ATSAC+ATCS-2?				2		2				2				2				2			
Override Capacity				0		0				0				0				0			
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	44	1	44	0	44	44	152	200	1	200	0	200	1	200	0	200	1	200	
		Left-Through		0						0				0				0			
		Through	838	2	419	0	838	419	301	1208	2	604	0	1208	2	604	0	1208	2	604	
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0						0				0				0			
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	1141	2	394	0	1141	394	438	1674	2	573	0	1674	2	573	0	1674	2	573	
		Through-Right		1						1				1				1			
		Right	41	0	41	0	41	41	0	44	0	44	0	44	0	44	0	44	0	44	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through		0						0				0				0			
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Through-Right		0						0				0				0			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	272	1	272	0	272	272	341	636	1	636	0	636	1	636	0	636	1	636	
		Left-Through		1						1				1				1			
		Through	1366	1	507	37	1403	520	60	1539	1	770	37	1576	1	788	0	1576	1	788	
		Through-Right		1						1				1				1			
		Right	156	0	156	0	156	156	94	263	0	263	0	263	0	263	0	263	0	263	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 438 East-West: 507 SUM: 945		North-South: 438 East-West: 520 SUM: 958		North-South: 773 East-West: 770 SUM: 1543				North-South: 773 East-West: 788 SUM: 1561				North-South: 773 East-West: 788 SUM: 1561					
VOLUME/CAPACITY (V/C) RATIO:				0.630		0.639		1.029				1.041				1.041					
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.530		0.539		0.929				0.941				0.941					
LEVEL OF SERVICE (LOS):				A		A		E				E				E					

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.012	Δv/c after mitigation:	0.012
Significant impacted?	YES	Fully mitigated?	NO

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Alameda Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
31		East-West Street:		Arcadia Street-US-101 NB Off-Ramp		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2		2		2		2		2		2		2		2		2	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0		0		0		0		0		0		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0		NB-- 0 SB-- 0	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2		EB-- 0 WB-- 2	
Override Capacity				2		2		2		2		2		2		2		2		2	
				0		0		0		0		0		0		0		0		0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	18	1	18	0	18	18	228	247	1	247	0	247	1	247	0	247	1	247	
		Left-Through		0						0		0			0		0		0		
		Through	1707	2	854	0	1707	854	394	2242	2	1121	0	2242	2	1121	0	2242	2	1121	
		Through-Right		0						0		0			0		0		0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0		0			0		0		0		
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0		0			0		0		0		
		Through	895	2	306	0	895	306	413	1382	2	469	0	1382	2	469	0	1382	2	469	
		Through-Right		1						1		1			1		1		1		
		Right	22	0	22	0	22	22	0	24	0	24	0	24	0	24	0	24	0	24	
		Left-Through-Right		0						0		0			0		0		0		
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0						0		0			0		0		0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0						0		0			0		0		0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0						0		0			0		0		0		
WESTBOUND		Left	194	1	194	0	194	194	479	689	1	440	0	689	1	443	0	689	1	443	
		Left-Through		1						1		1			1		1		1		
		Through	514	1	241	9	523	244	74	631	1	440	9	640	1	443	0	640	1	443	
		Through-Right		1						1		1			1		1		1		
		Right	210	0	210	0	210	210	83	310	0	310	0	310	0	310	0	310	0	310	
		Left-Through-Right		0						0		0			0		0		0		
CRITICAL VOLUMES				North-South: 854		North-South: 854		North-South: 1121		North-South: 1121		North-South: 1121		North-South: 1121		North-South: 1121		North-South: 1121			
				East-West: 241		East-West: 244		East-West: 440		East-West: 440		East-West: 443		East-West: 443		East-West: 443		East-West: 443			
				SUM: 1095		SUM: 1098		SUM: 1561		SUM: 1561		SUM: 1564		SUM: 1564		SUM: 1564		SUM: 1564			
VOLUME/CAPACITY (V/C) RATIO:				0.730		0.732		1.041		1.041		1.043		1.043		1.043		1.043			
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.630		0.632		0.941		0.941		0.943		0.943		0.943		0.943			
LEVEL OF SERVICE (LOS):				B		B		E		E		E		E		E		E			

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.002	Δv/c after mitigation:	0.002
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		US-101 SB Ramps-Garey Street			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
	32	East-West Street:		Commercial Street			Projection Year:		2025		Peak Hour:		AM		Reviewed by:		Project:		222 West 2nd Project/1-15-4154-2		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			4			4			4			4			4			4			
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 3			NB-- 0 SB-- 3			NB-- 0 SB-- 3			NB-- 0 SB-- 3			NB-- 0 SB-- 3			NB-- 0 SB-- 3			
ATSAC-1 or ATSAC+ATCS-2?			0			0			0			0			0			0			
Override Capacity			2			2			2			2			2			2			
			0			0			0			0			0			0			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	29	0	29	0	29	29	0	31	0	31	0	31	0	31	0	31	0	31	
		Left-Through		1							1				1				1		
		Through	32	0	43	0	32	43	27	62	0	69	0	62	0	69	0	62	0	69	
		Through-Right		1							1				1				1		
		Right	11	0	0	0	11	0	1	13	0	69	0	13	0	69	0	13	0	69	
SOUTHBOUND		Left	272	0	272	0	272	272	6	301	0	301	0	301	0	301	0	301	0	301	
		Left-Through		1							1				1				1		
		Through	66	0	338	0	66	338	38	109	0	410	0	109	0	410	0	109	0	410	
		Through-Right		0							0				0				0		
		Right	291	1	218	0	291	215	138	453	1	175	0	453	1	171	0	453	1	171	
EASTBOUND		Left	132	2	73	7	139	76	363	506	2	278	7	513	2	282	0	513	2	282	
		Left-Through		0							0				0				0		
		Through	59	0	99	0	59	99	10	74	0	117	0	74	0	117	0	74	0	117	
		Through-Right		1							1				1				1		
		Right	40	0	0	0	40	0	0	43	0	0	0	43	0	0	0	43	0	0	
WESTBOUND		Left	15	1	15	0	15	15	2	18	1	18	0	18	1	18	0	18	1	18	
		Left-Through		0							0				0				0		
		Through	97	1	95	0	97	95	3	108	1	107	0	108	1	107	0	108	1	107	
		Through-Right		1							1				1				1		
		Right	93	0	93	0	93	93	5	106	0	106	0	106	0	106	0	106	0	106	
CRITICAL VOLUMES		North-South:	381		North-South:	381		North-South:	479		North-South:	479		North-South:	479		North-South:	479		North-South:	479
		East-West:	168		East-West:	171		East-West:	385		East-West:	389		East-West:	389		East-West:	389		East-West:	389
		SUM:	549		SUM:	552		SUM:	864		SUM:	868		SUM:	868		SUM:	868		SUM:	868
VOLUME/CAPACITY (V/C) RATIO:			0.399			0.401			0.628			0.631			0.631						
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.299			0.301			0.528			0.531			0.531						
LEVEL OF SERVICE (LOS):			A			A			A			A			A						

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.003	Δv/c after mitigation:	0.003
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		US-101 SB Ramps-Garey Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		10/18/2017	
32		East-West Street:		Commercial Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						4				4				4						4	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 3		1		NB-- 0 SB-- 3		1		NB-- 0 SB-- 3		1		NB-- 0 SB-- 3		1		1	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 0 WB-- 0		0		EB-- 0 WB-- 0		0		EB-- 0 WB-- 0		0		EB-- 0 WB-- 0		0		0	
Override Capacity						2				2				2						2	
						0				0				0						0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	21	0	21	0	21	21	0	23	0	23	0	23	0	23	0	23	0	23	
		Left-Through		1						1				1				1			
		Through	433	0	237	0	433	237	33	502	0	285	0	502	0	285	0	502	0	285	
		Through-Right		1						1				1				1			
		Left-Through-Right	20	0	237	0	20	237	0	22	0	285	0	22	0	285	0	22	0	285	
		Left-Right		0						0				0				0			
SOUTHBOUND		Left	132	0	132	0	132	132	7	150	0	150	0	150	0	150	0	150	0	150	
		Left-Through		1						1				1				1			
		Through	26	0	158	0	26	158	43	71	0	221	0	71	0	221	0	71	0	221	
		Through-Right		0						0				0				0			
		Right	141	1	12	0	141	0	181	334	1	0	0	334	1	0	0	334	1	0	
		Left-Through-Right		0						0				0				0			
EASTBOUND		Left	235	2	129	34	269	148	473	727	2	400	34	761	2	419	0	761	2	419	
		Left-Through		0						0				0				0			
		Through	36	0	50	0	36	50	0	39	0	54	0	39	0	54	0	39	0	54	
		Through-Right		1						1				1				1			
		Right	14	0	0	0	14	0	0	15	0	0	0	15	0	0	0	15	0	0	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left	5	1	5	0	5	5	1	6	1	6	0	6	1	6	0	6	1	6	
		Left-Through		0						0				0				0			
		Through	37	1	37	0	37	37	9	49	1	49	0	49	1	49	0	49	1	49	
		Through-Right		1						1				1				1			
		Right	322	0	256	0	322	256	3	352	0	277	0	352	0	277	0	352	0	277	
		Left-Through-Right		0						0				0				0			
CRITICAL VOLUMES				North-South: 395		395		North-South: 506		506		North-South: 506		506		North-South: 506		506			
				East-West: 385		404		East-West: 677		677		East-West: 696		696		East-West: 696		696			
				SUM: 780		799		SUM: 1183		1183		SUM: 1202		1202		SUM: 1202		1202			
VOLUME/CAPACITY (V/C) RATIO:						0.567				0.860				0.874						0.874	
V/C LESS ATSAC/ATCS ADJUSTMENT:						0.467				0.760				0.774						0.774	
LEVEL OF SERVICE (LOS):						A				C				C						C	

REMARKS:

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.014	Δv/c after mitigation:	0.014
Significant impacted?	NO	Fully mitigated?	N/A

## APPENDIX D

### CALTRANS ANALYSIS



## APPENDIX D

### CALTRANS ANALYSIS

This Appendix provides a supplemental analysis of Caltrans facilities, including freeway mainline segments, ramp intersections, and off-ramp queuing to provide further information to the decision makers.

#### Freeway Impact Analysis Screening Criteria Review

Freeway mainline segments and off-ramps in the project vicinity that are forecast to receive net new project trips are subject to freeway impact analysis screening. This screening analysis is based solely on the comparisons between the expected net new project-related traffic volumes and the capacity of the subject mainline freeway segments and freeway off-ramps. Thus, cumulative conditions (i.e., related project's traffic volumes and regional growth) are not considered for purposes of the screening analysis. The four (4) mainline freeway segments and seven (7) freeway off-ramps selected for screening due to the proposed project are presented in *Appendix Table D-1*, with the freeway impact analysis screening performed for these facilities also presented therein. It should be noted that *Appendix Table D-1* also included the analysis of two additional freeway off-ramps that were added subsequent to the original freeway impact analysis screening contained in the MOU. The project trips assigned to the freeway facilities are based on the trip distribution percentages presented in *Figure 7-1* and the trip generation forecast presented in *Table 7-1*. Based on this review, the amount of project traffic expected to occur on the freeway system is expected to meet the above-listed criteria for four (4) of the eleven (11) analyzed freeway facilities, which include:

- SR-110 Freeway Northbound Mainline Segment, south of 8th Street
- SR-110 Freeway Northbound Off-Ramp at 6th Street
- US-101 Freeway Northbound Off-Ramp at Spring Street
- US-101 Freeway Northbound Off-Ramp at Alameda Street

As the amount of project-related traffic expected to occur on nearby Caltrans facilities meets the criteria for additional focused analysis of freeway mainline segments and nearby off-ramps, additional analysis was undertaken, which is summarized in the following section.

## Caltrans Traffic Analysis

A supplemental analysis was prepared based on the *Highway Capacity Manual*<sup>1</sup> (HCM) operational analysis methodologies pursuant to Caltrans' *Guide for the Preparation of Traffic Impact Studies*.<sup>2</sup> As noted previously, a freeway impact analysis screening was conducted to determine the need for additional analyses of freeway mainline segments or freeway off-ramps in the project vicinity that are forecast to receive project trips. As presented in *Appendix Table D-1*, the amount of project traffic expected to occur on nearby Caltrans facilities meets the criteria for additional focused analysis of SR-110 Freeway and US-101 Freeway mainline segments and nearby off-ramps. In addition, a cumulative analysis of ramp intersections in the project vicinity was prepared to determine ramp intersection operations when all future development projects in the area are considered.

According to the Caltrans' *Guide for the Preparation of Traffic Impact Studies*, the LOS for operating State highway facilities is based upon measures of effectiveness (MOEs). For mainline freeway segments, the MOE is typically determined based on density in passenger cars per mile per lane (pc/mi/ln). However, in some instances the density-based methodology will yield LOS results that are not indicative of actual peak hour operations, especially under congested conditions. Under such conditions, it may be more appropriate to utilize speed to measure LOS operations. For state-controlled study intersections, the MOE is determined based on control delay in seconds per vehicle (sec/veh). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

The Caltrans TIS Guide does not identify specific incremental criteria by which to measure the significance of impacts to freeway mainline segments or intersections with ramp termini and, therefore, it is not possible to identify whether a specific facility would be significantly impacted under Caltrans criteria. Similarly, the lack of a definitive threshold to determine whether there is a significant impact results in the inability to precisely identify mitigation measures that have a direct nexus to potential impacts of a project.

### Freeway Segment Analysis

The following mainline freeway segments along the SR-110 and US-101 Freeways have been identified for analysis based on their proximity to the project site and are forecast to experience a relatively greater percentage of project-related traffic than other freeway segment locations:

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<sup>1</sup> *Highway Capacity Manual 6th Edition*, Transportation Research Board of the National Academies of Sciences-Engineering-Medicine, 2016.

<sup>2</sup> *Guide for the Preparation of Traffic Impact Studies*, State of California Department of Transportation, December 2002.

- SR-110 Freeway north of Hill Street (in Chinatown)
- SR-110 Freeway south of 8th Street
- US-101 Freeway north of SR-110 Freeway
- US-101 Freeway south of Alameda Street

It should be noted that freeway segments that are expected to carry the greatest concentration of project-related vehicle trips (i.e., along the SR-110 and US-101 Freeways) in the project vicinity are included as part of the screening analysis. Freeway segments located in between closely spaced on/off ramps that are expected to be utilized by the proposed project are not included, as the concentration of project-related vehicle trips at these locations is not as high as at those locations just beyond the study area. For example, project-related traffic destined to northbound SR-110 Freeway will likely utilize either the northbound 3rd Street On-ramp (at Figueroa Street), the northbound Figueroa Street On-ramp (at Alpine Street), or the northbound Hill Street On-ramp (in Chinatown). As a result, selecting the SR-110 Freeway segment north of Hill Street for analysis purposes is appropriate and conservative as this segment captures the greatest concentration of project-related traffic heading northbound on SR-110 Freeway, regardless of which northbound on-ramp is used.

The proposed project's effect on the regional mainline freeway system was determined based on a review of available traffic data for existing weekday peak hour conditions. Freeway mainline data were obtained from Caltrans' Performance Measurement System (PeMS) website. Hourly volume and speed data were obtained for all mid-week days (i.e., Tuesday, Wednesday, and Thursday) in April 2016, and reviewed for validity and consistency. Additionally, the *2015 Annual Average Daily Truck Traffic on the California State Highway System*<sup>3</sup> was reviewed to determine the appropriate percentage of trucks on each freeway segment. The 85<sup>th</sup> percentile volumes during the AM and PM peak hours were utilized for purposes of the analysis in accordance to Caltrans guidelines. The year 2016 traffic volumes were increased by one percent (1.0%) to reflect existing year 2017 conditions. The year 2017 existing traffic volumes were then increased by an annual growth rate of one percent (1.0%) per year to reflect the year 2025 future without project conditions. Additionally, the existing 85<sup>th</sup> percentile speeds during the AM and PM peak hours were obtained from PeMS, as it was noted that some of the freeway mainline segments experienced congested conditions during the peak hours, leading to an inaccurate representation of demand on the segments.

The freeway segment features used in the analysis were selected based on information obtained from field reviews and confirmed by the detector station details and roadway information provided by PeMS. The freeway analysis is primarily based on the number of freeway mainline lanes, although the effects of travel lane width and right shoulder width are considered. The HCM operational analysis for freeway segments is based on density (i.e., passenger cars per mile per lane [pc/mi/ln]), with the LOS determined through the use of speed obtained from PeMS. The Caltrans freeway

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<sup>3</sup> *2015 Annual Average Daily Truck Traffic on the California State Highway System*, State of California Department of Transportation Traffic Data Branch, 2015.

traffic analysis is summarized in **Appendix Table D-2** for all traffic analysis conditions. The first column [1] of *Appendix Table D-2* presents a summary of existing traffic conditions. The second column [2] presents existing with project traffic conditions. The third column [3] presents year 2025 traffic conditions, but without any project-generated traffic. The fourth column [4] presents future forecast traffic conditions with the addition of project traffic. Copies of the HCM freeway analysis data worksheets are included in this Appendix.

#### Freeway Intersection (Ramp) Analysis

Based on the HCM operations method of analysis, level of service for intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road.

The HCM signalized methodology calculates the control delay for each of the subject traffic movements and determines the level of service for each constrained movement. The control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The overall control delay is measured in seconds per vehicle and the level of service is then determined. The term Level of Service (LOS) is used to describe intersection operations. Intersection Levels of Service vary from LOS A (free flow condition) to LOS F (jammed condition). The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are included in this Appendix.

The HCM unsignalized/two-way stop-controlled (TWSC) methodology calculates the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns and determines the LOS for each constrained movement. It should be noted that LOS is not defined for the overall TWSC intersection because major-street movements with no delays typically result in a weighted average delay that is extremely low. The average control delay is measured in seconds per vehicle, and includes delay due to deceleration to a stop at the back of the queue from free-flow speed, move-up time within the queue, stopped delay at the front of the queue, and delay due to acceleration back to free-flow speed. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for unsignalized intersections are included in this Appendix.

The following Caltrans study intersections have been identified for analysis based on their proximity to the project site:

- Intersection No. 6: Beaudry Avenue/SR 110 Freeway SB Off Ramp
- Intersection No. 9: Figueroa Street/3rd Street-SR 110 Freeway Ramps

- Intersection No. 10: Figueroa Street/SR 110 Freeway NB and SB On Ramps-5th Street
- Intersection No. 11: Figueroa Street/SR 110 Freeway NB and SB Off Ramps-6th Street
- Intersection No. 13: Broadway/US 101 Freeway SB Off Ramp-Aliso Street
- Intersection No. 19: Spring Street/US 101 Freeway NB Off Ramp
- Intersection No. 30: Los Angeles Street/Aliso Street-US 101 Freeway SB On Ramp
- Intersection No. 31: Alameda Street/Arcadia Street-US 101 Freeway NB Off Ramp
- Intersection No. 32: US 101 Freeway SB Ramps-Garey Street/Commercial Street

Intersection analyses were prepared utilizing the *Synchro 10* software package, which implements the Highway Capacity Manual operational methods. A *Synchro* network was created based on existing conditions field reviews at the above nine (9) Caltrans study intersections. In addition, specifics such as traffic volume data, lane configurations, available vehicle storage lengths, crosswalk locations, posted speed limits, traffic signal timing and phasing for signalized locations, etc., were coded to complete the existing network.

It should be noted that neither the HCM 6th Edition (2016) nor HCM 2010 analysis methodologies support analysis of the non-standard signal phasing currently in operation at some of these locations. As a result, the HCM 2000 analysis methodology, which was determined to most accurately reflect the current signal operations at these locations, was utilized for the analysis.

**Appendix Table D-3** summarizes the intersection analyses for the existing, existing with project, and year 2025 future cumulative traffic conditions (i.e., existing, ambient growth, and related projects) both without and with the project. The first column [1] of *Appendix Table D-3* presents a summary of existing traffic conditions. The second column [2] presents existing with project traffic conditions based on existing intersection geometry. The third column [3] presents year 2025 traffic conditions based on existing intersection geometry, but without any project-generated traffic. The fourth column [4] presents future forecast traffic conditions with the addition of project traffic. Copies of the HCM intersection analysis data worksheets are included in this Appendix.

#### Freeway Off-Ramp Queuing Analysis

Off-ramp vehicle queuing analyses were prepared utilizing the *Synchro 10* software package, which implements the HCM operational methods. In forecasting vehicle queuing, the *Synchro* software considers traffic volume data, lane configurations, traffic signal timing and phasing for signalized locations, and available vehicle storage lengths for the respective traffic movements.

All of the study intersections having Caltrans freeway off-ramps were identified for a detailed review of vehicle queuing on the freeway off-ramp approaches. The intersections are as follows:

- Intersection No. 6: Beaudry Avenue/SR-110 Freeway SB Off-Ramp
- Intersection No. 9: Figueroa Street/3rd Street/SR-110 Freeway Ramps

- Intersection No. 11: Figueroa Street/SR-110 Freeway NB and SB Off/Ramps-6th Street
- Intersection No. 13: Broadway/US-101 Freeway SB Off-Ramp/Aliso Street
- Intersection No. 19: Spring Street/US-101 Freeway NB Off- Ramp
- Intersection No. 31: Alameda Street/Arcadia Street/US-101 Freeway NB Off- Ramp
- Intersection No. 32: US-101 Freeway SB Ramps/Garey Street/Commercial Street

Each of the analyzed freeway off-ramp approaches were reviewed in terms of expected maximum vehicle queues (i.e., 95<sup>th</sup> percentile queues) which represent the maximum back of vehicle queues with 95<sup>th</sup> percentile traffic volumes. The corresponding maximum vehicle queue lengths were then compared to the 85<sup>th</sup> percentile available ramp storage lengths (i.e., 85 percent of the ramp storage length, measured from the point of gore to the terminus of the ramp) in accordance to Caltrans guidelines so as to provide a conservative evaluation of potential vehicle queues.

**Appendix Table D-4** summarizes the off-ramp vehicle queuing analyses for the existing, existing with project, and year 2025 future cumulative traffic conditions (i.e., existing, ambient growth, and related projects) both without and with the project. As presented in *Appendix Table D-4*, adequate 85<sup>th</sup> percentile storage areas are provided to accommodate the forecast 95<sup>th</sup> percentile queues on all of the off-ramp approaches under each analysis condition. No vehicle queuing back onto the freeway mainline is expected. The corresponding weekday AM and PM peak hour queuing worksheets are included in this Appendix.

**Appendix Table D-1**  
**FREEWAY IMPACT ANALYSIS SCREENING [1]**  
**Weekday AM and PM Peak Hours**

PROJECT TRIP GENERATION	NET PROJECT	
	AM	PM
Inbound	467	118
Outbound	93	423

FREEWAY LOCATION	DIR.	PROJECT TRIP DIRECTION	NET PROJECT			NO. OF LANES	TOTAL CAPACITY [2]	PERCENT OF CAPACITY		FREEWAY ANALYSIS REQUIRED? (YES/NO) [3]
			DIST.	TRIPS				AM	PM	
				AM	PM					
Mainline Segment										
SR-110 Freeway north of US-101 Freeway	NB SB	Outbound Inbound	8% 8%	7 37	34 9	3 3	6,000 6,000	0.12% 0.62%	0.57% 0.15%	No No
SR-110 Freeway south of 8th Street	NB SB	Inbound Outbound	21% 21%	98 20	25 89	4 5	8,000 10,000	1.23% 0.20%	0.31% 0.89%	Yes No
US-101 Freeway west of SR-110 Freeway	EB WB	Inbound Outbound	5% 5%	23 5	6 21	4 4	8,000 8,000	0.29% 0.06%	0.08% 0.26%	No No
US-101 Freeway east of Mission Road	EB WB	Outbound Inbound	16% 16%	15 75	68 19	4 4	8,000 8,000	0.19% 0.94%	0.85% 0.24%	No No
Off-Ramp										
SR-110 Freeway at Beaudry Avenue (Study Intersection No. 6)	SB	Inbound	3%	14	4	3	2,550	0.55%	0.16%	No
SR-110 Freeway at 3rd Street (Study Intersection No. 9)	NB	Inbound	0%	0	0	2	1,700	0.00%	0.00%	No
SR-110 Freeway at 6th Street (Study Intersection No. 11)	NB	Inbound	8%	37	9	2	1,700	2.18%	0.53%	Yes
US-101 Freeway at Broadway-Aliso Street (Study Intersection No. 13)	SB	Inbound	4%	19	5	3	2,550	0.75%	0.20%	No
US-101 Freeway at Spring Street (Study Intersection No. 19)	NB	Inbound	8%	37	9	2	1,700	2.18%	0.53%	Yes
US-101 Freeway at Alameda Street (Study Intersection No. 31)	NB	Inbound	8%	37	9	4	3,400	1.09%	0.26%	Yes
US-101 Freeway at Garey Street (Study Intersection No. 32)	SB	Inbound	0%	0	0	2	1,700	0.00%	0.00%	No

[1] Pursuant to *Transportation Impact Study Guidelines*, City of Los Angeles Department of Transportation, December 2016, *Agreement Between City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures*, October 2013, and *First Amendment to the Agreement between LADOT and Caltrans District 7 on Freeway Impact Analysis Procedures*, December 15, 2015.

[2] Total Capacity derived from the assumed free-flow capacities shown below: (in vehicles per hour per lane)

Facility Type	Capacity
Mainline Segment	2,000 vphpl
Off-Ramp	850 vphpl

[3] Freeway impact analysis is required if the project would result in an increase of  $\geq 2\%$  of capacity for facilities operating at LOS D, or in an increase of  $\geq 1\%$  of capacity for facilities operating at LOS E/F. For a more conservative screening analysis, all facilities are assumed to be operating at LOS E/F.

Appendix Table D-2  
CALTRANS FREEWAY ANALYSIS [a]  
WEEKDAY AM AND PM PEAK HOURS

Freeway Segment	Peak Hour	Direction	[1]					Project Trip Ends [f]	[2]			[3]			Project Trip Ends [f]	[4]		
			Existing Year 2017						Existing Year 2017 With Project			Future Year 2025 Pre-Project				Future Year 2025 With Project		
			Traffic Volumes [b]	Density (pc/mi/ln) [c]	LOS [d]	Speed (mph) [b]	LOS [e]		Traffic Volumes [g]	Density (pc/mi/ln) [c]	LOS [e]	Traffic Volumes [h]	Density (pc/mi/ln) [c]	LOS [e]		Traffic Volumes [i]	Density (pc/mi/ln) [c]	LOS [e]
SR-110 Freeway																		
North of Hill Street	AM	NB	4,763	20.2	C	60.1	D	7	4,770	20.3	D	5,158	21.9	D	7	5,165	21.9	D
		SB	6,035	20.5	C	23.4	F	37	6,072	20.6	F	6,535	22.1	F	37	6,572	22.3	F
	PM	NB	6,071	25.9	C	43.6	F	34	6,105	26.1	F	6,574	28.5	F	34	6,608	28.7	F
		SB	4,684	15.9	B	63.0	D	9	4,693	15.9	D	5,073	17.2	D	9	5,082	17.2	D
South of 8th Street	AM	NB	5,176	21.9	C	53.6	E	98	5,274	22.3	E	5,605	23.8	E	98	5,703	24.2	E
		SB	8,573	30.3	D	63.2	D	20	8,593	30.4	D	9,283	34.1	D	20	9,303	34.2	D
	PM	NB	3,351	14.2	B	10.8	F	25	3,376	14.3	F	3,629	15.4	F	25	3,654	15.5	F
		SB	7,379	25.1	C	31.3	F	89	7,468	25.4	F	7,990	27.6	F	89	8,079	28.0	F
US-101 Freeway																		
North of SR-110 Freeway	AM	NB	6,209	21.4	C	38.7	F	5	6,214	21.4	F	6,724	23.1	F	5	6,729	23.2	F
		SB	6,484	21.9	C	34.0	F	23	6,507	22.0	F	7,021	23.9	F	23	7,044	23.9	F
	PM	NB	6,782	23.3	C	53.5	E	21	6,803	23.4	E	7,344	25.5	E	21	7,365	25.5	E
		SB	6,963	23.7	C	69.2	A/B	6	6,969	23.7	A/B	7,540	25.9	A/B	6	7,546	25.9	A/B
South of Alameda Street	AM	NB	4,572	20.7	C	40.3	F	75	4,647	21.1	F	4,951	22.5	F	75	5,026	22.8	F
		SB	4,928	21.0	C	65.3	A/B	15	4,943	21.0	A/B	5,336	22.7	A/B	15	5,351	22.8	A/B
	PM	NB	5,630	25.5	C	52.6	E	19	5,649	25.6	E	6,096	27.7	E	19	6,115	27.8	E
		SB	6,251	27.2	D	32.7	F	68	6,319	27.5	F	6,769	30.2	F	68	6,837	30.6	F

[a] Freeway analysis based on the Highway Capacity Manual 6th Edition, operational analysis methodologies, per the Caltrans' *Guide for the Preparation of Traffic Impact Studies*, December 2002.

[b] Source: Caltrans PeMS website, 2017. Data reflects the 85th percentile volumes and speeds for weekday AM and PM peak hour conditions (March 2016 data). Volumes were increased by one percent (1.0%) per year to existing year 2017.

[c] pc/mi/ln: passenger cars per mile per lane.

[d] Freeway mainline Levels of Service by density were based on the following criteria:

Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
≤ 11	A	> 26-35	D
> 11-18	B	> 35-45	E
> 18-26	C	> 45	F

[e] Freeway mainline Levels of Service by minimum speeds were based on the following criteria:

Speed (mph)	LOS	Speed (mph)	LOS
≥ 65.0	A	<64.6-59.7	D
≥ 65.0	B	<59.7-52.2	E
<65.0-64.6	C	<52.2	F

[f] Based on the trip generation and trip distribution for the project.

[g] [b] + [f]

[h] Year 2025 future without project traffic volumes were derived by increasing the existing traffic volumes by an ambient growth rate of 1.00% per year to the year 2025.

[i] [h] + [f]



**Appendix Table D-3  
CALTRANS INTERSECTION ANALYSIS [a]**

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[1]		[2]		[3]		[4]	
				YEAR 2017 EXISTING DELAY [b]	LOS [c]	YEAR 2017 EXISTING W/ PROJECT DELAY [b]	LOS [c]	YEAR 2025 FUTURE PRE-PROJECT W/ AM. GROW. & REL. PROJ. DELAY [b]	LOS [c]	YEAR 2025 FUTURE W/ PROJECT DELAY [b]	LOS [c]
6	Beaudry Avenue/ SR-110 Freeway SB Off-Ramp	Signalized	AM PM	12.3 12.3	B B	13.0 12.4	B B	16.5 23.3	B C	17.1 23.6	B C
9	Figueroa Street/ 3rd Street - SR-110 Freeway Ramps	Signalized	AM PM	22.0 >80.0	C F	22.0 >80.0	C F	41.8 >80.0	D F	41.8 >80.0	D F
10	Figueroa Street/ SR-110 Freeway NB and SB On-Ramps - 5th Street	Signalized	AM PM	15.9 29.7	B C	15.9 30.1	B C	17.6 70.8	B E	17.6 72.0	B E
11	Figueroa Street/ SR-110 Freeway NB and SB Off-Ramps - 6th Street	Signalized	AM PM	44.5 22.0	D C	48.7 22.3	D C	>80.0 70.3	F E	>80.0 71.3	F E
13	Broadway/ US-101 Freeway SB Off-Ramp - Aliso Street	Signalized	AM PM	18.9 20.1	B C	19.8 21.3	B C	33.7 38.8	C D	33.7 47.1	C D
19	Spring Street/ US-101 Freeway NB Off-Ramp	Two-Way Stop	AM PM	11.5 10.2	B B	12.1 10.3	B B	14.4 13.5	B B	15.7 13.8	C B
30	Los Angeles Street/ Aliso Street - US-101 Freeway SB On-Ramp	Signalized	AM PM	14.6 50.5	B D	14.7 50.5	B D	16.5 >80.0	B F	16.5 >80.0	B F
31	Alameda Street/ Arcadia Street - US-101 Freeway NB Off-Ramp	Signalized	AM PM	22.8 40.7	C D	23.0 40.7	C D	>80.0 >80.0	F F	>80.0 >80.0	F F
32	US-101 Freeway SB Ramps - Garey Street/ Commercial Street	Signalized	AM PM	35.5 39.8	D D	35.8 40.6	D D	>80.0 >80.0	F F	>80.0 >80.0	F F

[a] Intersection analysis based on the Highway Capacity Manual operational analysis methodologies, per the Caltrans' *Guide for the Preparation of Traffic Impact Studies, December 2002*.

[b] Reported control delay values in seconds per vehicle. For two-way stop controlled intersections, reported control delay values represent the delays associated with the most constrained approach of the intersection.

[c] Signalized Intersection Levels of Service are based on the following criteria:

<u>Control Delay (s/veh)</u>	<u>LOS</u>
<= 10	A
> 10-20	B
> 20-35	C
> 35-55	D
> 55-80	E
> 80	F

Unsignalized Intersection Levels of Service are based on the following criteria:

<u>Control Delay (s/veh)</u>	<u>LOS</u>
<= 10	A
> 10-15	B
> 15-25	C
> 25-35	D
> 35-50	E
> 50	F

**Appendix Table D-4**  
**SUMMARY OF OFF-RAMP QUEUING ANALYSIS [a]**  
**WEEKDAY AM AND PM PEAK HOURS**

INTERSECTION	PEAK HOUR	85th PERCENTILE AVAILABLE OFF-RAMP STORAGE [b] (FEET)	[1] EXISTING YEAR 2017		[2] EXISTING YEAR 2017 WITH PROJECT		[3] FUTURE YEAR 2025 WITHOUT PROJECT		[4] FUTURE YEAR 2025 WITH PROJECT	
			95th PERCENTILE QUEUE [c] (FEET)	EXCEEDS 85th PERCENTILE STORAGE? (YES/NO)	95th PERCENTILE QUEUE [c] (FEET)	EXCEEDS 85th PERCENTILE STORAGE? (YES/NO)	95th PERCENTILE QUEUE [c] (FEET)	EXCEEDS 85th PERCENTILE STORAGE? (YES/NO)	95th PERCENTILE QUEUE [c] (FEET)	EXCEEDS 85th PERCENTILE STORAGE? (YES/NO)
6 Beaudry Avenue/ SR-110 Freeway SB Off-Ramp	AM	700	353	No	360	No	420	No	430	No
	PM	700	323	No	328	No	525	No	530	No
9 Figueroa Street/ 3rd Street - SR-110 Freeway Ramps	AM	730	245	No	245	No	270	No	270	No
	PM	730	40	No	40	No	45	No	45	No
11 Figueroa Street/ SR-110 Freeway NB and SB Off-Ramps - 6th Street	AM	2,170	830	No	853	No	1,154	No	1,176	No
	PM	2,170	472	No	477	No	903	No	910	No
13 Broadway/ US-101 Freeway SB Off-Ramp - Aliso Street	AM	1,130	228	No	240	No	345	No	370	No
	PM	1,130	298	No	303	No	400	No	405	No
19 Spring Street/ US-101 Freeway NB Off-Ramp	AM	680	25	No	30	No	55	No	80	No
	PM	680	25	No	30	No	85	No	90	No
31 Alameda Street/ Arcadia Street - US-101 Freeway NB Off-Ramp	AM	2,290	978	No	1,008	No	1,610	No	1,660	No
	PM	2,290	815	No	823	No	2,028	No	2,055	No
32 US-101 Freeway SB Ramps - Garey Street/ Commercial Street	AM	1,360	563	No	563	No	1,210	No	1,210	No
	PM	1,360	320	No	320	No	573	No	573	No

[a] Refer to calculation worksheets in Appendix D.

[b] Available storage represents 85% of storage space, as measured via Caltrans Earth, 2017.

[c] The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. An average vehicle length of 25 feet (including vehicle separation) was assumed for analysis purposes. A minimum of 25 feet (i.e., one vehicle) was reported for queues of less than 25 feet.  
Refer to Appendix Table D-5 for calculation of peak hour off-ramp queuing.

**Appendix Table D-5**  
**CALCULATION OF OFF-RAMP QUEUEING [1]**  
**WEEKDAY AM AND PM PEAK HOURS**

INT. NO.	OFF-RAMP LOCATION	PEAK HOUR	LANE GROUP MOVEMENT [2]	NO. OF LANES [2]	EXISTING YEAR 2017		EXISTING YEAR 2017 WITH PROJECT		FUTURE YEAR 2025 WITHOUT PROJECT		FUTURE YEAR 2025 WITH PROJECT	
					MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)	MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)	MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)	MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)
6	Beaudry Avenue/ SR-110 Freeway SB Off-Ramp	AM	Left	2	5.5	11.0	5.5	11.0	6.7	13.4	6.7	13.4
			Through-Right	1	3.1	3.1	3.4	3.4	3.4	3.4	3.8	3.8
			Total AM Queueing		14.1		14.4		16.8		17.2	
		PM	Left	2	5.0	10.0	5.0	10.0	8.3	16.6	8.3	16.6
			Through-Right	1	2.9	2.9	3.1	3.1	4.4	4.4	4.6	4.6
			Total PM Queueing		12.9		13.1		21.0		21.2	
9	Figueroa Street/ 3rd Street - SR-110 Freeway Ramps	AM	Through	2	4.9	9.8	4.9	9.8	5.4	10.8	5.4	10.8
		PM	Through	2	0.8	1.6	0.8	1.6	0.9	1.8	0.9	1.8
11	Figueroa Street/ SR-110 Freeway NB and SB Off-Ramps - 6th Street [5]	AM	Through	3	364	830	374	853	506	1,154	516	1,176
		PM	Through	3	207	472	209	477	396	903	399	910
13	Broadway/ US-101 Freeway SB Off-Ramp - Aliso Street	AM	Left-Through	1	3.3	3.3	3.3	3.3	4.9	4.9	5.1	5.1
			Through	1	2.9	2.9	2.9	2.9	4.3	4.3	4.4	4.4
			Right	1	2.9	2.9	3.4	3.4	4.6	4.6	5.3	5.3
			Total AM Queueing		9.1		9.6		13.8		14.8	
		PM	Left-Through	1	5.4	5.4	5.4	5.4	7.0	7.0	7.0	7.0
			Through	1	4.7	4.7	4.7	4.7	6.0	6.0	6.0	6.0
			Right	1	1.8	1.8	2.0	2.0	3.0	3.0	3.2	3.2
			Total PM Queueing		11.9		12.1		16.0		16.2	
19	Spring Street/ US-101 Freeway NB Off-Ramp	AM	Right	2	0.4	0.8	0.6	1.2	1.1	2.2	1.6	3.2
		PM	Right	2	0.5	1.0	0.6	1.2	1.7	3.4	1.8	3.6
31	Alameda Street/ Arcadia Street - US-101 Freeway NB Off-Ramp	AM	Left	1	5.3	5.3	5.3	5.3	17.0	17.0	17.6	17.6
			Through	2	11.2	22.4	11.6	23.2	15.5	31.0	15.9	31.8
			Through-Right	1	11.4	11.4	11.8	11.8	16.4	16.4	17.0	17.0
			Total AM Queueing		39.1		40.3		64.4		66.4	
		PM	Left	1	6.9	6.9	6.9	6.9	17.7	17.7	17.9	17.9
			Through	2	8.8	17.6	8.9	17.8	21.6	43.2	21.9	43.8
			Through-Right	1	8.1	8.1	8.2	8.2	20.2	20.2	20.5	20.5
			Total PM Queueing		32.6		32.9		81.1		82.2	

Appendix Table D-5 (Continued)  
CALCULATION OF OFF-RAMP QUEUEING [1]  
WEEKDAY AM AND PM PEAK HOURS

INT. NO.	OFF-RAMP LOCATION	PEAK HOUR	LANE GROUP MOVEMENT [2]	NO. OF LANES [2]	EXISTING YEAR 2017		EXISTING YEAR 2017 WITH PROJECT		FUTURE YEAR 2025 WITHOUT PROJECT		FUTURE YEAR 2025 WITH PROJECT	
					MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)	MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)	MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)	MAXIMUM BACK OF QUEUE [4] (Veh.)	MAXIMUM TOTAL QUEUE [5] (Veh.)
32	US-101 Freeway SB Ramps - Garey Street/ Commercial Street	AM	Left-Through	1	13.9	13.9	13.9	13.9	23.9	23.9	23.9	23.9
			Right	1	8.6	8.6	8.6	8.6	24.5	24.5	24.5	24.5
			Total AM Queueing		22.5		22.5		48.4		48.4	
		PM	Left-Through	1	7.7	7.7	7.7	7.7	11.1	11.1	11.1	11.1
			Right	1	5.1	5.1	4.9	4.9	11.8	11.8	11.8	11.8
			Total PM Queueing		12.8		12.6		22.9		22.9	

[1] Queues calculated herein are utilized in the off-ramp queueing analysis presented in Appendix Table D-4.

[2] Off-ramp movements and lane geometry were obtained from aerials provided by Caltrans Earth, 2017, and verified by LLG Engineers staff.

[3] The 95th percentile queue (in vehicles) as reported by Synchro reflects the maximum back of queue for the lane with the highest queue in the lane group. Refer to the analysis worksheets contained in Appendix D.

[4] The 95th percentile maximum queue was obtained by multiplying the reported queue by the number of lanes in the lane group. The total peak hour queue was obtained by summing all lane group queues.

[5] For Int. 19, the 95th percentile maximum queue was obtained by multiplying the reported queue (in feet) by the number of lanes in the lane group, then multiplying by the lane utilization factor obtained from the HCM Signalized Intersection Capacity Analysis worksheets.

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4763	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1280
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	20.2
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6035	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1297
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	20.5
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6071	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1631
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	62.9
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	25.9
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4684	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1007
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4770	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1282
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	20.3
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6072	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1305
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	20.6
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6105	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1640
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	62.8
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	26.1
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4693	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1009
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5158	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1386
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6535	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1404
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	22.1
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6574	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1766
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	61.9
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	28.5
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5073	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1090
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5165	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1388
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6572	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1412
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	22.3
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.3
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6608	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1775
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2333
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2333
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	61.9
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	28.7
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB North of Hill Ave		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	63.4
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5082	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.990
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1092
Total Trucks, %	1.00	Capacity (c), pc/h/ln	2334
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2334
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.4
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.5	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	9.6	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	63.4		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5176	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1410
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	8573	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1869
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	61.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	30.3
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	3351	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	913
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	14.2
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7379	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1609
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	25.1
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5274	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1437
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	22.3
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	8593	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1873
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	61.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	30.4
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	3376	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	920
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7468	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1628
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	25.4
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5605	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1527
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.2
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.8
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	9283	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	2024
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	59.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	34.1
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	3629	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	989
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	15.4
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7990	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1742
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	27.6
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5703	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1554
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	24.2
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	9303	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	2028
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	59.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	34.2
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy NB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.3
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	3654	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	996
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2343
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2343
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	15.5
Total Ramp Density Adjustment	9.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.3		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - I-110 Fwy SB South of 8th St		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	3.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	8079	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.976
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1761
Total Trucks, %	2.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	63.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	28.0
Total Ramp Density Adjustment	8.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6209	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1368
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6484	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1428
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	65.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6782	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1494
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.3
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6963	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1534
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.7
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6214	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1369
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6507	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1433
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	65.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	22.0
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6803	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1498
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.4
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6969	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1535
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.7
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6724	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1481
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.1
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7021	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1546
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7344	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1618
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	63.5
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7540	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1661
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	25.9
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6729	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1482
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.2
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7044	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1551
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.0
Right-Side Lateral Clearance, ft	8		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7365	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1622
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2340
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2340
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	63.5
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	11.4	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.0		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB North of SR-110 Fwy		

## Geometric Data

Number of Lanes (N), ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	65.1
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	7546	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1662
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2351
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2351
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.1
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	25.9
Total Ramp Density Adjustment	10.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	65.1		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4572	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1259
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	20.7
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4928	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1357
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5630	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1550
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/14/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6251	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1721
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	63.3
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	27.2
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4647	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1280
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	21.1
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4943	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1361
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5649	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1555
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	25.6
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2017
Jurisdiction	Caltrans	Time Period Analyzed	Existing w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6319	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1740
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	63.2
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	27.5
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	4951	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1363
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5336	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1469
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	22.7
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6096	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1678
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.5
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	27.7
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future Pre-Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6769	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1864
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	61.8
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	30.2
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		



# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5026	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1384
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	22.8
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project AM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	5351	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1473
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	64.6
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	22.8
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	C
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy NB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.67
Lane Width, ft	11	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	1		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6115	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1684
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	1.9	Average Speed (S), mi/h	60.5
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	1.0	Density (D), pc/mi/ln	27.8
Total Ramp Density Adjustment	11.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	60.7		

# HCS7 Basic Freeway Report

## Project Information

Analyst	GT	Date	4/17/2017
Agency	LLG Engineers	Analysis Year	2025
Jurisdiction	Caltrans	Time Period Analyzed	Future w/ Project PM
Project Description	222 West 2nd Project/1-15-4154-2 - US-101 Fwy SB South of Alameda St		

## Geometric Data

Number of Lanes (N), ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	4.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	64.7
Right-Side Lateral Clearance, ft	9		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

## Demand and Capacity

Volume (V), veh/h	6837	Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.966
Peak Hour Factor (PHF)	0.94	Flow Rate ( $v_p$ ), pc/h/ln	1882
Total Trucks, %	3.50	Capacity (c), pc/h/ln	2347
Single-Unit Trucks (SUT), %	-	Adjusted Capacity ( $c_{adj}$ ), pc/h/ln	2347
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent ( $E_T$ )	2.000		

## Speed and Density

Lane Width Adjustment ( $f_{LW}$ )	0.0	Average Speed (S), mi/h	61.5
Right-Side Lateral Clearance Adj. ( $f_{RLC}$ )	0.0	Density (D), pc/mi/ln	30.6
Total Ramp Density Adjustment	10.7	Level of Service (LOS)	D
Adjusted Free-Flow Speed ( $FFS_{adj}$ ), mi/h	64.7		

## LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of incidents, and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for traffic signals are stated in terms of the average control delay per vehicle. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the  $v/c$  ratio for the lane group in question.

Level of Service Criteria for Signalized Intersections	
Level of Service	Control Delay (Sec/Veh)
A	$\leq 10$
B	$> 10 \text{ and } \leq 20$
C	$> 20 \text{ and } \leq 35$
D	$> 35 \text{ and } \leq 55$
E	$> 55 \text{ and } \leq 80$
F	$> 80$

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

**LOS A** describes operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay values.

**LOS B** describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

**LOS C** describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

**LOS D** describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high  $v/c$  ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

**LOS E** describes operations with control delay greater than 55 and up to 80 seconds per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high  $v/c$  ratios. Individual cycle failures are frequent occurrences.

**LOS F** describes operations with control delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the lane groups. It may also occur at high  $v/c$  ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

## LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, level of service for unsignalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incidents, control, traffic, or geometric delay. Only the portion of total delay attributed to the traffic control measures, either traffic signals or stop signs, is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for unsignalized intersections are stated in terms of the average control delay per vehicle. The level of service is determined by the computed or measured control delay and is defined for each minor movement. Average control delay for any particular minor movement is a function of the service time for the approach and the degree of utilization. (Level of service is not defined for the intersection as a whole for two-way stop controlled intersections.)

Level of Service Criteria for TWSC/AWSC Intersections	
Level of Service	Average Control Delay (Sec/Veh)
A	$\leq 10$
B	$> 10 \text{ and } \leq 15$
C	$> 15 \text{ and } \leq 25$
D	$> 25 \text{ and } \leq 35$
E	$> 35 \text{ and } \leq 50$
F	$> 50$

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

**LOS A** describes operations with very low control delay, up to 10 seconds per vehicle.

**LOS B** describes operations with control delay greater than 10 and up to 15 seconds per vehicle.

**LOS C** describes operations with control delay greater than 15 and up to 25 seconds per vehicle.


















**LOS D** describes operations with control delay greater than 25 and up to 35 seconds per vehicle.

**LOS E** describes operations with control delay greater than 35 and up to 50 seconds per vehicle.

**LOS F** describes operations with control delay in excess of 50 seconds per vehicle. For two-way stop controlled intersections, LOS F exists when there are insufficient gaps of suitable size to allow side-street demand to safely cross through a major-street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches.


















HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2017 Existing Conditions  
Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	3	375	50	62	27	420	0	0	1161	68
Future Volume (veh/h)	1	0	3	375	50	62	27	420	0	0	1161	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbT</sub> )	1.00		0.97	0.95		1.00	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	1	0	3	399	53	66	29	447	0	0	1235	72
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	105	25	196	741	127	158	121	1683	0	0	1947	113
Arrive On Green	0.20	0.00	0.20	0.20	0.20	0.20	0.68	0.68	0.00	0.00	0.68	0.68
Sat Flow, veh/h	202	126	985	2687	638	794	93	2548	0	0	2944	167
Grp Volume(v), veh/h	4	0	0	399	0	119	236	240	0	0	644	663
Grp Sat Flow(s),veh/h/ln	1314	0	0	1343	0	1432	1208	1362	0	0	1496	1536
Q Serve(g <sub>s</sub> ), s	0.0	0.0	0.0	9.6	0.0	5.1	0.8	4.8	0.0	0.0	16.9	17.0
Cycle Q Clear(g <sub>c</sub> ), s	0.2	0.0	0.0	9.8	0.0	5.1	17.9	4.8	0.0	0.0	16.9	17.0
Prop In Lane	0.25		0.75	1.00		0.55	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h	326	0	0	741	0	285	879	925	0	0	1017	1044
V/C Ratio(X)	0.01	0.00	0.00	0.54	0.00	0.42	0.27	0.26	0.00	0.00	0.63	0.64
Avail Cap(c <sub>a</sub> ), veh/h	649	0	0	1415	0	644	879	925	0	0	1017	1044
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	26.4	0.0	24.5	4.3	4.4	0.0	0.0	6.3	6.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	1.0	0.8	0.7	0.0	0.0	3.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	5.5	0.0	3.1	2.1	2.2	0.0	0.0	8.5	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	0.0	0.0	27.0	0.0	25.5	5.1	5.0	0.0	0.0	9.3	9.3
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		4			518			476			1307	
Approach Delay, s/veh		22.5			26.6			5.1			9.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.6		18.4		51.6		18.4				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		30.0		31.5		30.0		31.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		19.0		11.8		19.9		2.2				
Green Ext Time (p <sub>c</sub> ), s		6.6		2.2		2.3		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.3								
HCM 6th LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp













Year 2017 Existing Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	0	51	245	0	77	0	1453	0	0	655	0
Future Volume (veh/h)	63	0	51	245	0	77	0	1453	0	0	655	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.97		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	67	0	54	261	0	82	0	1546	0	0	697	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	147	14	80	512	0	229	0	2197	0	0	2197	0
Arrive On Green	0.17	0.00	0.17	0.17	0.00	0.17	0.00	0.73	0.00	0.00	0.73	0.00
Sat Flow, veh/h	493	83	464	2606	0	1335	0	3150	0	0	3150	0
Grp Volume(v), veh/h	121	0	0	261	0	82	0	1546	0	0	697	0
Grp Sat Flow(s),veh/h/ln	1040	0	0	1303	0	1335	0	1496	0	0	1496	0
Q Serve(g_s), s	6.2	0.0	0.0	0.9	0.0	4.9	0.0	25.6	0.0	0.0	7.3	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	11.9	0.0	4.9	0.0	25.6	0.0	0.0	7.3	0.0
Prop In Lane	0.55		0.45	1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	240	0	0	512	0	229	0	2197	0	0	2197	0
V/C Ratio(X)	0.50	0.00	0.00	0.51	0.00	0.36	0.00	0.70	0.00	0.00	0.32	0.00
Avail Cap(c_a), veh/h	560	0	0	1151	0	556	0	2197	0	0	2197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	36.3	0.0	0.0	36.0	0.0	32.9	0.0	6.6	0.0	0.0	4.1	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.8	0.0	0.9	0.0	1.9	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	0.0	5.0	0.0	2.9	0.0	11.3	0.0	0.0	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	0.0	36.8	0.0	33.9	0.0	8.5	0.0	0.0	4.5	0.0
LnGrp LOS	D	A	A	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h		121			343			1546			697	
Approach Delay, s/veh		37.9			36.1			8.5			4.5	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		70.1		19.9		70.1		19.9				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		44.0		37.5		44.0		37.5				
Max Q Clear Time (g_c+I1), s		9.3		13.9		27.6		13.1				
Green Ext Time (p_c), s		5.8		1.5		10.9		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.3								
HCM 6th LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												















HCM 6th Signalized Intersection Summary  
 9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

Year 2017 Existing Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	463	0	0	972	100	145	838	184	19	0	1101
Future Volume (veh/h)	0	463	0	0	972	100	145	838	184	19	0	1101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.75	1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	493	0	0	1034	106	154	891	196	20	0	1171
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1214	0	0	2587	408	1971	1238	269	35	0	0
Arrive On Green	0.00	0.41	0.00	0.00	0.41	0.41	0.15	0.12	0.12	0.02	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	1006	4230	3397	739	1500	20	
Grp Volume(v), veh/h	0	493	0	0	1034	106	154	750	337	20	48.3	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	1006	1410	1433	1270	1500	D	
Q Serve(g_s), s	0.0	8.2	0.0	0.0	8.0	4.9	2.2	17.6	17.9	0.9		
Cycle Q Clear(g_c), s	0.0	8.2	0.0	0.0	8.0	4.9	2.2	17.6	17.9	0.9		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.58	1.00		
Lane Grp Cap(c), veh/h	0	1214	0	0	2587	408	1971	1044	463	35		
V/C Ratio(X)	0.00	0.41	0.00	0.00	0.40	0.26	0.08	0.72	0.73	0.58		
Avail Cap(c_a), veh/h	0	1214	0	0	2587	408	1971	1044	463	129		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.78	0.78	0.78	1.00		
Uniform Delay (d), s/veh	0.0	14.8	0.0	0.0	14.8	13.8	16.7	27.3	27.4	33.9		
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.5	1.5	0.1	3.3	7.6	14.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	4.9	0.0	0.0	4.1	2.1	1.2	10.9	10.7	0.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.8	0.0	0.0	15.2	15.4	16.8	30.7	35.1	48.3		
LnGrp LOS	A	B	A	A	B	B	B	C	D	D		
Approach Vol, veh/h		493			1140			1241				
Approach Delay, s/veh		15.8			15.2			30.2				
Approach LOS		B			B			C				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		33.4	36.6			33.4	5.6	31.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		24.0	11.0			24.0	6.0	25.5				
Max Q Clear Time (g_c+I1), s		10.0	4.2			10.2	2.9	19.9				
Green Ext Time (p_c), s		6.8	0.3			2.8	0.0	3.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
 9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

Year 2017 Existing Conditions  
 Weekday PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	61	0	0	1824	116	922	2447	80	24	0	696
Future Volume (veh/h)	0	61	0	0	1824	116	922	2447	80	24	0	696
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.73	1.00		0.86	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	65	0	0	1940	123	981	2603	85	26	0	740
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1118	0	0	2382	365	2227	1867	60	40	0	0
Arrive On Green	0.00	0.37	0.00	0.00	0.37	0.37	0.17	0.14	0.14	0.03	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	977	4230	4255	137	1500	26	
Grp Volume(v), veh/h	0	65	0	0	1940	123	981	1741	947	26	60.0	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	977	1410	1433	1525	1500	E	
Q Serve(g_s), s	0.0	1.3	0.0	0.0	24.6	8.1	18.7	39.5	39.5	1.5		
Cycle Q Clear(g_c), s	0.0	1.3	0.0	0.0	24.6	8.1	18.7	39.5	39.5	1.5		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.09	1.00		
Lane Grp Cap(c), veh/h	0	1118	0	0	2382	365	2227	1258	669	40		
V/C Ratio(X)	0.00	0.06	0.00	0.00	0.81	0.34	0.44	1.38	1.42	0.65		
Avail Cap(c_a), veh/h	0	1118	0	0	2382	365	2227	1258	669	117		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.30	0.30	0.30	1.00		
Uniform Delay (d), s/veh	0.0	18.1	0.0	0.0	25.4	20.2	25.3	38.5	38.5	43.4		
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	3.2	2.5	0.2	174.1	189.7	16.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	0.8	0.0	0.0	12.2	3.6	9.4	64.0	72.5	1.3		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.2	0.0	0.0	28.6	22.7	25.5	212.6	228.2	60.0		
LnGrp LOS	A	B	A	A	C	C	C	F	F	E		
Approach Vol, veh/h		65			2063			3669				
Approach Delay, s/veh		18.2			28.2			166.6				
Approach LOS		B			C			F				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		38.6	51.4			38.6	6.4	45.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		29.0	31.5			29.0	7.0	39.5				
Max Q Clear Time (g_c+I1), s		26.6	20.7			3.3	3.5	41.5				
Green Ext Time (p_c), s		2.2	3.1			0.3	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			115.4									
HCM 6th LOS			F									

# HCM Signalized Intersection Capacity Analysis

10: Figueroa St/Figueroa Blvd & SR-110 NB and SB On-Ramps/5th St

Year 2017 Existing Conditions

Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					6L	7	777	777				
Traffic Volume (vph)	0	0	0	0	1261	328	496	1308	0	0	0	0
Future Volume (vph)	0	0	0	0	1261	328	496	1308	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					4.0	4.0	4.0	4.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Flpb, ped/bikes					0.99	0.84	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					0.99	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6493	796	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6493	796	4202	4282				
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1287	335	506	1335	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	73	338	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1412	131	168	1335	0	0	0	0
Confl. Peds. (#/hr)			246			154			244			216
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					22.0	22.0	23.2	38.0				
Effective Green, g (s)					23.0	23.0	23.2	39.0				
Actuated g/C Ratio					0.33	0.33	0.33	0.56				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2133	261	1392	2385				
v/s Ratio Prot					c0.22		0.04	c0.31				
v/s Ratio Perm						0.16						
v/c Ratio					0.66	0.50	0.12	0.56				
Uniform Delay, d1					20.2	18.9	16.3	10.0				
Progression Factor					1.00	1.00	1.81	0.22				
Incremental Delay, d2					1.6	6.7	0.2	0.8				
Delay (s)					21.8	25.6	29.6	3.0				
Level of Service					C	C	C	A				
Approach Delay (s)		0.0			22.3			10.3			0.0	
Approach LOS		A			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.9		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)						14.0	
Intersection Capacity Utilization			60.2%		ICU Level of Service						B	
Analysis Period (min)			15									

c Critical Lane Group

















HCM Signalized Intersection Capacity Analysis  
 10: Figueroa St & SR-110 NB and SB On-Ramps/5th St

Year 2017 Existing Conditions  
 Weekday PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					6L	7	7	7				
Traffic Volume (vph)	0	0	0	0	1670	314	801	1956	0	0	0	0
Future Volume (vph)	0	0	0	0	1670	314	801	1956	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					5.0	5.0	4.0	5.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Flpb, ped/bikes					0.99	0.70	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					0.99	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6569	666	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6569	666	4202	4282				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	1740	327	834	2038	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	56	422	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1808	202	412	2038	0	0	0	0
Confl. Peds. (#/hr)			225			235			261			178
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					31.0	31.0	34.2	49.0				
Effective Green, g (s)					31.0	31.0	34.2	49.0				
Actuated g/C Ratio					0.34	0.34	0.38	0.54				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2262	229	1596	2331				
v/s Ratio Prot					0.28		0.10	c0.48				
v/s Ratio Perm						c0.30						
v/c Ratio					0.80	0.88	0.26	0.87				
Uniform Delay, d1					26.7	27.8	19.2	17.8				
Progression Factor					1.00	1.00	2.02	0.99				
Incremental Delay, d2					3.1	35.5	0.3	4.1				
Delay (s)					29.8	63.3	39.0	21.7				
Level of Service					C	E	D	C				
Approach Delay (s)		0.0			33.9			26.7			0.0	
Approach LOS		A			C			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.7		HCM 2000 Level of Service						C	
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)						14.0	
Intersection Capacity Utilization			76.7%		ICU Level of Service						D	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2017 Existing Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	2307	0	0	0	0	0	1556	200	0	0	0
Future Volume (vph)	233	2307	0	0	0	0	0	1556	200	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0						4.0	4.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5958						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5958						6353	1333			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	248	2454	0	0	0	0	0	1655	213	0	0	0
RTOR Reduction (vph)	69	69	0	0	0	0	0	0	85	0	0	0
Lane Group Flow (vph)	154	2410	0	0	0	0	0	1655	128	0	0	0
Confl. Peds. (#/hr)			156			153			447			310
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	24.5	24.5						35.0	18.0			
Effective Green, g (s)	26.0	26.0						36.0	19.0			
Actuated g/C Ratio	0.37	0.37						0.51	0.27			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	420	2212						3267	361			
v/s Ratio Prot								c0.26	0.10			
v/s Ratio Perm	0.14	0.40										
v/c Ratio	0.37	1.09						0.51	0.35			
Uniform Delay, d1	16.0	22.0						11.2	20.6			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	2.5	48.6						0.6	2.7			
Delay (s)	18.5	70.6						11.7	23.3			
Level of Service	B	E						B	C			
Approach Delay (s)		66.3			0.0			13.0			0.0	
Approach LOS		E			A			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			44.5					HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			70.0					Sum of lost time (s)		14.5		
Intersection Capacity Utilization			60.2%					ICU Level of Service		B		
Analysis Period (min)			15									





c Critical Lane Group

## Queues

Year 2017 Existing Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday AM Peak Hour

















				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	223	2479	1655	213
v/c Ratio	0.43	1.01	0.54	0.48
Control Delay	10.8	43.1	13.3	19.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.8	43.1	13.3	19.5
Queue Length 50th (ft)	42	~272	115	40
Queue Length 95th (ft)	111	#364	141	#145
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	518	2447	3085	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	1.01	0.54	0.48

## Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2017 Existing Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	1174	0	0	0	0	0	2347	221	0	0	0
Future Volume (vph)	298	1174	0	0	0	0	0	2347	221	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	5.5	5.5						5.0	5.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5946						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5946						6353	1333			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	307	1210	0	0	0	0	0	2420	228	0	0	0
RTOR Reduction (vph)	66	66	0	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	177	1208	0	0	0	0	0	2420	179	0	0	0
Confl. Peds. (#/hr)			213			203			760			203
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	20.5	20.5						59.0	42.0			
Effective Green, g (s)	20.5	20.5						59.0	42.0			
Actuated g/C Ratio	0.23	0.23						0.66	0.47			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	258	1354						4164	622			
v/s Ratio Prot								c0.38	0.13			
v/s Ratio Perm	0.16	0.20										
v/c Ratio	0.69	0.89						0.58	0.29			
Uniform Delay, d1	31.8	33.7						8.6	14.8			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	14.0	9.3						0.6	1.2			
Delay (s)	45.8	42.9						9.2	16.0			
Level of Service	D	D						A	B			
Approach Delay (s)		43.4			0.0			9.8			0.0	
Approach LOS		D			A			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.0					HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)		15.5		
Intersection Capacity Utilization			65.9%					ICU Level of Service		C		
Analysis Period (min)			15									





c Critical Lane Group

## Queues

Year 2017 Existing Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday PM Peak Hour

				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	243	1274	2420	228
v/c Ratio	0.70	0.82	0.60	0.34
Control Delay	32.0	35.0	10.6	13.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.0	35.0	10.6	13.4
Queue Length 50th (ft)	106	168	181	55
Queue Length 95th (ft)	#250	207	209	120
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	347	1549	4023	670
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.82	0.60	0.34






















## Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

























HCM 6th Signalized Intersection Summary  
 13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St




Year 2017 Existing Conditions  
 Weekday AM Peak Hour




												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	108	210	143	0	0	0	0	311	82	154	950	0
Future Volume (veh/h)	108	210	143	0	0	0	0	311	82	154	950	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.88	0.96		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	115	223	152				0	331	87	164	1011	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	420	876	532				0	1261	496	426	1261	0
Arrive On Green	0.43	0.43	0.43				0.00	0.42	0.42	0.42	0.42	0.00
Sat Flow, veh/h	979	2043	1241				0	3071	1176	926	3071	0
Grp Volume(v), veh/h	179	159	152				0	331	87	164	1011	0
Grp Sat Flow(s),veh/h/ln	1526	1496	1241				0	1496	1176	926	1496	0
Q Serve(g_s), s	5.3	4.7	5.6				0.0	5.0	3.2	9.8	20.7	0.0
Cycle Q Clear(g_c), s	5.3	4.7	5.6				0.0	5.0	3.2	14.8	20.7	0.0
Prop In Lane	0.64		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	654	641	532				0	1261	496	426	1261	0
V/C Ratio(X)	0.27	0.25	0.29				0.00	0.26	0.18	0.38	0.80	0.00
Avail Cap(c_a), veh/h	654	641	532				0	1261	496	426	1261	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.9	12.8	13.0				0.0	13.2	12.7	18.0	17.7	0.0
Incr Delay (d2), s/veh	1.0	0.9	1.3				0.0	0.5	0.8	2.6	5.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	2.9	2.9				0.0	3.0	1.6	4.1	12.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	13.7	14.4				0.0	13.7	13.4	20.6	23.1	0.0
LnGrp LOS	B	B	B				A	B	B	C	C	A
Approach Vol, veh/h		490						418			1175	
Approach Delay, s/veh		14.0						13.6			22.8	
Approach LOS		B						B			C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		34.0		36.0		34.0						
Change Period (Y+Rc), s		4.5		6.0		4.5						
Max Green Setting (Gmax), s		29.5		30.0		29.5						
Max Q Clear Time (g_c+I1), s		22.7		7.6		7.0						
Green Ext Time (p_c), s		1.5		2.6		2.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			18.9									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary  
 13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St

Year 2017 Existing Conditions  
 Weekday PM Peak Hour

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	88	270	69	0	0	0	0	860	164	108	668	0
Future Volume (veh/h)	88	270	69	0	0	0	0	860	164	108	668	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.89	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	94	287	73				0	915	174	115	711	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	293	955	509				0	1413	564	204	1413	0
Arrive On Green	0.41	0.41	0.41				0.00	0.47	0.47	0.47	0.47	0.00
Sat Flow, veh/h	714	2322	1237				0	3071	1193	518	3071	0
Grp Volume(v), veh/h	203	178	73				0	915	174	115	711	0
Grp Sat Flow(s),veh/h/ln	1539	1496	1237				0	1496	1193	518	1496	0
Q Serve(g_s), s	8.0	7.2	3.3				0.0	20.9	8.1	19.5	14.8	0.0
Cycle Q Clear(g_c), s	8.0	7.2	3.3				0.0	20.9	8.1	40.4	14.8	0.0
Prop In Lane	0.46		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	633	615	509				0	1413	564	204	1413	0
V/C Ratio(X)	0.32	0.29	0.14				0.00	0.65	0.31	0.56	0.50	0.00
Avail Cap(c_a), veh/h	633	615	509				0	1413	564	204	1413	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.0	17.7	16.6				0.0	18.1	14.7	33.4	16.4	0.0
Incr Delay (d2), s/veh	1.3	1.2	0.6				0.0	2.3	1.4	10.8	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	4.7	1.8				0.0	11.8	4.3	5.5	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	18.9	17.2				0.0	20.4	16.1	44.2	17.7	0.0
LnGrp LOS	B	B	B				A	C	B	D	B	A
Approach Vol, veh/h		454						1089			826	
Approach Delay, s/veh		18.8						19.7			21.4	
Approach LOS		B						B			C	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	47.0			43.0			47.0					
Change Period (Y+Rc), s	4.5			6.0			4.5					
Max Green Setting (Gmax), s	42.5			37.0			42.5					
Max Q Clear Time (g_c+I1), s	42.4			10.0			22.9					
Green Ext Time (p_c), s	0.0			2.6			7.6					
Intersection Summary												
HCM 6th Ctrl Delay	20.1											
HCM 6th LOS	C											

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	62	0	34	705	0
Future Vol, veh/h	0	62	0	34	705	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	0	36	750	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	375	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	623	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	623	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 623	-				
HCM Lane V/C Ratio	- 0.106	-				
HCM Control Delay (s)	- 11.5	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 0.4	-				

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	108	0	47	383	0
Future Vol, veh/h	0	108	0	47	383	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	115	0	50	407	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	204	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	803	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	803	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.2	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 803	-				
HCM Lane V/C Ratio	- 0.143	-				
HCM Control Delay (s)	- 10.2	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 0.5	-				

















HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2017 Existing Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	400	137	0	0	0	0	230	152	4	643	0
Future Volume (veh/h)	14	400	137	0	0	0	0	230	152	4	643	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92				1.00		0.86	0.95		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	15	426	146				0	245	162	4	684	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	47	1420	420				0	788	571	54	1466	0
Arrive On Green	0.34	0.34	0.34				0.00	0.50	0.50	0.50	0.50	0.00
Sat Flow, veh/h	137	4140	1225				0	1575	1142	3	3003	0
Grp Volume(v), veh/h	172	269	146				0	245	162	369	319	0
Grp Sat Flow(s),veh/h/ln	1568	1355	1225				0	1575	1142	1573	1362	0
Q Serve(g_s), s	5.7	5.1	6.2				0.0	6.4	5.8	0.0	10.7	0.0
Cycle Q Clear(g_c), s	5.7	5.1	6.2				0.0	6.4	5.8	10.7	10.7	0.0
Prop In Lane	0.09		1.00				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	538	929	420				0	788	571	838	681	0
V/C Ratio(X)	0.32	0.29	0.35				0.00	0.31	0.28	0.44	0.47	0.00
Avail Cap(c_a), veh/h	538	929	420				0	788	571	838	681	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.0	16.8	17.2				0.0	10.4	10.2	11.4	11.4	0.0
Incr Delay (d2), s/veh	1.6	0.8	2.3				0.0	1.0	1.2	1.7	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	2.9	3.5				0.0	4.1	2.7	6.8	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	17.6	19.4				0.0	11.4	11.4	13.1	13.7	0.0
LnGrp LOS	B	B	B				A	B	B	B	B	A
Approach Vol, veh/h		587						407			688	
Approach Delay, s/veh		18.3						11.4			13.4	
Approach LOS		B						B			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		40.5		29.5		40.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		35.0		24.0		35.0						
Max Q Clear Time (g_c+I1), s		12.7		8.2		8.4						
Green Ext Time (p_c), s		4.6		3.6		2.3						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									



















HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2017 Existing Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	957	21	0	0	0	0	815	399	2	249	0
Future Volume (veh/h)	39	957	21	0	0	0	0	815	399	2	249	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89				1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	41	1018	22				0	867	424	2	265	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	82	2193	48				0	753	537	41	1292	0
Arrive On Green	0.40	0.40	0.40				0.00	0.48	0.48	0.48	0.48	0.00
Sat Flow, veh/h	206	5482	121				0	1575	1125	0	2775	0
Grp Volume(v), veh/h	312	490	279				0	867	424	138	129	0
Grp Sat Flow(s),veh/h/ln	1565	1355	1535				0	1575	1125	1342	1362	0
Q Serve(g_s), s	13.4	11.9	12.0				0.0	43.0	28.4	0.0	4.9	0.0
Cycle Q Clear(g_c), s	13.4	11.9	12.0				0.0	43.0	28.4	43.0	4.9	0.0
Prop In Lane	0.13		0.08				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	626	1084	614				0	753	537	682	651	0
V/C Ratio(X)	0.50	0.45	0.45				0.00	1.15	0.79	0.20	0.20	0.00
Avail Cap(c_a), veh/h	626	1084	614				0	753	537	682	651	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.2	19.8	19.8				0.0	23.5	19.7	13.7	13.6	0.0
Incr Delay (d2), s/veh	2.8	1.4	2.4				0.0	83.3	11.2	0.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	7.0	8.1				0.0	46.2	13.6	3.0	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	21.1	22.2				0.0	106.8	30.9	14.3	14.2	0.0
LnGrp LOS	C	C	C				A	F	C	B	B	A
Approach Vol, veh/h		1081						1291			267	
Approach Delay, s/veh		22.0						81.9			14.3	
Approach LOS		C						F			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		48.5		41.5		48.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		43.0		36.0		43.0						
Max Q Clear Time (g_c+I1), s		45.0		15.4		45.0						
Green Ext Time (p_c), s		0.0		7.5		0.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.5									
HCM 6th LOS			D									




















HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp

Year 2017 Existing Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	1366	156	44	838	0	0	1141	41
Future Volume (veh/h)	0	0	0	272	1366	156	44	838	0	0	1141	41
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	1.00		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				289	1453	166	47	891	0	0	1214	44
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				729	2007	229	151	1090	0	0	1546	56
Arrive On Green				0.49	0.49	0.49	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1500	4132	472	441	3071	0	0	4386	154
Grp Volume(v), veh/h				289	1108	511	47	891	0	0	820	438
Grp Sat Flow(s),veh/h/ln				1500	1575	1453	441	1496	0	0	1433	1531
Q Serve(g_s), s				8.6	19.5	19.5	7.4	18.9	0.0	0.0	17.8	17.8
Cycle Q Clear(g_c), s				8.6	19.5	19.5	25.3	18.9	0.0	0.0	17.8	17.8
Prop In Lane				1.00		0.32	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h				729	1530	706	151	1090	0	0	1044	558
V/C Ratio(X)				0.40	0.72	0.72	0.31	0.82	0.00	0.00	0.79	0.79
Avail Cap(c_a), veh/h				729	1530	706	151	1090	0	0	1044	558
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				11.5	14.3	14.3	31.1	20.1	0.0	0.0	19.8	19.8
Incr Delay (d2), s/veh				1.6	3.0	6.4	5.3	6.8	0.0	0.0	5.9	10.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.3	11.2	11.4	1.7	11.2	0.0	0.0	10.2	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.1	17.3	20.7	36.4	27.0	0.0	0.0	25.7	30.5
LnGrp LOS				B	B	C	D	C	A	A	C	C
Approach Vol, veh/h					1908			938			1258	
Approach Delay, s/veh					17.6			27.4			27.4	
Approach LOS					B			C			C	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	30.5			39.5			30.5					
Change Period (Y+Rc), s	5.0			5.5			5.0					
Max Green Setting (Gmax), s	25.5			34.0			25.5					
Max Q Clear Time (g_c+I1), s	19.8			21.5			27.3					
Green Ext Time (p_c), s	3.6			9.2			0.0					
Intersection Summary												
HCM 6th Ctrl Delay				22.8								
HCM 6th LOS				C								
Notes												

HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp




















Year 2017 Existing Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	194	514	210	18	1707	0	0	895	22
Future Volume (veh/h)	0	0	0	194	514	210	18	1707	0	0	895	22
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )				1.00		0.91	1.00		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				206	547	223	19	1816	0	0	952	23
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				475	998	383	335	1696	0	0	2443	59
Arrive On Green				0.32	0.32	0.32	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h				1500	3150	1208	574	3071	0	0	4454	104
Grp Volume(v), veh/h				206	547	223	19	1816	0	0	633	342
Grp Sat Flow(s),veh/h/ln				1500	1575	1208	574	1496	0	0	1433	1549
Q Serve(g <sub>s</sub> ), s				9.8	12.9	13.9	1.7	51.0	0.0	0.0	11.0	11.1
Cycle Q Clear(g <sub>c</sub> ), s				9.8	12.9	13.9	12.8	51.0	0.0	0.0	11.0	11.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h				475	998	383	335	1696	0	0	1624	878
V/C Ratio(X)				0.43	0.55	0.58	0.06	1.07	0.00	0.00	0.39	0.39
Avail Cap(c <sub>a</sub> ), veh/h				475	998	383	335	1696	0	0	1624	878
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.4	25.4	25.8	14.4	19.5	0.0	0.0	10.8	10.8
Incr Delay (d2), s/veh				2.9	2.2	6.4	0.3	43.6	0.0	0.0	0.7	1.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.9	8.8	8.1	0.4	35.5	0.0	0.0	5.9	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.2	27.6	32.1	14.7	63.1	0.0	0.0	11.5	12.2
LnGrp LOS				C	C	C	B	F	A	A	B	B
Approach Vol, veh/h					976			1835			975	
Approach Delay, s/veh					28.6			62.6			11.8	
Approach LOS					C			E			B	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s		56.0			34.0			56.0				
Change Period (Y+Rc), s		5.0			5.5			5.0				
Max Green Setting (Gmax), s		51.0			28.5			51.0				
Max Q Clear Time (g <sub>c</sub> +I1), s		13.1			15.9			53.0				
Green Ext Time (p <sub>c</sub> ), s		7.5			5.0			0.0				
Intersection Summary												
HCM 6th Ctrl Delay				40.7								
HCM 6th LOS				D								
Notes												
User approved volume balancing among the lanes for turning movement.												






















HCM 6th Signalized Intersection Summary  
 32: Garey St/US-101 SB Ramps & Commercial St

Year 2017 Existing Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	59	40	15	97	93	29	32	11	272	66	291
Future Volume (veh/h)	132	59	40	15	97	93	29	32	11	272	66	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		0.98	0.97		1.00	1.00		0.89	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	140	63	43	16	103	99	31	34	12	289	70	310
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	387	264	505	486	423	109	124	44	305	74	428
Arrive On Green	0.07	0.45	0.45	0.32	0.32	0.32	0.09	0.09	0.09	0.25	0.25	0.25
Sat Flow, veh/h	2910	864	589	1253	1514	1319	1161	1313	469	1219	295	1335
Grp Volume(v), veh/h	140	0	106	16	102	100	41	0	36	359	0	310
Grp Sat Flow(s),veh/h/ln	1455	0	1453	1253	1496	1338	1517	0	1425	1514	0	1335
Q Serve(g <sub>s</sub> ), s	3.3	0.0	3.0	0.6	3.5	3.9	1.7	0.0	1.7	16.3	0.0	14.4
Cycle Q Clear(g <sub>c</sub> ), s	3.3	0.0	3.0	0.6	3.5	3.9	1.7	0.0	1.7	16.3	0.0	14.4
Prop In Lane	1.00		0.41	1.00		0.99	0.77		0.33	0.81		1.00
Lane Grp Cap(c), veh/h	205	0	652	505	480	429	143	0	134	379	0	428
V/C Ratio(X)	0.68	0.00	0.16	0.03	0.21	0.23	0.28	0.00	0.27	0.95	0.00	0.72
Avail Cap(c <sub>a</sub> ), veh/h	208	0	652	505	480	429	412	0	387	379	0	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	11.5	16.4	17.3	17.5	29.5	0.0	29.5	25.8	0.0	21.0
Incr Delay (d2), s/veh	9.6	0.0	0.5	0.1	1.0	1.3	1.1	0.0	1.1	33.1	0.0	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	1.8	0.3	2.3	2.3	1.2	0.0	1.1	13.9	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	12.0	16.5	18.3	18.7	30.6	0.0	30.5	58.9	0.0	27.0
LnGrp LOS	D	A	B	B	B	B	C	A	C	E	A	C
Approach Vol, veh/h		246			218			77			669	
Approach Delay, s/veh		28.7			18.4			30.6			44.1	
Approach LOS		C			B			C			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		37.9		21.5	8.9	29.0		10.6				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		19.0		17.5	5.0	10.0		19.0				
Max Q Clear Time (g <sub>c</sub> +I1), s		5.0		18.3	5.3	5.9		3.7				
Green Ext Time (p <sub>c</sub> ), s		0.6		0.0	0.0	0.4		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				35.5								
HCM 6th LOS				D								


















HCM 6th Signalized Intersection Summary  
32: Garey St/US-101 SB Ramps & Commercial St

Year 2017 Existing Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	36	14	5	37	322	21	433	20	132	26	141
Future Volume (veh/h)	235	36	14	5	37	322	21	433	20	132	26	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.97		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	250	38	15	5	39	343	22	461	21	140	28	150
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	532	210	528	510	455	27	580	28	172	34	333
Arrive On Green	0.11	0.50	0.50	0.34	0.34	0.34	0.20	0.20	0.20	0.14	0.14	0.14
Sat Flow, veh/h	2910	1068	421	1314	1496	1335	130	2845	136	1260	252	1335
Grp Volume(v), veh/h	250	0	53	5	39	343	266	0	238	168	0	150
Grp Sat Flow(s),veh/h/ln	1455	0	1489	1314	1496	1335	1569	0	1542	1512	0	1335
Q Serve(g_s), s	7.5	0.0	1.7	0.2	1.6	20.5	14.6	0.0	13.1	9.7	0.0	8.6
Cycle Q Clear(g_c), s	7.5	0.0	1.7	0.2	1.6	20.5	14.6	0.0	13.1	9.7	0.0	8.6
Prop In Lane	1.00		0.28	1.00		1.00	0.08		0.09	0.83		1.00
Lane Grp Cap(c), veh/h	329	0	742	528	510	455	320	0	315	206	0	333
V/C Ratio(X)	0.76	0.00	0.07	0.01	0.08	0.75	0.83	0.00	0.76	0.81	0.00	0.45
Avail Cap(c_a), veh/h	517	0	742	528	510	455	392	0	386	269	0	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	11.7	19.6	20.1	26.3	34.3	0.0	33.7	37.7	0.0	28.6
Incr Delay (d2), s/veh	5.1	0.0	0.2	0.0	0.3	11.0	11.7	0.0	6.8	13.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	0.0	1.0	0.1	1.1	12.3	10.8	0.0	9.3	7.7	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	0.0	11.9	19.6	20.4	37.3	46.1	0.0	40.5	51.3	0.0	29.5
LnGrp LOS	D	A	B	B	C	D	D	A	D	D	A	C
Approach Vol, veh/h		303			387			504			318	
Approach Delay, s/veh		38.3			35.4			43.4			41.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		51.4		16.3	14.2	37.2		22.4				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		37.0		16.0	16.0	17.0		22.5				
Max Q Clear Time (g_c+I1), s		3.7		11.7	9.5	22.5		16.6				
Green Ext Time (p_c), s		0.4		0.6	0.7	0.0		1.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				39.8								
HCM 6th LOS				D								


















HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2017 Existing with Project Conditions  
Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	3	375	50	76	27	420	0	0	1161	68
Future Volume (veh/h)	1	0	3	375	50	76	27	420	0	0	1161	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbT</sub> )	1.00		0.97	0.96		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	1	0	3	399	53	81	29	447	0	0	1235	72
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	108	26	209	744	122	187	116	1622	0	0	1895	110
Arrive On Green	0.22	0.00	0.22	0.22	0.22	0.22	0.66	0.66	0.00	0.00	0.66	0.66
Sat Flow, veh/h	201	119	960	2722	562	859	89	2525	0	0	2944	167
Grp Volume(v), veh/h	4	0	0	399	0	134	235	241	0	0	644	663
Grp Sat Flow(s),veh/h/ln	1280	0	0	1361	0	1420	1180	1362	0	0	1496	1536
Q Serve(g <sub>s</sub> ), s	0.0	0.0	0.0	5.3	0.0	5.7	1.1	5.1	0.0	0.0	17.9	18.0
Cycle Q Clear(g <sub>c</sub> ), s	5.7	0.0	0.0	11.0	0.0	5.7	19.2	5.1	0.0	0.0	17.9	18.0
Prop In Lane	0.25		0.75	1.00		0.60	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h	343	0	0	744	0	309	838	900	0	0	989	1015
V/C Ratio(X)	0.01	0.00	0.00	0.54	0.00	0.43	0.28	0.27	0.00	0.00	0.65	0.65
Avail Cap(c <sub>a</sub> ), veh/h	642	0	0	1378	0	639	838	900	0	0	989	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	0.0	26.1	0.0	23.7	4.9	4.9	0.0	0.0	7.1	7.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	1.0	0.8	0.7	0.0	0.0	3.3	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	5.5	0.0	3.4	2.3	2.4	0.0	0.0	9.2	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	0.0	26.7	0.0	24.6	5.7	5.6	0.0	0.0	10.4	10.3
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	B	B
Approach Vol, veh/h		4			533			476			1307	
Approach Delay, s/veh		21.5			26.2			5.7			10.4	
Approach LOS		C			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.3		19.7		50.3		19.7				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		30.0		31.5		30.0		31.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		20.0		13.0		21.2		7.7				
Green Ext Time (p <sub>c</sub> ), s		6.2		2.2		2.2		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				13.0								
HCM 6th LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2017 Existing with Project Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	0	51	245	0	81	0	1453	0	0	655	0
Future Volume (veh/h)	63	0	51	245	0	81	0	1453	0	0	655	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.97		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	67	0	54	261	0	86	0	1546	0	0	697	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	146	14	79	513	0	231	0	2193	0	0	2193	0
Arrive On Green	0.17	0.00	0.17	0.17	0.00	0.17	0.00	0.73	0.00	0.00	0.73	0.00
Sat Flow, veh/h	483	82	455	2608	0	1335	0	3150	0	0	3150	0
Grp Volume(v), veh/h	121	0	0	261	0	86	0	1546	0	0	697	0
Grp Sat Flow(s),veh/h/ln	1021	0	0	1304	0	1335	0	1496	0	0	1496	0
Q Serve(g_s), s	6.2	0.0	0.0	0.7	0.0	5.1	0.0	25.7	0.0	0.0	7.3	0.0
Cycle Q Clear(g_c), s	11.3	0.0	0.0	12.0	0.0	5.1	0.0	25.7	0.0	0.0	7.3	0.0
Prop In Lane	0.55		0.45	1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	239	0	0	513	0	231	0	2193	0	0	2193	0
V/C Ratio(X)	0.51	0.00	0.00	0.51	0.00	0.37	0.00	0.71	0.00	0.00	0.32	0.00
Avail Cap(c_a), veh/h	556	0	0	1149	0	556	0	2193	0	0	2193	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	36.3	0.0	0.0	35.9	0.0	32.9	0.0	6.7	0.0	0.0	4.2	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.8	0.0	1.0	0.0	1.9	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	0.0	5.0	0.0	3.1	0.0	11.4	0.0	0.0	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	0.0	0.0	36.7	0.0	33.9	0.0	8.6	0.0	0.0	4.6	0.0
LnGrp LOS	D	A	A	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h		121			347			1546			697	
Approach Delay, s/veh		38.0			36.0			8.6			4.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.9		20.1		69.9		20.1				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		44.0		37.5		44.0		37.5				
Max Q Clear Time (g_c+I1), s		9.3		14.0		27.7		13.3				
Green Ext Time (p_c), s		5.8		1.5		10.8		0.7				

Intersection Summary

HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes













User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

9: Figueroa St & SR-110 Fwy NB Ramps/3rd St


Year 2017 Existing with Project Conditions

Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	463	0	0	991	100	145	838	184	19	0	1101
Future Volume (veh/h)	0	463	0	0	991	100	145	838	184	19	0	1101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.75	1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	493	0	0	1054	106	154	891	196	20	0	1171
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1214	0	0	2587	408	1971	1238	269	35	0	0
Arrive On Green	0.00	0.41	0.00	0.00	0.41	0.41	0.15	0.12	0.12	0.02	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	1006	4230	3397	739	1500	20	
Grp Volume(v), veh/h	0	493	0	0	1054	106	154	750	337	20	48.3	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	1006	1410	1433	1270	1500	D	
Q Serve(g_s), s	0.0	8.2	0.0	0.0	8.2	4.9	2.2	17.6	17.9	0.9		
Cycle Q Clear(g_c), s	0.0	8.2	0.0	0.0	8.2	4.9	2.2	17.6	17.9	0.9		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.58	1.00		
Lane Grp Cap(c), veh/h	0	1214	0	0	2587	408	1971	1044	463	35		
V/C Ratio(X)	0.00	0.41	0.00	0.00	0.41	0.26	0.08	0.72	0.73	0.58		
Avail Cap(c_a), veh/h	0	1214	0	0	2587	408	1971	1044	463	129		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.78	0.78	0.78	1.00		
Uniform Delay (d), s/veh	0.0	14.8	0.0	0.0	14.8	13.8	16.7	27.3	27.4	33.9		
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.5	1.5	0.1	3.3	7.6	14.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	4.9	0.0	0.0	4.2	2.1	1.2	10.9	10.7	0.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.8	0.0	0.0	15.3	15.4	16.8	30.7	35.1	48.3		
LnGrp LOS	A	B	A	A	B	B	B	C	D	D		
Approach Vol, veh/h		493			1160			1241				
Approach Delay, s/veh		15.8			15.3			30.2				
Approach LOS		B			B			C				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		33.4	36.6			33.4	5.6	31.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		24.0	11.0			24.0	6.0	25.5				
Max Q Clear Time (g_c+I1), s		10.2	4.2			10.2	2.9	19.9				
Green Ext Time (p_c), s		6.9	0.3			2.8	0.0	3.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
 9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	61	0	0	1909	116	922	2447	80	24	0	696
Future Volume (veh/h)	0	61	0	0	1909	116	922	2447	80	24	0	696
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		1.00	1.00		0.73	1.00		0.86	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	65	0	0	2031	123	981	2603	85	26	0	740
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1118	0	0	2382	365	2227	1867	60	40	0	0
Arrive On Green	0.00	0.37	0.00	0.00	0.37	0.37	0.17	0.14	0.14	0.03	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	977	4230	4255	137	1500	26	
Grp Volume(v), veh/h	0	65	0	0	2031	123	981	1741	947	26	60.0	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	977	1410	1433	1525	1500	E	
Q Serve(g <sub>s</sub> ), s	0.0	1.3	0.0	0.0	26.3	8.1	18.7	39.5	39.5	1.5		
Cycle Q Clear(g <sub>c</sub> ), s	0.0	1.3	0.0	0.0	26.3	8.1	18.7	39.5	39.5	1.5		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.09	1.00		
Lane Grp Cap(c), veh/h	0	1118	0	0	2382	365	2227	1258	669	40		
V/C Ratio(X)	0.00	0.06	0.00	0.00	0.85	0.34	0.44	1.38	1.42	0.65		
Avail Cap(c <sub>a</sub> ), veh/h	0	1118	0	0	2382	365	2227	1258	669	117		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.30	0.30	0.30	1.00		
Uniform Delay (d), s/veh	0.0	18.1	0.0	0.0	25.9	20.2	25.3	38.5	38.5	43.4		
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	4.1	2.5	0.2	174.1	189.7	16.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	0.8	0.0	0.0	13.0	3.6	9.4	64.0	72.5	1.3		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.2	0.0	0.0	30.0	22.7	25.5	212.6	228.2	60.0		
LnGrp LOS	A	B	A	A	C	C	C	F	F	E		
Approach Vol, veh/h		65			2154			3669				
Approach Delay, s/veh		18.2			29.6			166.6				
Approach LOS		B			C			F				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		38.6	51.4			38.6	6.4	45.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		29.0	31.5			29.0	7.0	39.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		28.3	20.7			3.3	3.5	41.5				
Green Ext Time (p <sub>c</sub> ), s		0.6	3.1			0.3	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			114.6									
HCM 6th LOS			F									

# HCM Signalized Intersection Capacity Analysis

Year 2017 Existing with Project Conditions

10: Figueroa St/Figueroa Blvd & SR-110 NB and SB On-Ramps/5th St

















Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					6L	7	7	7	7			
Traffic Volume (vph)	0	0	0	0	1268	328	496	1308	0	0	0	0
Future Volume (vph)	0	0	0	0	1268	328	496	1308	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					4.0	4.0	4.0	4.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Flpb, ped/bikes					0.99	0.84	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					0.99	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6494	796	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6494	796	4202	4282				
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1294	335	506	1335	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	73	338	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1419	131	168	1335	0	0	0	0
Confl. Peds. (#/hr)			246			154			244			216
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					22.0	22.0	23.2	38.0				
Effective Green, g (s)					23.0	23.0	23.2	39.0				
Actuated g/C Ratio					0.33	0.33	0.33	0.56				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2133	261	1392	2385				
v/s Ratio Prot					c0.22		0.04	c0.31				
v/s Ratio Perm						0.16						
v/c Ratio					0.67	0.50	0.12	0.56				
Uniform Delay, d1					20.2	18.9	16.3	10.0				
Progression Factor					1.00	1.00	1.81	0.22				
Incremental Delay, d2					1.7	6.7	0.2	0.8				
Delay (s)					21.9	25.6	29.6	3.0				
Level of Service					C	C	C	A				
Approach Delay (s)		0.0			22.3			10.3			0.0	
Approach LOS		A			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.9		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)						14.0	
Intersection Capacity Utilization			60.7%		ICU Level of Service						B	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 10: Figueroa St & SR-110 NB and SB On-Ramps/5th St

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1704	314	801	1956	0	0	0	0
Future Volume (vph)	0	0	0	0	1704	314	801	1956	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					5.0	5.0	4.0	5.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Flpb, ped/bikes					0.99	0.70	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					0.99	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6577	666	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6577	666	4202	4282				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	1775	327	834	2038	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	56	422	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1839	206	412	2038	0	0	0	0
Confl. Peds. (#/hr)			225			235			261			178
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					31.0	31.0	34.2	49.0				
Effective Green, g (s)					31.0	31.0	34.2	49.0				
Actuated g/C Ratio					0.34	0.34	0.38	0.54				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2265	229	1596	2331				
v/s Ratio Prot					0.28		0.10	c0.48				
v/s Ratio Perm						c0.31						
v/c Ratio					0.81	0.90	0.26	0.87				
Uniform Delay, d1					26.8	28.0	19.2	17.8				
Progression Factor					1.00	1.00	2.02	0.99				
Incremental Delay, d2					3.3	38.4	0.3	4.1				
Delay (s)					30.2	66.4	39.0	21.7				
Level of Service					C	E	D	C				
Approach Delay (s)		0.0			34.7			26.7			0.0	
Approach LOS		A			C			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.1		HCM 2000 Level of Service						C	
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)						14.0	
Intersection Capacity Utilization			76.7%		ICU Level of Service						D	
Analysis Period (min)			15									

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2017 Existing with Project Conditions  
 Weekday AM Peak Hour





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	2344	0	0	0	0	0	1556	200	0	0	0
Future Volume (vph)	233	2344	0	0	0	0	0	1556	200	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0						4.0	4.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5958						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5958						6353	1333			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	248	2494	0	0	0	0	0	1655	213	0	0	0
RTOR Reduction (vph)	69	69	0	0	0	0	0	0	85	0	0	0
Lane Group Flow (vph)	154	2450	0	0	0	0	0	1655	128	0	0	0
Confl. Peds. (#/hr)			156			153			447			310
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	24.5	24.5						35.0	18.0			
Effective Green, g (s)	26.0	26.0						36.0	19.0			
Actuated g/C Ratio	0.37	0.37						0.51	0.27			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	420	2212						3267	361			
v/s Ratio Prot								c0.26	0.10			
v/s Ratio Perm	0.14	0.41										
v/c Ratio	0.37	1.11						0.51	0.35			
Uniform Delay, d1	16.0	22.0						11.2	20.6			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	2.5	55.8						0.6	2.7			
Delay (s)	18.5	77.8						11.7	23.3			
Level of Service	B	E						B	C			
Approach Delay (s)		73.0			0.0			13.0			0.0	
Approach LOS		E			A			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			48.7									D
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			70.0									14.5
Intersection Capacity Utilization			60.7%									B
Analysis Period (min)			15									
c Critical Lane Group												

## Queues

Year 2017 Existing with Project Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday AM Peak Hour























				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	223	2519	1655	213
v/c Ratio	0.43	1.03	0.54	0.48
Control Delay	10.8	47.6	13.3	19.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.8	47.6	13.3	19.5
Queue Length 50th (ft)	42	~288	115	40
Queue Length 95th (ft)	111	#374	141	#145
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	518	2449	3085	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	1.03	0.54	0.48

## Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		   						   				
Traffic Volume (vph)	298	1183	0	0	0	0	0	2347	221	0	0	0
Future Volume (vph)	298	1183	0	0	0	0	0	2347	221	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	5.5	5.5						5.0	5.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5947						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5947						6353	1333			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	307	1220	0	0	0	0	0	2420	228	0	0	0
RTOR Reduction (vph)	66	66	0	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	180	1215	0	0	0	0	0	2420	179	0	0	0
Confl. Peds. (#/hr)			213			203			760			203
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	20.5	20.5						59.0	42.0			
Effective Green, g (s)	20.5	20.5						59.0	42.0			
Actuated g/C Ratio	0.23	0.23						0.66	0.47			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	258	1354						4164	622			
v/s Ratio Prot								c0.38	0.13			
v/s Ratio Perm	0.16	0.20										
v/c Ratio	0.70	0.90						0.58	0.29			
Uniform Delay, d1	31.9	33.7						8.6	14.8			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	14.6	9.6						0.6	1.2			
Delay (s)	46.5	43.4						9.2	16.0			
Level of Service	D	D						A	B			
Approach Delay (s)		43.9			0.0			9.8			0.0	
Approach LOS		D			A			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.3					HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)		15.5		
Intersection Capacity Utilization			65.9%					ICU Level of Service		C		
Analysis Period (min)			15									





c Critical Lane Group

## Queues

Year 2017 Existing with Project Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday PM Peak Hour






















				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	246	1281	2420	228
v/c Ratio	0.71	0.83	0.60	0.34
Control Delay	32.7	35.1	10.6	13.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.7	35.1	10.6	13.4
Queue Length 50th (ft)	109	170	181	55
Queue Length 95th (ft)	#253	209	209	120
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	347	1551	4023	670
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.83	0.60	0.34

## Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



















HCM 6th Signalized Intersection Summary  
13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St




Year 2017 Existing with Project Conditions  
Weekday AM Peak Hour




												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	108	210	162	0	0	0	0	328	97	154	992	0
Future Volume (veh/h)	108	210	162	0	0	0	0	328	97	154	992	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.88	0.96		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No				No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	115	223	172				0	349	103	164	1055	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	420	876	532				0	1261	496	414	1261	0
Arrive On Green	0.43	0.43	0.43				0.00	0.42	0.42	0.42	0.42	0.00
Sat Flow, veh/h	979	2043	1241				0	3071	1176	900	3071	0
Grp Volume(v), veh/h	179	159	172				0	349	103	164	1055	0
Grp Sat Flow(s),veh/h/ln	1526	1496	1241				0	1496	1176	900	1496	0
Q Serve(g_s), s	5.3	4.7	6.4				0.0	5.3	3.9	10.2	22.1	0.0
Cycle Q Clear(g_c), s	5.3	4.7	6.4				0.0	5.3	3.9	15.6	22.1	0.0
Prop In Lane	0.64		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	654	641	532				0	1261	496	414	1261	0
V/C Ratio(X)	0.27	0.25	0.32				0.00	0.28	0.21	0.40	0.84	0.00
Avail Cap(c_a), veh/h	654	641	532				0	1261	496	414	1261	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.9	12.8	13.3				0.0	13.3	12.8	18.4	18.1	0.0
Incr Delay (d2), s/veh	1.0	0.9	1.6				0.0	0.5	0.9	2.8	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	2.9	3.4				0.0	3.2	2.0	4.2	12.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	13.7	14.9				0.0	13.8	13.8	21.2	24.8	0.0
LnGrp LOS	B	B	B				A	B	B	C	C	A
Approach Vol, veh/h		510						452			1219	
Approach Delay, s/veh		14.2						13.8			24.3	
Approach LOS		B						B			C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		34.0		36.0		34.0						
Change Period (Y+Rc), s		4.5		6.0		4.5						
Max Green Setting (Gmax), s		29.5		30.0		29.5						
Max Q Clear Time (g_c+I1), s		24.1		8.4		7.3						
Green Ext Time (p_c), s		1.4		2.6		2.8						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			19.8									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary  
 13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	270	74	0	0	0	0	936	232	108	679	0
Future Volume (veh/h)	88	270	74	0	0	0	0	936	232	108	679	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.89	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	94	287	79				0	996	247	115	722	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	293	955	509				0	1413	564	173	1413	0
Arrive On Green	0.41	0.41	0.41				0.00	0.47	0.47	0.47	0.47	0.00
Sat Flow, veh/h	714	2322	1237				0	3071	1193	447	3071	0
Grp Volume(v), veh/h	203	178	79				0	996	247	115	722	0
Grp Sat Flow(s),veh/h/ln	1539	1496	1237				0	1496	1193	447	1496	0
Q Serve(g_s), s	8.0	7.2	3.6				0.0	23.7	12.4	18.8	15.1	0.0
Cycle Q Clear(g_c), s	8.0	7.2	3.6				0.0	23.7	12.4	42.5	15.1	0.0
Prop In Lane	0.46		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	633	615	509				0	1413	564	173	1413	0
V/C Ratio(X)	0.32	0.29	0.16				0.00	0.70	0.44	0.66	0.51	0.00
Avail Cap(c_a), veh/h	633	615	509				0	1413	564	173	1413	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.0	17.7	16.7				0.0	18.8	15.8	37.4	16.5	0.0
Incr Delay (d2), s/veh	1.3	1.2	0.6				0.0	3.0	2.5	18.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	4.7	2.0				0.0	13.2	6.6	6.2	9.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	18.9	17.3				0.0	21.8	18.3	55.6	17.8	0.0
LnGrp LOS	B	B	B				A	C	B	E	B	A
Approach Vol, veh/h		460						1243			837	
Approach Delay, s/veh		18.8						21.1			23.0	
Approach LOS		B						C			C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		47.0		43.0		47.0						
Change Period (Y+Rc), s		4.5		6.0		4.5						
Max Green Setting (Gmax), s		42.5		37.0		42.5						
Max Q Clear Time (g_c+I1), s		44.5		10.0		25.7						
Green Ext Time (p_c), s		0.0		2.6		8.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

















Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	99	0	34	728	0
Future Vol, veh/h	0	99	0	34	728	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	105	0	36	774	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	387	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	611	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	611	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.1	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 611	-				
HCM Lane V/C Ratio	- 0.172	-				
HCM Control Delay (s)	- 12.1	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 0.6	-				

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	117	0	47	389	0
Future Vol, veh/h	0	117	0	47	389	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	124	0	50	414	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	207	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	799	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	799	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.3	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 799	-				
HCM Lane V/C Ratio	- 0.156	-				
HCM Control Delay (s)	- 10.3	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 0.6	-				



















HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2017 Existing with Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	415	137	0	0	0	0	230	152	4	643	0
Future Volume (veh/h)	14	415	137	0	0	0	0	230	152	4	643	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92				1.00		0.86	0.95		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	15	441	146				0	245	162	4	684	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	45	1421	420				0	788	571	54	1466	0
Arrive On Green	0.34	0.34	0.34				0.00	0.50	0.50	0.50	0.50	0.00
Sat Flow, veh/h	133	4145	1225				0	1575	1142	3	3003	0
Grp Volume(v), veh/h	178	278	146				0	245	162	369	319	0
Grp Sat Flow(s),veh/h/ln	1568	1355	1225				0	1575	1142	1573	1362	0
Q Serve(g_s), s	5.9	5.3	6.2				0.0	6.4	5.8	0.0	10.7	0.0
Cycle Q Clear(g_c), s	5.9	5.3	6.2				0.0	6.4	5.8	10.7	10.7	0.0
Prop In Lane	0.08		1.00				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	538	929	420				0	788	571	838	681	0
V/C Ratio(X)	0.33	0.30	0.35				0.00	0.31	0.28	0.44	0.47	0.00
Avail Cap(c_a), veh/h	538	929	420				0	788	571	838	681	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.0	16.8	17.2				0.0	10.4	10.2	11.4	11.4	0.0
Incr Delay (d2), s/veh	1.6	0.8	2.3				0.0	1.0	1.2	1.7	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	3.0	3.5				0.0	4.1	2.7	6.8	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	17.7	19.4				0.0	11.4	11.4	13.1	13.7	0.0
LnGrp LOS	B	B	B				A	B	B	B	B	A
Approach Vol, veh/h		602						407			688	
Approach Delay, s/veh		18.4						11.4			13.4	
Approach LOS		B						B			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		40.5		29.5		40.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		35.0		24.0		35.0						
Max Q Clear Time (g_c+I1), s		12.7		8.2		8.4						
Green Ext Time (p_c), s		4.6		3.7		2.3						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			B									


















HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	1025	21	0	0	0	0	815	399	2	249	0
Future Volume (veh/h)	39	1025	21	0	0	0	0	815	399	2	249	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89				1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	41	1090	22				0	867	424	2	265	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	77	2202	45				0	753	537	41	1292	0
Arrive On Green	0.40	0.40	0.40				0.00	0.48	0.48	0.48	0.48	0.00
Sat Flow, veh/h	193	5505	114				0	1575	1125	0	2775	0
Grp Volume(v), veh/h	332	523	298				0	867	424	138	129	0
Grp Sat Flow(s),veh/h/ln	1565	1355	1538				0	1575	1125	1342	1362	0
Q Serve(g_s), s	14.6	12.9	13.0				0.0	43.0	28.4	0.0	4.9	0.0
Cycle Q Clear(g_c), s	14.6	12.9	13.0				0.0	43.0	28.4	43.0	4.9	0.0
Prop In Lane	0.12		0.07				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	626	1084	615				0	753	537	682	651	0
V/C Ratio(X)	0.53	0.48	0.48				0.00	1.15	0.79	0.20	0.20	0.00
Avail Cap(c_a), veh/h	626	1084	615				0	753	537	682	651	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.6	20.1	20.1				0.0	23.5	19.7	13.7	13.6	0.0
Incr Delay (d2), s/veh	3.2	1.5	2.7				0.0	83.3	11.2	0.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.7	7.6	8.7				0.0	46.2	13.6	3.0	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	21.6	22.8				0.0	106.8	30.9	14.3	14.2	0.0
LnGrp LOS	C	C	C				A	F	C	B	B	A
Approach Vol, veh/h		1153						1291			267	
Approach Delay, s/veh		22.5						81.9			14.3	
Approach LOS		C						F			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		48.5		41.5		48.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		43.0		36.0		43.0						
Max Q Clear Time (g_c+I1), s		45.0		16.6		45.0						
Green Ext Time (p_c), s		0.0		7.9		0.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.0									
HCM 6th LOS			D									




















HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp

Year 2017 Existing with Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	1403	156	44	838	0	0	1141	41
Future Volume (veh/h)	0	0	0	272	1403	156	44	838	0	0	1141	41
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )				1.00		0.94	1.00		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				289	1493	166	47	891	0	0	1214	44
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				729	2014	224	151	1090	0	0	1546	56
Arrive On Green				0.49	0.49	0.49	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1500	4146	460	441	3071	0	0	4386	154
Grp Volume(v), veh/h				289	1134	525	47	891	0	0	820	438
Grp Sat Flow(s),veh/h/ln				1500	1575	1456	441	1496	0	0	1433	1531
Q Serve(g <sub>s</sub> ), s				8.6	20.2	20.3	7.4	18.9	0.0	0.0	17.8	17.8
Cycle Q Clear(g <sub>c</sub> ), s				8.6	20.2	20.3	25.3	18.9	0.0	0.0	17.8	17.8
Prop In Lane				1.00		0.32	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h				729	1530	707	151	1090	0	0	1044	558
V/C Ratio(X)				0.40	0.74	0.74	0.31	0.82	0.00	0.00	0.79	0.79
Avail Cap(c <sub>a</sub> ), veh/h				729	1530	707	151	1090	0	0	1044	558
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				11.5	14.5	14.5	31.1	20.1	0.0	0.0	19.8	19.8
Incr Delay (d2), s/veh				1.6	3.3	6.9	5.3	6.8	0.0	0.0	5.9	10.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.3	11.6	11.8	1.7	11.2	0.0	0.0	10.2	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.1	17.7	21.4	36.4	27.0	0.0	0.0	25.7	30.5
LnGrp LOS				B	B	C	D	C	A	A	C	C
Approach Vol, veh/h					1948			938			1258	
Approach Delay, s/veh					18.0			27.4			27.4	
Approach LOS					B			C			C	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s		30.5			39.5			30.5				
Change Period (Y+Rc), s		5.0			5.5			5.0				
Max Green Setting (Gmax), s		25.5			34.0			25.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		19.8			22.3			27.3				
Green Ext Time (p <sub>c</sub> ), s		3.6			8.9			0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.0								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												




















HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	194	523	210	18	1707	0	0	895	22
Future Volume (veh/h)	0	0	0	194	523	210	18	1707	0	0	895	22
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )				1.00		0.91	1.00		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				206	556	223	19	1816	0	0	952	23
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				475	1000	381	335	1696	0	0	2443	59
Arrive On Green				0.32	0.32	0.32	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h				1500	3157	1203	574	3071	0	0	4454	104
Grp Volume(v), veh/h				206	555	224	19	1816	0	0	633	342
Grp Sat Flow(s),veh/h/ln				1500	1575	1210	574	1496	0	0	1433	1549
Q Serve(g <sub>s</sub> ), s				9.8	13.1	14.0	1.7	51.0	0.0	0.0	11.0	11.1
Cycle Q Clear(g <sub>c</sub> ), s				9.8	13.1	14.0	12.8	51.0	0.0	0.0	11.0	11.1
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h				475	998	383	335	1696	0	0	1624	878
V/C Ratio(X)				0.43	0.56	0.59	0.06	1.07	0.00	0.00	0.39	0.39
Avail Cap(c <sub>a</sub> ), veh/h				475	998	383	335	1696	0	0	1624	878
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.4	25.5	25.8	14.4	19.5	0.0	0.0	10.8	10.8
Incr Delay (d2), s/veh				2.9	2.2	6.4	0.3	43.6	0.0	0.0	0.7	1.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.9	8.9	8.2	0.4	35.5	0.0	0.0	5.9	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.2	27.7	32.2	14.7	63.1	0.0	0.0	11.5	12.2
LnGrp LOS				C	C	C	B	F	A	A	B	B
Approach Vol, veh/h					985			1835			975	
Approach Delay, s/veh					28.6			62.6			11.8	
Approach LOS					C			E			B	
Timer - Assigned Phs	2			4		6						
Phs Duration (G+Y+Rc), s		56.0			34.0		56.0					
Change Period (Y+Rc), s		5.0			5.5		5.0					
Max Green Setting (Gmax), s		51.0			28.5		51.0					
Max Q Clear Time (g <sub>c</sub> +I1), s		13.1			16.0		53.0					
Green Ext Time (p <sub>c</sub> ), s		7.5			5.1		0.0					
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				40.7								
HCM 6th LOS				D								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												




















HCM 6th Signalized Intersection Summary  
 32: Garey St/US-101 SB Ramps & Commercial St

Year 2017 Existing with Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	59	40	15	97	93	29	32	11	272	66	291
Future Volume (veh/h)	139	59	40	15	97	93	29	32	11	272	66	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbT</sub> )	1.00		0.98	0.97		1.00	1.00		0.89	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	148	63	43	16	103	99	31	34	12	289	70	310
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	387	264	504	485	422	109	124	44	305	74	429
Arrive On Green	0.07	0.45	0.45	0.32	0.32	0.32	0.09	0.09	0.09	0.25	0.25	0.25
Sat Flow, veh/h	2910	864	589	1253	1514	1319	1161	1313	469	1219	295	1335
Grp Volume(v), veh/h	148	0	106	16	102	100	41	0	36	359	0	310
Grp Sat Flow(s),veh/h/ln	1455	0	1453	1253	1496	1338	1517	0	1425	1514	0	1335
Q Serve(g <sub>s</sub> ), s	3.5	0.0	3.0	0.6	3.5	3.9	1.7	0.0	1.7	16.3	0.0	14.4
Cycle Q Clear(g <sub>c</sub> ), s	3.5	0.0	3.0	0.6	3.5	3.9	1.7	0.0	1.7	16.3	0.0	14.4
Prop In Lane	1.00		0.41	1.00		0.99	0.77		0.33	0.81		1.00
Lane Grp Cap(c), veh/h	208	0	652	504	479	428	143	0	134	379	0	429
V/C Ratio(X)	0.71	0.00	0.16	0.03	0.21	0.23	0.28	0.00	0.27	0.95	0.00	0.72
Avail Cap(c <sub>a</sub> ), veh/h	208	0	652	504	479	428	412	0	387	379	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	11.5	16.4	17.4	17.5	29.5	0.0	29.5	25.8	0.0	21.0
Incr Delay (d2), s/veh	11.8	0.0	0.5	0.1	1.0	1.3	1.1	0.0	1.1	33.1	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	0.0	1.8	0.3	2.3	2.3	1.2	0.0	1.1	13.9	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	0.0	12.0	16.5	18.4	18.8	30.6	0.0	30.5	58.9	0.0	26.9
LnGrp LOS	D	A	B	B	B	B	C	A	C	E	A	C
Approach Vol, veh/h		254			218			77			669	
Approach Delay, s/veh		30.4			18.4			30.6			44.1	
Approach LOS		C			B			C			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		37.9		21.5	9.0	28.9		10.6				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		19.0		17.5	5.0	10.0		19.0				
Max Q Clear Time (g <sub>c</sub> +I1), s		5.0		18.3	5.5	5.9		3.7				
Green Ext Time (p <sub>c</sub> ), s		0.6		0.0	0.0	0.4		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				35.8								
HCM 6th LOS				D								


















HCM 6th Signalized Intersection Summary  
 32: Garey St/US-101 SB Ramps & Commercial St

Year 2017 Existing with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	36	14	5	37	322	21	433	20	132	26	141
Future Volume (veh/h)	269	36	14	5	37	322	21	433	20	132	26	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbT</sub> )	1.00		0.98	0.97		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	286	38	15	5	39	343	22	461	21	140	28	150
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	532	210	512	492	439	27	580	28	172	34	349
Arrive On Green	0.13	0.50	0.50	0.33	0.33	0.33	0.20	0.20	0.20	0.14	0.14	0.14
Sat Flow, veh/h	2910	1068	421	1313	1496	1335	130	2845	136	1260	252	1335
Grp Volume(v), veh/h	286	0	53	5	39	343	266	0	238	168	0	150
Grp Sat Flow(s),veh/h/ln	1455	0	1489	1313	1496	1335	1569	0	1542	1512	0	1335
Q Serve(g <sub>s</sub> ), s	8.6	0.0	1.7	0.2	1.6	20.9	14.6	0.0	13.1	9.7	0.0	8.4
Cycle Q Clear(g <sub>c</sub> ), s	8.6	0.0	1.7	0.2	1.6	20.9	14.6	0.0	13.1	9.7	0.0	8.4
Prop In Lane	1.00		0.28	1.00		1.00	0.08		0.09	0.83		1.00
Lane Grp Cap(c), veh/h	365	0	742	512	492	439	320	0	315	206	0	349
V/C Ratio(X)	0.78	0.00	0.07	0.01	0.08	0.78	0.83	0.00	0.76	0.81	0.00	0.43
Avail Cap(c <sub>a</sub> ), veh/h	517	0	742	512	492	439	392	0	386	269	0	405
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	0.0	11.7	20.4	20.8	27.3	34.3	0.0	33.7	37.7	0.0	27.6
Incr Delay (d2), s/veh	6.4	0.0	0.2	0.0	0.3	13.0	11.7	0.0	6.8	13.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	1.0	0.1	1.1	12.8	10.8	0.0	9.3	7.7	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	11.9	20.4	21.1	40.3	46.1	0.0	40.5	51.3	0.0	28.5
LnGrp LOS	D	A	B	C	C	D	D	A	D	D	A	C
Approach Vol, veh/h		339			387			504			318	
Approach Delay, s/veh		39.5			38.1			43.4			40.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		51.4		16.3	15.3	36.1		22.4				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		37.0		16.0	16.0	17.0		22.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		3.7		11.7	10.6	22.9		16.6				
Green Ext Time (p <sub>c</sub> ), s		0.4		0.6	0.7	0.0		1.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				40.6								
HCM 6th LOS				D								


















HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2025 Future Pre-Project Conditions  
Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	3	468	54	80	29	628	0	0	1334	74
Future Volume (veh/h)	1	0	3	468	54	80	29	628	0	0	1334	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		0.98	0.97		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	1	0	3	498	57	85	31	668	0	0	1419	79
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	120	27	248	849	146	218	83	1526	0	0	1790	99
Arrive On Green	0.26	0.00	0.26	0.26	0.26	0.26	0.62	0.62	0.00	0.00	0.62	0.62
Sat Flow, veh/h	218	106	971	2735	571	851	43	2520	0	0	2952	159
Grp Volume(v), veh/h	4	0	0	498	0	142	349	350	0	0	736	762
Grp Sat Flow(s),veh/h/ln	1295	0	0	1368	0	1422	1130	1362	0	0	1496	1537
Q Serve(g <sub>s</sub> ), s	0.0	0.0	0.0	7.6	0.0	5.8	3.3	9.1	0.0	0.0	25.6	25.9
Cycle Q Clear(g <sub>c</sub> ), s	5.8	0.0	0.0	13.3	0.0	5.8	29.3	9.1	0.0	0.0	25.6	25.9
Prop In Lane	0.25		0.75	1.00		0.60	0.09		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	395	0	0	849	0	363	760	848	0	0	932	957
V/C Ratio(X)	0.01	0.00	0.00	0.59	0.00	0.39	0.46	0.41	0.00	0.00	0.79	0.80
Avail Cap(c <sub>a</sub> ), veh/h	646	0	0	1381	0	640	760	848	0	0	932	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	0.0	24.8	0.0	21.5	7.1	6.7	0.0	0.0	9.8	9.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.7	2.0	1.5	0.0	0.0	6.8	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	6.7	0.0	3.4	4.5	4.6	0.0	0.0	13.3	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	0.0	25.4	0.0	22.2	9.1	8.2	0.0	0.0	16.6	16.7
LnGrp LOS	B	A	A	C	A	C	A	A	A	A	B	B
Approach Vol, veh/h		4			640			699			1498	
Approach Delay, s/veh		19.5			24.7			8.6			16.6	
Approach LOS		B			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.6		22.4		47.6		22.4				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		30.0		31.5		30.0		31.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		27.9		15.3		31.3		7.8				
Green Ext Time (p <sub>c</sub> ), s		1.7		2.5		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.5								
HCM 6th LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2025 Future Pre-Project Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	0	55	431	0	131	0	1713	0	0	916	0
Future Volume (veh/h)	68	0	55	431	0	131	0	1713	0	0	916	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		0.98	0.98		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	72	0	59	459	0	139	0	1822	0	0	974	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	189	14	116	727	0	356	0	1911	0	0	1911	0
Arrive On Green	0.27	0.00	0.27	0.27	0.00	0.27	0.00	0.64	0.00	0.00	0.64	0.00
Sat Flow, veh/h	477	54	435	2622	0	1335	0	3150	0	0	3150	0
Grp Volume(v), veh/h	131	0	0	459	0	139	0	1822	0	0	974	0
Grp Sat Flow(s),veh/h/ln	966	0	0	1311	0	1335	0	1496	0	0	1496	0
Q Serve(g <sub>s</sub> ), s	6.4	0.0	0.0	5.5	0.0	7.7	0.0	50.6	0.0	0.0	15.7	0.0
Cycle Q Clear(g <sub>c</sub> ), s	14.0	0.0	0.0	19.5	0.0	7.7	0.0	50.6	0.0	0.0	15.7	0.0
Prop In Lane	0.55		0.45	1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	320	0	0	727	0	356	0	1911	0	0	1911	0
V/C Ratio(X)	0.41	0.00	0.00	0.63	0.00	0.39	0.00	0.95	0.00	0.00	0.51	0.00
Avail Cap(c <sub>a</sub> ), veh/h	511	0	0	1119	0	556	0	1911	0	0	1911	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	30.7	0.0	0.0	32.1	0.0	27.0	0.0	15.0	0.0	0.0	8.7	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.9	0.0	0.7	0.0	12.2	0.0	0.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	0.0	8.3	0.0	4.4	0.0	25.1	0.0	0.0	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	0.0	33.0	0.0	27.7	0.0	27.2	0.0	0.0	9.7	0.0
LnGrp LOS	C	A	A	C	A	C	A	C	A	A	A	A
Approach Vol, veh/h		131			598			1822			974	
Approach Delay, s/veh		31.6			31.8			27.2			9.7	
Approach LOS		C			C			C			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.5		28.5		61.5		28.5				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		44.0		37.5		44.0		37.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		17.7		21.5		52.6		16.0				
Green Ext Time (p <sub>c</sub> ), s		8.3		2.5		0.0		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.3								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												




HCM 6th Signalized Intersection Summary

9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

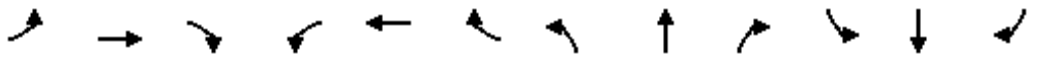
Year 2025 Future Pre-Project Conditions

Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	501	0	0	1241	108	164	1346	199	21	0	1245
Future Volume (veh/h)	0	501	0	0	1241	108	164	1346	199	21	0	1245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		1.00	1.00		0.75	1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	533	0	0	1320	115	174	1432	212	22	0	1324
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1208	0	0	2575	405	1978	1339	198	37	0	0
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.40	0.15	0.12	0.12	0.02	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	1004	4230	3674	543	1500	22	
Grp Volume(v), veh/h	0	533	0	0	1320	115	174	1117	527	22	47.7	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	1004	1410	1433	1351	1500	D	
Q Serve(g <sub>s</sub> ), s	0.0	9.0	0.0	0.0	10.9	5.4	2.5	25.5	25.5	1.0		
Cycle Q Clear(g <sub>c</sub> ), s	0.0	9.0	0.0	0.0	10.9	5.4	2.5	25.5	25.5	1.0		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.40	1.00		
Lane Grp Cap(c), veh/h	0	1208	0	0	2575	405	1978	1044	492	37		
V/C Ratio(X)	0.00	0.44	0.00	0.00	0.51	0.28	0.09	1.07	1.07	0.59		
Avail Cap(c <sub>a</sub> ), veh/h	0	1208	0	0	2575	405	1978	1044	492	129		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.50	0.50	0.50	1.00		
Uniform Delay (d), s/veh	0.0	15.1	0.0	0.0	15.7	14.1	16.8	30.8	30.8	33.8		
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.7	1.7	0.0	41.2	49.9	13.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	5.4	0.0	0.0	5.5	2.3	1.3	21.1	21.5	0.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.3	0.0	0.0	16.4	15.8	16.8	72.0	80.7	47.7		
LnGrp LOS	A	B	A	A	B	B	B	F	F	D		
Approach Vol, veh/h		533			1435			1818				
Approach Delay, s/veh		16.3			16.4			69.3				
Approach LOS		B			B			E				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		33.3	36.7			33.3	5.7	31.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		24.0	11.0			24.0	6.0	25.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		12.9	4.5			11.0	3.0	27.5				
Green Ext Time (p <sub>c</sub> ), s		7.2	0.3			2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			41.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
 9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

Year 2025 Future Pre-Project Conditions  
 Weekday PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	66	0	0	2137	126	1003	3200	87	26	0	885
Future Volume (veh/h)	0	66	0	0	2137	126	1003	3200	87	26	0	885
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		1.00	1.00		0.73	1.00		0.86	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	70	0	0	2273	134	1067	3404	93	28	0	941
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1113	0	0	2373	363	2233	1880	50	42	0	0
Arrive On Green	0.00	0.37	0.00	0.00	0.37	0.37	0.17	0.14	0.14	0.03	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	976	4230	4284	115	1500	28	
Grp Volume(v), veh/h	0	70	0	0	2273	134	1067	2257	1240	28	60.1	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	976	1410	1433	1533	1500	E	
Q Serve(g <sub>s</sub> ), s	0.0	1.4	0.0	0.0	31.3	9.0	20.4	39.5	39.5	1.7		
Cycle Q Clear(g <sub>c</sub> ), s	0.0	1.4	0.0	0.0	31.3	9.0	20.4	39.5	39.5	1.7		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.07	1.00		
Lane Grp Cap(c), veh/h	0	1113	0	0	2373	363	2233	1258	673	42		
V/C Ratio(X)	0.00	0.06	0.00	0.00	0.96	0.37	0.48	1.79	1.84	0.67		
Avail Cap(c <sub>a</sub> ), veh/h	0	1113	0	0	2373	363	2233	1258	673	117		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.09	0.09	0.09	1.00		
Uniform Delay (d), s/veh	0.0	18.2	0.0	0.0	27.6	20.6	26.0	38.5	38.5	43.3		
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	10.9	2.9	0.1	357.5	380.0	16.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	0.9	0.0	0.0	16.0	4.0	9.0	113.5	128.1	1.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.3	0.0	0.0	38.5	23.4	26.0	396.0	418.5	60.1		
LnGrp LOS	A	B	A	A	D	C	C	F	F	E		
Approach Vol, veh/h		70			2407			4564				
Approach Delay, s/veh		18.3			37.7			315.6				
Approach LOS		B			D			F				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		38.5	51.5			38.5	6.5	45.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		29.0	31.5			29.0	7.0	39.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		33.3	22.4			3.4	3.7	41.5				
Green Ext Time (p <sub>c</sub> ), s		0.0	3.1			0.3	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			217.0									
HCM 6th LOS			F									

# HCM Signalized Intersection Capacity Analysis

Year 2025 Future Pre-Project Conditions

10: Figueroa St/Figueroa Blvd & SR-110 NB and SB On-Ramps/5th St

















Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					6L	7	7	7	7			
Traffic Volume (vph)	0	0	0	0	1667	355	617	1827	0	0	0	0
Future Volume (vph)	0	0	0	0	1667	355	617	1827	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					4.0	4.0	4.0	4.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Flpb, ped/bikes					0.99	0.84	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					0.99	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6525	796	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6525	796	4202	4282				
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1701	362	630	1864	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	73	421	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1841	148	209	1864	0	0	0	0
Confl. Peds. (#/hr)			246			154			244			216
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					22.0	22.0	23.2	38.0				
Effective Green, g (s)					23.0	23.0	23.2	39.0				
Actuated g/C Ratio					0.33	0.33	0.33	0.56				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2143	261	1392	2385				
v/s Ratio Prot					c0.28		0.05	c0.44				
v/s Ratio Perm						0.19						
v/c Ratio					0.86	0.57	0.15	0.78				
Uniform Delay, d1					22.0	19.4	16.5	12.2				
Progression Factor					1.00	1.00	1.54	0.22				
Incremental Delay, d2					4.8	8.6	0.2	1.8				
Delay (s)					26.7	28.0	25.5	4.5				
Level of Service					C	C	C	A				
Approach Delay (s)		0.0			26.9			9.8			0.0	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.6		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)						14.0	
Intersection Capacity Utilization			73.1%		ICU Level of Service						D	
Analysis Period (min)			15									

c Critical Lane Group

















HCM Signalized Intersection Capacity Analysis  
 10: Figueroa St & SR-110 NB and SB On-Ramps/5th St

Year 2025 Future Pre-Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2156	340	963	2632	0	0	0	0
Future Volume (vph)	0	0	0	0	2156	340	963	2632	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					5.0	5.0	4.0	5.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Flpb, ped/bikes					1.00	0.70	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6637	666	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6637	666	4202	4282				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	2246	354	1003	2742	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	56	378	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2281	263	625	2742	0	0	0	0
Confl. Peds. (#/hr)			225			235			261			178
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					31.0	31.0	34.2	49.0				
Effective Green, g (s)					31.0	31.0	34.2	49.0				
Actuated g/C Ratio					0.34	0.34	0.38	0.54				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2286	229	1596	2331				
v/s Ratio Prot					0.34		0.15	c0.64				
v/s Ratio Perm						c0.40						
v/c Ratio					1.00	1.15	0.39	1.18				
Uniform Delay, d1					29.5	29.5	20.3	20.5				
Progression Factor					1.00	1.00	1.14	0.86				
Incremental Delay, d2					18.3	105.8	0.4	82.0				
Delay (s)					47.8	135.3	23.5	99.7				
Level of Service					D	F	C	F				
Approach Delay (s)		0.0			58.5			79.3			0.0	
Approach LOS		A			E			E			A	
Intersection Summary												
HCM 2000 Control Delay			70.8		HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio			1.23									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				14.0			
Intersection Capacity Utilization			95.4%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2025 Future Pre-Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	2836	0	0	0	0	0	2111	255	0	0	0
Future Volume (vph)	291	2836	0	0	0	0	0	2111	255	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0						4.0	4.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5958						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5958						6353	1333			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	310	3017	0	0	0	0	0	2246	271	0	0	0
RTOR Reduction (vph)	69	69	0	0	0	0	0	0	85	0	0	0
Lane Group Flow (vph)	210	2979	0	0	0	0	0	2246	186	0	0	0
Confl. Peds. (#/hr)			156			153			447			310
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	24.5	24.5						35.0	18.0			
Effective Green, g (s)	26.0	26.0						36.0	19.0			
Actuated g/C Ratio	0.37	0.37						0.51	0.27			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	420	2212						3267	361			
v/s Ratio Prot								c0.35	0.14			
v/s Ratio Perm	0.19	0.50										
v/c Ratio	0.50	1.35						0.69	0.51			
Uniform Delay, d1	17.0	22.0						12.8	21.6			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	4.2	159.2						1.2	5.2			
Delay (s)	21.2	181.2						14.0	26.8			
Level of Service	C	F						B	C			
Approach Delay (s)		167.8			0.0			15.4			0.0	
Approach LOS		F			A			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			102.1					HCM 2000 Level of Service		F		
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			70.0					Sum of lost time (s)		14.5		
Intersection Capacity Utilization			73.1%					ICU Level of Service		D		
Analysis Period (min)			15									





c Critical Lane Group

## Queues

Year 2025 Future Pre-Project Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday AM Peak Hour

















				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	279	3048	2246	271
v/c Ratio	0.54	1.25	0.73	0.61
Control Delay	14.0	136.5	16.1	26.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.0	136.5	16.1	26.4
Queue Length 50th (ft)	67	~436	178	68
Queue Length 95th (ft)	159	#506	215	#213
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	518	2447	3085	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	1.25	0.73	0.61

## Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2025 Future Pre-Project Conditions  
 Weekday PM Peak Hour





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	356	1751	0	0	0	0	0	3261	351	0	0	0
Future Volume (vph)	356	1751	0	0	0	0	0	3261	351	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	5.5	5.5						5.0	5.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5955						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5955						6353	1333			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	367	1805	0	0	0	0	0	3362	362	0	0	0
RTOR Reduction (vph)	66	66	0	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	264	1776	0	0	0	0	0	3362	313	0	0	0
Confl. Peds. (#/hr)			213			203			760			203
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	20.5	20.5						59.0	42.0			
Effective Green, g (s)	20.5	20.5						59.0	42.0			
Actuated g/C Ratio	0.23	0.23						0.66	0.47			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	258	1356						4164	622			
v/s Ratio Prot								c0.53	0.24			
v/s Ratio Perm	0.23	0.30										
v/c Ratio	1.02	1.31						0.81	0.50			
Uniform Delay, d1	34.8	34.8						11.3	16.7			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	62.5	144.9						1.8	2.9			
Delay (s)	97.3	179.7						13.1	19.6			
Level of Service	F	F						B	B			
Approach Delay (s)		167.1			0.0			13.8			0.0	
Approach LOS		F			A			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			70.3					HCM 2000 Level of Service		E		
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)		15.5		
Intersection Capacity Utilization			87.7%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												

## Queues

Year 2025 Future Pre-Project Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday PM Peak Hour

				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	330	1842	3362	362
v/c Ratio	0.95	1.19	0.84	0.54
Control Delay	64.4	121.6	15.3	19.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	64.4	121.6	15.3	19.3
Queue Length 50th (ft)	188	~326	331	129
Queue Length 95th (ft)	#413	#396	378	234
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	347	1552	4023	670
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.95	1.19	0.84	0.54






















## Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
























HCM 6th Signalized Intersection Summary  
 13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St




Year 2025 Future Pre-Project Conditions  
 Weekday AM Peak Hour




												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	133	306	206	0	0	0	0	553	151	212	1215	0
Future Volume (veh/h)	133	306	206	0	0	0	0	553	151	212	1215	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.88	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	141	326	219				0	588	161	226	1293	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	374	924	532				0	1261	496	300	1261	0
Arrive On Green	0.43	0.43	0.43				0.00	0.42	0.42	0.42	0.42	0.00
Sat Flow, veh/h	872	2155	1241				0	3071	1176	703	3071	0
Grp Volume(v), veh/h	247	220	219				0	588	161	226	1293	0
Grp Sat Flow(s),veh/h/ln	1531	1496	1241				0	1496	1176	703	1496	0
Q Serve(g_s), s	7.7	6.9	8.6				0.0	9.9	6.4	19.6	29.5	0.0
Cycle Q Clear(g_c), s	7.7	6.9	8.6				0.0	9.9	6.4	29.5	29.5	0.0
Prop In Lane	0.57		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	656	641	532				0	1261	496	300	1261	0
V/C Ratio(X)	0.38	0.34	0.41				0.00	0.47	0.32	0.75	1.03	0.00
Avail Cap(c_a), veh/h	656	641	532				0	1261	496	300	1261	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.6	13.4	13.9				0.0	14.6	13.6	26.5	20.2	0.0
Incr Delay (d2), s/veh	1.7	1.5	2.3				0.0	1.2	1.7	16.1	32.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	4.3	4.6				0.0	6.0	3.3	8.8	21.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	14.8	16.2				0.0	15.8	15.3	42.6	52.2	0.0
LnGrp LOS	B	B	B				A	B	B	D	F	A
Approach Vol, veh/h		686						749			1519	
Approach Delay, s/veh		15.4						15.7			50.8	
Approach LOS		B						B			D	
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	34.0		36.0		34.0							
Change Period (Y+Rc), s	4.5		6.0		4.5							
Max Green Setting (Gmax), s	29.5		30.0		29.5							
Max Q Clear Time (g_c+I1), s	31.5		10.6		11.9							
Green Ext Time (p_c), s	0.0		3.6		4.6							
Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
 13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St

Year 2025 Future Pre-Project Conditions  
 Weekday PM Peak Hour






												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	114	330	111	0	0	0	0	1192	214	152	959	0
Future Volume (veh/h)	114	330	111	0	0	0	0	1192	214	152	959	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.89	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	121	351	118				0	1268	228	162	1020	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	305	942	509				0	1413	564	110	1413	0
Arrive On Green	0.41	0.41	0.41				0.00	0.47	0.47	0.47	0.47	0.00
Sat Flow, veh/h	742	2292	1237				0	3071	1193	351	3071	0
Grp Volume(v), veh/h	251	221	118				0	1268	228	162	1020	0
Grp Sat Flow(s),veh/h/ln	1538	1496	1237				0	1496	1193	351	1496	0
Q Serve(g_s), s	10.3	9.2	5.6				0.0	34.9	11.2	7.6	24.6	0.0
Cycle Q Clear(g_c), s	10.3	9.2	5.6				0.0	34.9	11.2	42.5	24.6	0.0
Prop In Lane	0.48		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	632	615	509				0	1413	564	110	1413	0
V/C Ratio(X)	0.40	0.36	0.23				0.00	0.90	0.40	1.48	0.72	0.00
Avail Cap(c_a), veh/h	632	615	509				0	1413	564	110	1413	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.6	18.3	17.3				0.0	21.8	15.5	44.0	19.0	0.0
Incr Delay (d2), s/veh	1.9	1.6	1.1				0.0	9.3	2.2	257.8	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	6.0	3.0				0.0	19.4	5.9	18.5	13.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	19.9	18.3				0.0	31.0	17.6	301.7	22.2	0.0
LnGrp LOS	C	B	B				A	C	B	F	C	A
Approach Vol, veh/h		590						1496			1182	
Approach Delay, s/veh		19.9						29.0			60.5	
Approach LOS		B						C			E	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		47.0		43.0		47.0						
Change Period (Y+Rc), s		4.5		6.0		4.5						
Max Green Setting (Gmax), s		42.5		37.0		42.5						
Max Q Clear Time (g_c+I1), s		44.5		12.3		36.9						
Green Ext Time (p_c), s		0.0		3.4		4.2						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			38.8									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	139	0	41	905	0
Future Vol, veh/h	0	139	0	41	905	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	148	0	44	963	0
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	482	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	530	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	530	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	14.4		0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 530	-				
HCM Lane V/C Ratio	- 0.279	-				
HCM Control Delay (s)	- 14.4	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 1.1	-				

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	228	0	54	627	0
Future Vol, veh/h	0	228	0	54	627	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	243	0	57	667	0
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	334	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	662	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	662	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.5		0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 662	-				
HCM Lane V/C Ratio	- 0.366	-				
HCM Control Delay (s)	- 13.5	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 1.7	-				


HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2025 Future Pre-Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	665	150	0	0	0	0	276	216	4	743	0
Future Volume (veh/h)	15	665	150	0	0	0	0	276	216	4	743	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92				1.00		0.86	0.96		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	16	707	160				0	294	230	4	790	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	33	1536	341				0	788	571	53	1466	0
Arrive On Green	0.34	0.34	0.34				0.00	0.50	0.50	0.50	0.50	0.00
Sat Flow, veh/h	96	4480	995				0	1575	1142	3	3003	0
Grp Volume(v), veh/h	263	412	208				0	294	230	426	368	0
Grp Sat Flow(s),veh/h/ln	1570	1355	1291				0	1575	1142	1573	1362	0
Q Serve(g_s), s	9.3	8.3	8.8				0.0	8.0	8.8	0.0	13.0	0.0
Cycle Q Clear(g_c), s	9.3	8.3	8.8				0.0	8.0	8.8	13.0	13.0	0.0
Prop In Lane	0.06		0.77				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	538	929	443				0	788	571	838	681	0
V/C Ratio(X)	0.49	0.44	0.47				0.00	0.37	0.40	0.51	0.54	0.00
Avail Cap(c_a), veh/h	538	929	443				0	788	571	838	681	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	17.8	18.0				0.0	10.8	11.0	12.0	12.0	0.0
Incr Delay (d2), s/veh	3.1	1.5	3.5				0.0	1.4	2.1	2.2	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	4.8	5.3				0.0	5.1	4.3	8.2	7.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	19.4	21.6				0.0	12.1	13.1	14.2	15.1	0.0
LnGrp LOS	C	B	C				A	B	B	B	B	A
Approach Vol, veh/h		883						524			794	
Approach Delay, s/veh		20.5						12.5			14.6	
Approach LOS		C						B			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		40.5		29.5		40.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		35.0		24.0		35.0						
Max Q Clear Time (g_c+I1), s		15.0		11.3		10.8						
Green Ext Time (p_c), s		5.3		4.9		3.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									


















HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2025 Future Pre-Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4111b						↑	↑		↑↑	
Traffic Volume (veh/h)	42	1213	26	0	0	0	0	1046	556	2	293	0
Future Volume (veh/h)	42	1213	26	0	0	0	0	1046	556	2	293	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89				1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	45	1290	28				0	1113	591	2	312	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	72	2203	49				0	753	537	40	1294	0
Arrive On Green	0.40	0.40	0.40				0.00	0.48	0.48	0.48	0.48	0.00
Sat Flow, veh/h	179	5508	122				0	1575	1125	0	2781	0
Grp Volume(v), veh/h	393	619	351				0	1113	591	163	151	0
Grp Sat Flow(s),veh/h/ln	1566	1355	1535				0	1575	1125	1348	1362	0
Q Serve(g_s), s	18.1	16.0	16.0				0.0	43.0	43.0	0.0	5.9	0.0
Cycle Q Clear(g_c), s	18.1	16.0	16.0				0.0	43.0	43.0	43.0	5.9	0.0
Prop In Lane	0.11		0.08				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	626	1084	614				0	753	537	684	651	0
V/C Ratio(X)	0.63	0.57	0.57				0.00	1.48	1.10	0.24	0.23	0.00
Avail Cap(c_a), veh/h	626	1084	614				0	753	537	684	651	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.6	21.0	21.0				0.0	23.5	23.5	13.9	13.8	0.0
Incr Delay (d2), s/veh	4.7	2.2	3.8				0.0	222.7	68.9	0.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.7	9.0	10.4				0.0	94.5	30.5	3.7	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	23.2	24.9				0.0	246.2	92.4	14.7	14.6	0.0
LnGrp LOS	C	C	C				A	F	F	B	B	A
Approach Vol, veh/h		1363						1704			314	
Approach Delay, s/veh		24.5						192.9			14.7	
Approach LOS		C						F			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		48.5		41.5		48.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		43.0		36.0		43.0						
Max Q Clear Time (g_c+I1), s		45.0		20.1		45.0						
Green Ext Time (p_c), s		0.0		8.4		0.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			108.5									
HCM 6th LOS			F									























HCM 6th Signalized Intersection Summary  
31: Alameda St & Arcadia St/US-101 NB Off-Ramp

Year 2025 Future Pre-Project Conditions  
Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	636	1539	263	200	1208	0	0	1674	44
Future Volume (veh/h)	0	0	0	636	1539	263	200	1208	0	0	1674	44
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	1.00		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				648	1677	280	213	1285	0	0	1781	47
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				729	1900	314	103	1090	0	0	1565	41
Arrive On Green				0.49	0.49	0.49	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1500	3912	647	255	3071	0	0	4438	113
Grp Volume(v), veh/h				648	1347	610	213	1285	0	0	1188	640
Grp Sat Flow(s),veh/h/ln				1500	1575	1408	255	1496	0	0	1433	1543
Q Serve(g_s), s				27.4	26.9	27.5	0.0	25.5	0.0	0.0	25.5	25.5
Cycle Q Clear(g_c), s				27.4	26.9	27.5	25.5	25.5	0.0	0.0	25.5	25.5
Prop In Lane				1.00		0.46	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h				729	1530	684	103	1090	0	0	1044	562
V/C Ratio(X)				0.89	0.88	0.89	2.07	1.18	0.00	0.00	1.14	1.14
Avail Cap(c_a), veh/h				729	1530	684	103	1090	0	0	1044	562
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.3	16.2	16.3	35.0	22.3	0.0	0.0	22.3	22.3
Incr Delay (d2), s/veh				15.2	7.6	16.2	513.6	90.1	0.0	0.0	73.8	82.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				17.0	15.5	16.4	29.4	32.3	0.0	0.0	27.4	31.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				31.5	23.8	32.5	548.6	112.4	0.0	0.0	96.1	104.7
LnGrp LOS				C	C	C	F	F	A	A	F	F
Approach Vol, veh/h					2605			1498			1828	
Approach Delay, s/veh					27.8			174.4			99.1	
Approach LOS					C			F			F	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	30.5			39.5			30.5					
Change Period (Y+Rc), s	5.0			5.5			5.0					
Max Green Setting (Gmax), s	25.5			34.0			25.5					
Max Q Clear Time (g_c+I1), s	27.5			29.5			27.5					
Green Ext Time (p_c), s	0.0			4.2			0.0					
Intersection Summary												
HCM 6th Ctrl Delay				86.8								
HCM 6th LOS				F								
Notes												

HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp




















Year 2025 Future Pre-Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  			 			  	
Traffic Volume (veh/h)	0	0	0	689	631	310	247	2242	0	0	1382	24
Future Volume (veh/h)	0	0	0	689	631	310	247	2242	0	0	1382	24
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.91	1.00		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				434	1090	330	263	2385	0	0	1470	26
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				475	1073	325	201	1696	0	0	2463	44
Arrive On Green				0.32	0.32	0.32	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h				1500	3388	1026	351	3071	0	0	4488	77
Grp Volume(v), veh/h				434	1013	407	263	2385	0	0	970	526
Grp Sat Flow(s),veh/h/ln				1500	1575	1264	351	1496	0	0	1433	1556
Q Serve(g_s), s				25.0	28.5	28.5	31.1	51.0	0.0	0.0	19.9	19.9
Cycle Q Clear(g_c), s				25.0	28.5	28.5	51.0	51.0	0.0	0.0	19.9	19.9
Prop In Lane				1.00		0.81	1.00		0.00	0.00		0.05
Lane Grp Cap(c), veh/h				475	998	400	201	1696	0	0	1624	882
V/C Ratio(X)				0.91	1.02	1.02	1.31	1.41	0.00	0.00	0.60	0.60
Avail Cap(c_a), veh/h				475	998	400	201	1696	0	0	1624	882
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.6	30.8	30.8	35.6	19.5	0.0	0.0	12.8	12.8
Incr Delay (d2), s/veh				24.6	32.5	49.1	169.2	186.5	0.0	0.0	1.6	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				17.7	21.6	20.2	23.5	90.0	0.0	0.0	10.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				54.1	63.3	79.9	204.8	206.0	0.0	0.0	14.4	15.7
LnGrp LOS				D	F	F	F	F	A	A	B	B
Approach Vol, veh/h				1854				2648		1496		
Approach Delay, s/veh				64.8				205.9		14.9		
Approach LOS				E				F		B		
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	56.0			34.0			56.0					
Change Period (Y+Rc), s	5.0			5.5			5.0					
Max Green Setting (Gmax), s	51.0			28.5			51.0					
Max Q Clear Time (g_c+I1), s	21.9			30.5			53.0					
Green Ext Time (p_c), s	12.4			0.0			0.0					
Intersection Summary												
HCM 6th Ctrl Delay				114.6								
HCM 6th LOS				F								
Notes												






















HCM 6th Signalized Intersection Summary  
 32: Garey St/US-101 SB Ramps & Commercial St

Year 2025 Future Pre-Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	506	74	43	18	108	106	31	62	13	301	109	453
Future Volume (veh/h)	506	74	43	18	108	106	31	62	13	301	109	453
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.97		1.00	1.00		0.90	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	538	79	46	19	115	113	33	66	14	320	116	482
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	409	238	489	469	418	86	177	38	279	101	429
Arrive On Green	0.07	0.44	0.44	0.31	0.31	0.31	0.10	0.10	0.10	0.25	0.25	0.25
Sat Flow, veh/h	2910	925	539	1232	1496	1335	850	1758	381	1115	404	1335
Grp Volume(v), veh/h	538	0	125	19	115	113	59	0	54	436	0	482
Grp Sat Flow(s),veh/h/ln	1455	0	1463	1232	1496	1335	1533	0	1457	1519	0	1335
Q Serve(g_s), s	5.0	0.0	3.6	0.8	4.0	4.4	2.5	0.0	2.4	17.5	0.0	17.5
Cycle Q Clear(g_c), s	5.0	0.0	3.6	0.8	4.0	4.4	2.5	0.0	2.4	17.5	0.0	17.5
Prop In Lane	1.00		0.37	1.00		1.00	0.55		0.26	0.73		1.00
Lane Grp Cap(c), veh/h	208	0	647	489	469	418	155	0	147	380	0	429
V/C Ratio(X)	2.59	0.00	0.19	0.04	0.25	0.27	0.38	0.00	0.36	1.15	0.00	1.12
Avail Cap(c_a), veh/h	208	0	647	489	469	418	416	0	395	380	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	11.9	16.8	17.9	18.0	29.4	0.0	29.4	26.3	0.0	23.8
Incr Delay (d2), s/veh	728.6	0.0	0.7	0.1	1.2	1.6	1.6	0.0	1.5	92.9	0.0	81.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	36.7	0.0	2.2	0.4	2.7	2.7	1.8	0.0	1.6	23.9	0.0	24.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	761.1	0.0	12.6	16.9	19.1	19.6	31.0	0.0	30.9	119.2	0.0	105.3
LnGrp LOS	F	A	B	B	B	B	C	A	C	F	A	F
Approach Vol, veh/h		663			247			113			918	
Approach Delay, s/veh		619.9			19.2			30.9			111.9	
Approach LOS		F			B			C			F	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		37.4		21.5	9.0	28.4		11.1				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		19.0		17.5	5.0	10.0		19.0				
Max Q Clear Time (g_c+I1), s		5.6		19.5	7.0	6.4		4.5				
Green Ext Time (p_c), s		0.7		0.0	0.0	0.4		0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			268.9									
HCM 6th LOS			F									


















HCM 6th Signalized Intersection Summary  
32: Garey St/US-101 SB Ramps & Commercial St

Year 2025 Future Pre-Project Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	727	39	15	6	49	352	23	502	22	150	71	334
Future Volume (veh/h)	727	39	15	6	49	352	23	502	22	150	71	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.96		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	773	41	16	6	52	374	24	534	23	160	76	355
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	517	468	183	357	321	287	28	641	29	184	87	475
Arrive On Green	0.18	0.44	0.44	0.21	0.21	0.21	0.22	0.22	0.22	0.18	0.18	0.18
Sat Flow, veh/h	2910	1071	418	1288	1496	1335	123	2861	129	1033	491	1335
Grp Volume(v), veh/h	773	0	57	6	52	374	306	0	275	236	0	355
Grp Sat Flow(s),veh/h/ln	1455	0	1488	1288	1496	1335	1569	0	1545	1523	0	1335
Q Serve(g_s), s	16.0	0.0	2.0	0.3	2.5	19.3	16.9	0.0	15.1	13.6	0.0	16.0
Cycle Q Clear(g_c), s	16.0	0.0	2.0	0.3	2.5	19.3	16.9	0.0	15.1	13.6	0.0	16.0
Prop In Lane	1.00		0.28	1.00		1.00	0.08		0.08	0.68		1.00
Lane Grp Cap(c), veh/h	517	0	650	357	321	287	352	0	346	271	0	475
V/C Ratio(X)	1.49	0.00	0.09	0.02	0.16	1.30	0.87	0.00	0.79	0.87	0.00	0.75
Avail Cap(c_a), veh/h	517	0	650	357	321	287	392	0	386	271	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.0	0.0	14.8	27.9	28.7	35.3	33.7	0.0	33.0	36.0	0.0	25.5
Incr Delay (d2), s/veh	232.4	0.0	0.3	0.1	1.1	160.0	17.4	0.0	9.9	25.1	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	35.4	0.0	1.3	0.2	1.8	29.6	12.7	0.0	10.8	11.1	0.0	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	269.4	0.0	15.1	28.0	29.8	195.3	51.1	0.0	42.9	61.1	0.0	31.9
LnGrp LOS	F	A	B	C	C	F	D	A	D	E	A	C
Approach Vol, veh/h		830			432			581			591	
Approach Delay, s/veh		252.0			173.1			47.2			43.6	
Approach LOS		F			F			D			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		45.8		20.0	20.0	25.8		24.2				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		37.0		16.0	16.0	17.0		22.5				
Max Q Clear Time (g_c+I1), s		4.0		18.0	18.0	21.3		18.9				
Green Ext Time (p_c), s		0.4		0.0	0.0	0.0		1.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			138.5									
HCM 6th LOS			F									

















HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2025 Future with Project Conditions  
Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	3	468	54	94	29	628	0	0	1334	74
Future Volume (veh/h)	1	0	3	468	54	94	29	628	0	0	1334	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbT</sub> )	1.00		0.98	0.97		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	1	0	3	498	57	100	31	668	0	0	1419	79
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	120	27	247	851	135	237	81	1495	0	0	1767	98
Arrive On Green	0.26	0.00	0.26	0.26	0.26	0.26	0.61	0.61	0.00	0.00	0.61	0.61
Sat Flow, veh/h	209	103	937	2739	513	900	41	2503	0	0	2952	159
Grp Volume(v), veh/h	4	0	0	498	0	157	349	350	0	0	736	762
Grp Sat Flow(s),veh/h/ln	1249	0	0	1370	0	1413	1111	1362	0	0	1496	1537
Q Serve(g <sub>s</sub> ), s	0.0	0.0	0.0	7.4	0.0	6.4	3.6	9.3	0.0	0.0	26.1	26.5
Cycle Q Clear(g <sub>c</sub> ), s	6.4	0.0	0.0	13.9	0.0	6.4	30.1	9.3	0.0	0.0	26.1	26.5
Prop In Lane	0.25		0.75	1.00		0.64	0.09		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	394	0	0	851	0	373	739	837	0	0	920	945
V/C Ratio(X)	0.01	0.00	0.00	0.58	0.00	0.42	0.47	0.42	0.00	0.00	0.80	0.81
Avail Cap(c <sub>a</sub> ), veh/h	633	0	0	1361	0	636	739	837	0	0	920	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	0.0	0.0	24.6	0.0	21.3	7.4	7.0	0.0	0.0	10.2	10.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.8	2.2	1.5	0.0	0.0	7.3	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.0	0.0	6.7	0.0	3.8	4.7	4.7	0.0	0.0	13.7	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	0.0	0.0	25.3	0.0	22.1	9.6	8.5	0.0	0.0	17.5	17.6
LnGrp LOS	B	A	A	C	A	C	A	A	A	A	B	B
Approach Vol, veh/h		4			655			699			1498	
Approach Delay, s/veh		19.0			24.5			9.1			17.6	
Approach LOS		B			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		23.0		47.0		23.0				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		30.0		31.5		30.0		31.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		28.5		15.9		32.1		8.4				
Green Ext Time (p <sub>c</sub> ), s		1.2		2.6		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				17.1								
HCM 6th LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
6: Beaudry Ave & Dwy/SR-110 Fwy SB Off-Ramp

Year 2025 Future with Project Conditions  
Weekday PM Peak Hour

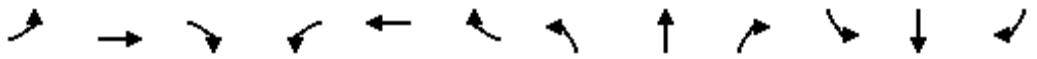
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	0	55	431	0	135	0	1713	0	0	916	0
Future Volume (veh/h)	68	0	55	431	0	135	0	1713	0	0	916	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )	1.00		0.98	0.98		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h	72	0	59	459	0	144	0	1822	0	0	974	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	188	14	115	728	0	359	0	1906	0	0	1906	0
Arrive On Green	0.27	0.00	0.27	0.27	0.00	0.27	0.00	0.64	0.00	0.00	0.64	0.00
Sat Flow, veh/h	469	54	428	2623	0	1335	0	3150	0	0	3150	0
Grp Volume(v), veh/h	131	0	0	459	0	144	0	1822	0	0	974	0
Grp Sat Flow(s),veh/h/ln	950	0	0	1312	0	1335	0	1496	0	0	1496	0
Q Serve(g <sub>s</sub> ), s	6.4	0.0	0.0	5.3	0.0	8.0	0.0	50.9	0.0	0.0	15.8	0.0
Cycle Q Clear(g <sub>c</sub> ), s	14.4	0.0	0.0	19.7	0.0	8.0	0.0	50.9	0.0	0.0	15.8	0.0
Prop In Lane	0.55		0.45	1.00		1.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	317	0	0	728	0	359	0	1906	0	0	1906	0
V/C Ratio(X)	0.41	0.00	0.00	0.63	0.00	0.40	0.00	0.96	0.00	0.00	0.51	0.00
Avail Cap(c <sub>a</sub> ), veh/h	505	0	0	1116	0	556	0	1906	0	0	1906	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	0.0	0.0	32.0	0.0	27.0	0.0	15.2	0.0	0.0	8.8	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.9	0.0	0.7	0.0	12.6	0.0	0.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	0.0	8.3	0.0	4.6	0.0	25.3	0.0	0.0	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	0.0	33.0	0.0	27.7	0.0	27.7	0.0	0.0	9.8	0.0
LnGrp LOS	C	A	A	C	A	C	A	C	A	A	A	A
Approach Vol, veh/h		131			603			1822			974	
Approach Delay, s/veh		31.6			31.7			27.7			9.8	
Approach LOS		C			C			C			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.3		28.7		61.3		28.7				
Change Period (Y+Rc), s		4.0		4.5		4.0		4.5				
Max Green Setting (Gmax), s		44.0		37.5		44.0		37.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		17.8		21.7		52.9		16.4				
Green Ext Time (p <sub>c</sub> ), s		8.3		2.5		0.0		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.6								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

Year 2025 Future with Project Conditions

Weekday AM Peak Hour













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↑	↑↑↑	↑↑↑		↑		↑↑
Traffic Volume (veh/h)	0	501	0	0	1260	108	164	1346	199	21	0	1245
Future Volume (veh/h)	0	501	0	0	1260	108	164	1346	199	21	0	1245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pBT</sub> )	1.00		1.00	1.00		0.75	1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	533	0	0	1340	115	174	1432	212	22	0	1324
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1208	0	0	2575	405	1978	1339	198	37	0	0
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.40	0.15	0.12	0.12	0.02	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	1004	4230	3674	543	1500	22	
Grp Volume(v), veh/h	0	533	0	0	1340	115	174	1117	527	22	47.7	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	1004	1410	1433	1351	1500	D	
Q Serve(g <sub>s</sub> ), s	0.0	9.0	0.0	0.0	11.1	5.4	2.5	25.5	25.5	1.0		
Cycle Q Clear(g <sub>c</sub> ), s	0.0	9.0	0.0	0.0	11.1	5.4	2.5	25.5	25.5	1.0		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.40	1.00		
Lane Grp Cap(c), veh/h	0	1208	0	0	2575	405	1978	1044	492	37		
V/C Ratio(X)	0.00	0.44	0.00	0.00	0.52	0.28	0.09	1.07	1.07	0.59		
Avail Cap(c <sub>a</sub> ), veh/h	0	1208	0	0	2575	405	1978	1044	492	129		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.50	0.50	0.50	1.00		
Uniform Delay (d), s/veh	0.0	15.1	0.0	0.0	15.8	14.1	16.8	30.8	30.8	33.8		
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.8	1.7	0.0	41.2	49.9	13.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	5.4	0.0	0.0	5.6	2.3	1.3	21.1	21.5	0.9		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.3	0.0	0.0	16.5	15.8	16.8	72.0	80.7	47.7		
LnGrp LOS	A	B	A	A	B	B	B	F	F	D		
Approach Vol, veh/h		533			1455			1818				
Approach Delay, s/veh		16.3			16.5			69.3				
Approach LOS		B			B			E				
Timer - Assigned Phs		2	3			6	7	8				
Phs Duration (G+Y+Rc), s		33.3	36.7			33.3	5.7	31.0				
Change Period (Y+Rc), s		5.0	4.0			5.0	4.0	5.5				
Max Green Setting (Gmax), s		24.0	11.0			24.0	6.0	25.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		13.1	4.5			11.0	3.0	27.5				
Green Ext Time (p <sub>c</sub> ), s		7.2	0.3			2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			41.7									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary

9: Figueroa St & SR-110 Fwy NB Ramps/3rd St

Year 2025 Future with Project Conditions

Weekday PM Peak Hour


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑↑	↗	↘↘↘	↑↑↑↘		↘		↘↘
Traffic Volume (veh/h)	0	66	0	0	2222	126	1003	3200	87	26	0	885
Future Volume (veh/h)	0	66	0	0	2222	126	1003	3200	87	26	0	885
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.73	1.00		0.86	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1575	0	0	1575	1575	1575	1575	1575	1575	0	1575
Adj Flow Rate, veh/h	0	70	0	0	2364	134	1067	3404	93	28	0	941
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	0	1113	0	0	2373	363	2233	1880	50	42	0	0
Arrive On Green	0.00	0.37	0.00	0.00	0.37	0.37	0.17	0.14	0.14	0.03	0.00	0.00
Sat Flow, veh/h	0	3150	0	0	6678	976	4230	4284	115	1500	28	
Grp Volume(v), veh/h	0	70	0	0	2364	134	1067	2257	1240	28	60.1	
Grp Sat Flow(s),veh/h/ln	0	1496	0	0	1276	976	1410	1433	1533	1500	E	
Q Serve(g_s), s	0.0	1.4	0.0	0.0	33.3	9.0	20.4	39.5	39.5	1.7		
Cycle Q Clear(g_c), s	0.0	1.4	0.0	0.0	33.3	9.0	20.4	39.5	39.5	1.7		
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.07	1.00		
Lane Grp Cap(c), veh/h	0	1113	0	0	2373	363	2233	1258	673	42		
V/C Ratio(X)	0.00	0.06	0.00	0.00	1.00	0.37	0.48	1.79	1.84	0.67		
Avail Cap(c_a), veh/h	0	1113	0	0	2373	363	2233	1258	673	117		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00		
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	0.09	0.09	0.09	1.00		
Uniform Delay (d), s/veh	0.0	18.2	0.0	0.0	28.2	20.6	26.0	38.5	38.5	43.3		
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	17.6	2.9	0.1	357.5	380.0	16.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.0	0.9	0.0	0.0	17.8	4.0	9.0	113.5	128.1	1.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.3	0.0	0.0	45.8	23.4	26.0	396.0	418.5	60.1		
LnGrp LOS	A	B	A	A	D	C	C	F	F	E		
Approach Vol, veh/h	70			2498			4564					
Approach Delay, s/veh	18.3			44.6			315.6					
Approach LOS	B			D			F					
Timer - Assigned Phs	2		3		6		7		8			
Phs Duration (G+Y+Rc), s	38.5		51.5		38.5		6.5		45.0			
Change Period (Y+Rc), s	5.0		4.0		5.0		4.0		5.5			
Max Green Setting (Gmax), s	29.0		31.5		29.0		7.0		39.5			
Max Q Clear Time (g_c+I1), s	35.3		22.4		3.4		3.7		41.5			
Green Ext Time (p_c), s	0.0		3.1		0.3		0.0		0.0			
Intersection Summary												
HCM 6th Ctrl Delay	217.2											
HCM 6th LOS	F											

HCM Signalized Intersection Capacity Analysis

Year 2025 Future with Project Conditions

10: Figueroa St/Figueroa Blvd & SR-110 NB and SB On-Ramps/5th St

















Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					61	7	777	777				
Traffic Volume (vph)	0	0	0	0	1674	355	617	1827	0	0	0	0
Future Volume (vph)	0	0	0	0	1674	355	617	1827	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					4.0	4.0	4.0	4.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Frbp, ped/bikes					0.99	0.84	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					0.99	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6526	796	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6526	796	4202	4282				
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	0	1708	362	630	1864	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	1	73	421	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1848	148	209	1864	0	0	0	0
Confl. Peds. (#/hr)			246			154			244			216
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					22.0	22.0	23.2	38.0				
Effective Green, g (s)					23.0	23.0	23.2	39.0				
Actuated g/C Ratio					0.33	0.33	0.33	0.56				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2144	261	1392	2385				
v/s Ratio Prot					c0.28		0.05	c0.44				
v/s Ratio Perm						0.19						
v/c Ratio					0.86	0.57	0.15	0.78				
Uniform Delay, d1					22.0	19.4	16.5	12.2				
Progression Factor					1.00	1.00	1.54	0.22				
Incremental Delay, d2					4.9	8.6	0.2	1.8				
Delay (s)					26.9	28.0	25.5	4.5				
Level of Service					C	C	C	A				
Approach Delay (s)		0.0			27.0			9.8			0.0	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.6		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)						14.0	
Intersection Capacity Utilization			73.1%		ICU Level of Service						D	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 10: Figueroa St & SR-110 NB and SB On-Ramps/5th St

















Year 2025 Future with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	2190	340	963	2632	0	0	0	0
Future Volume (vph)	0	0	0	0	2190	340	963	2632	0	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)					5.0	5.0	4.0	5.0				
Lane Util. Factor					0.71	0.71	0.94	0.91				
Frpb, ped/bikes					1.00	0.70	1.00	1.00				
Flpb, ped/bikes					1.00	1.00	1.00	1.00				
Frt					1.00	0.85	1.00	1.00				
Flt Protected					1.00	1.00	0.95	1.00				
Satd. Flow (prot)					6637	666	4202	4282				
Flt Permitted					1.00	1.00	0.95	1.00				
Satd. Flow (perm)					6637	666	4202	4282				
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	0	2281	354	1003	2742	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	56	378	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	2316	263	625	2742	0	0	0	0
Confl. Peds. (#/hr)			225			235			261			178
Confl. Bikes (#/hr)			4			6			15			6
Turn Type					NA	Perm	Prot	NA				
Protected Phases					2		3	8				
Permitted Phases						2						
Actuated Green, G (s)					31.0	31.0	34.2	49.0				
Effective Green, g (s)					31.0	31.0	34.2	49.0				
Actuated g/C Ratio					0.34	0.34	0.38	0.54				
Clearance Time (s)					5.0	5.0	4.0	5.0				
Vehicle Extension (s)					3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)					2286	229	1596	2331				
v/s Ratio Prot					0.35		0.15	c0.64				
v/s Ratio Perm						c0.40						
v/c Ratio					1.01	1.15	0.39	1.18				
Uniform Delay, d1					29.5	29.5	20.3	20.5				
Progression Factor					1.00	1.00	1.14	0.86				
Incremental Delay, d2					22.1	105.8	0.4	82.0				
Delay (s)					51.6	135.3	23.5	99.7				
Level of Service					D	F	C	F				
Approach Delay (s)		0.0			61.8			79.3			0.0	
Approach LOS		A			E			E			A	
Intersection Summary												
HCM 2000 Control Delay			72.0		HCM 2000 Level of Service				E			
HCM 2000 Volume to Capacity ratio			1.23									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)				14.0			
Intersection Capacity Utilization			95.7%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												



HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2025 Future with Project Conditions  
 Weekday AM Peak Hour





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	2873	0	0	0	0	0	2111	255	0	0	0
Future Volume (vph)	291	2873	0	0	0	0	0	2111	255	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0						4.0	4.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5958						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5958						6353	1333			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	310	3056	0	0	0	0	0	2246	271	0	0	0
RTOR Reduction (vph)	69	69	0	0	0	0	0	0	85	0	0	0
Lane Group Flow (vph)	210	3018	0	0	0	0	0	2246	186	0	0	0
Confl. Peds. (#/hr)			156			153			447			310
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	24.5	24.5						35.0	18.0			
Effective Green, g (s)	26.0	26.0						36.0	19.0			
Actuated g/C Ratio	0.37	0.37						0.51	0.27			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	420	2212						3267	361			
v/s Ratio Prot								c0.35	0.14			
v/s Ratio Perm	0.19	0.51										
v/c Ratio	0.50	1.36						0.69	0.51			
Uniform Delay, d1	17.0	22.0						12.8	21.6			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	4.2	167.1						1.2	5.2			
Delay (s)	21.2	189.1						14.0	26.8			
Level of Service	C	F						B	C			
Approach Delay (s)		175.1			0.0			15.4			0.0	
Approach LOS		F			A			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			106.8					HCM 2000 Level of Service		F		
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			70.0					Sum of lost time (s)		14.5		
Intersection Capacity Utilization			73.1%					ICU Level of Service		D		
Analysis Period (min)			15									
c Critical Lane Group												

## Queues

Year 2025 Future with Project Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday AM Peak Hour

















				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	279	3087	2246	271
v/c Ratio	0.54	1.26	0.73	0.61
Control Delay	14.0	143.6	16.1	26.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.0	143.6	16.1	26.4
Queue Length 50th (ft)	67	~446	178	68
Queue Length 95th (ft)	159	#516	215	#213
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	518	2447	3085	447
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	1.26	0.73	0.61

## Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 11: Figueroa St & SR-110 NB and SB Off-Ramps/6th St

Year 2025 Future with Project Conditions  
 Weekday PM Peak Hour





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	356	1760	0	0	0	0	0	3261	351	0	0	0
Future Volume (vph)	356	1760	0	0	0	0	0	3261	351	0	0	0
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	5.5	5.5						5.0	5.0			
Lane Util. Factor	0.76	0.76						0.81	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Flpb, ped/bikes	1.00	1.00						1.00	1.00			
Frt	1.00	1.00						1.00	0.85			
Flt Protected	0.95	1.00						1.00	1.00			
Satd. Flow (prot)	1133	5955						6353	1333			
Flt Permitted	0.95	1.00						1.00	1.00			
Satd. Flow (perm)	1133	5955						6353	1333			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	367	1814	0	0	0	0	0	3362	362	0	0	0
RTOR Reduction (vph)	66	66	0	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	264	1785	0	0	0	0	0	3362	313	0	0	0
Confl. Peds. (#/hr)			213			203			760			203
Confl. Bikes (#/hr)			7			4			11			5
Turn Type	Perm	NA						NA	custom			
Protected Phases		2						8	3			
Permitted Phases	2											
Actuated Green, G (s)	20.5	20.5						59.0	42.0			
Effective Green, g (s)	20.5	20.5						59.0	42.0			
Actuated g/C Ratio	0.23	0.23						0.66	0.47			
Clearance Time (s)	5.5	5.5						5.0	5.0			
Vehicle Extension (s)	3.0	3.0						3.0	3.0			
Lane Grp Cap (vph)	258	1356						4164	622			
v/s Ratio Prot								c0.53	0.24			
v/s Ratio Perm	0.23	0.30										
v/c Ratio	1.02	1.32						0.81	0.50			
Uniform Delay, d1	34.8	34.8						11.3	16.7			
Progression Factor	1.00	1.00						1.00	1.00			
Incremental Delay, d2	62.5	147.8						1.8	2.9			
Delay (s)	97.3	182.6						13.1	19.6			
Level of Service	F	F						B	B			
Approach Delay (s)		169.7			0.0			13.8			0.0	
Approach LOS		F			A			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			71.3					HCM 2000 Level of Service		E		
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)		15.5		
Intersection Capacity Utilization			88.1%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												

## Queues

Year 2025 Future with Project Conditions

11: Figueroa St &amp; SR-110 NB and SB Off-Ramps/6th St

Weekday PM Peak Hour






















				
Lane Group	EBL	EBT	NBT	NBR
Lane Group Flow (vph)	330	1851	3362	362
v/c Ratio	0.95	1.19	0.84	0.54
Control Delay	64.4	124.0	15.3	19.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	64.4	124.0	15.3	19.3
Queue Length 50th (ft)	188	~329	331	129
Queue Length 95th (ft)	#413	#399	378	234
Internal Link Dist (ft)		354	238	
Turn Bay Length (ft)				50
Base Capacity (vph)	347	1552	4023	670
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.95	1.19	0.84	0.54

## Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.




















HCM 6th Signalized Intersection Summary  
13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St




Year 2025 Future with Project Conditions  
Weekday AM Peak Hour




												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	133	306	225	0	0	0	0	570	166	212	1257	0
Future Volume (veh/h)	133	306	225	0	0	0	0	570	166	212	1257	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.89	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	141	326	239				0	606	177	226	1337	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	362	893	513				0	1304	515	302	1304	0
Arrive On Green	0.41	0.41	0.41				0.00	0.44	0.44	0.44	0.44	0.00
Sat Flow, veh/h	873	2155	1238				0	3071	1182	682	3071	0
Grp Volume(v), veh/h	247	220	239				0	606	177	226	1337	0
Grp Sat Flow(s),veh/h/ln	1531	1496	1238				0	1496	1182	682	1496	0
Q Serve(g_s), s	7.9	7.1	9.8				0.0	10.0	7.0	20.5	30.5	0.0
Cycle Q Clear(g_c), s	7.9	7.1	9.8				0.0	10.0	7.0	30.5	30.5	0.0
Prop In Lane	0.57		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	634	620	513				0	1304	515	302	1304	0
V/C Ratio(X)	0.39	0.35	0.47				0.00	0.46	0.34	0.75	1.03	0.00
Avail Cap(c_a), veh/h	634	620	513				0	1304	515	302	1304	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	14.1	14.9				0.0	14.0	13.1	26.0	19.8	0.0
Incr Delay (d2), s/veh	1.8	1.6	3.0				0.0	1.2	1.8	15.5	31.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	4.4	5.3				0.0	6.1	3.6	8.7	22.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	15.7	17.9				0.0	15.2	14.9	41.5	51.3	0.0
LnGrp LOS	B	B	B				A	B	B	D	F	A
Approach Vol, veh/h		706						783			1563	
Approach Delay, s/veh		16.6						15.1			49.9	
Approach LOS		B						B			D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0						
Change Period (Y+Rc), s		4.5		6.0		4.5						
Max Green Setting (Gmax), s		30.5		29.0		30.5						
Max Q Clear Time (g_c+I1), s		32.5		11.8		12.0						
Green Ext Time (p_c), s		0.0		3.5		4.9						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			33.3									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary  
13: Broadway & US-101 Fwy SB Off-Ramp/Aliso St

Year 2025 Future with Project Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	330	116	0	0	0	0	1268	282	152	970	0
Future Volume (veh/h)	114	330	116	0	0	0	0	1268	282	152	970	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.89	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No				No	
Adj Sat Flow, veh/h/ln	1575	1575	1575				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	121	351	123				0	1349	300	162	1032	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	305	942	509				0	1413	564	92	1413	0
Arrive On Green	0.41	0.41	0.41				0.00	0.47	0.47	0.47	0.47	0.00
Sat Flow, veh/h	742	2292	1237				0	3071	1193	303	3071	0
Grp Volume(v), veh/h	251	221	123				0	1349	300	162	1032	0
Grp Sat Flow(s),veh/h/ln	1538	1496	1237				0	1496	1193	303	1496	0
Q Serve(g_s), s	10.3	9.2	5.8				0.0	39.0	15.9	3.5	25.0	0.0
Cycle Q Clear(g_c), s	10.3	9.2	5.8				0.0	39.0	15.9	42.5	25.0	0.0
Prop In Lane	0.48		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	632	615	509				0	1413	564	92	1413	0
V/C Ratio(X)	0.40	0.36	0.24				0.00	0.95	0.53	1.76	0.73	0.00
Avail Cap(c_a), veh/h	632	615	509				0	1413	564	92	1413	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.6	18.3	17.3				0.0	22.8	16.7	44.8	19.1	0.0
Incr Delay (d2), s/veh	1.9	1.6	1.1				0.0	15.3	3.6	384.3	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	6.0	3.2				0.0	22.5	8.4	21.3	13.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	19.9	18.5				0.0	38.1	20.3	429.1	22.5	0.0
LnGrp LOS	C	B	B				A	D	C	F	C	A
Approach Vol, veh/h		595						1649			1194	
Approach Delay, s/veh		19.9						34.9			77.7	
Approach LOS		B						C			E	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		47.0		43.0		47.0						
Change Period (Y+Rc), s		4.5		6.0		4.5						
Max Green Setting (Gmax), s		42.5		37.0		42.5						
Max Q Clear Time (g_c+I1), s		44.5		12.3		41.0						
Green Ext Time (p_c), s		0.0		3.4		1.3						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			47.1									
HCM 6th LOS			D									

















Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	176	0	41	928	0
Future Vol, veh/h	0	176	0	41	928	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	187	0	44	987	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	494	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	521	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	521	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.7	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 521	-				
HCM Lane V/C Ratio	- 0.359	-				
HCM Control Delay (s)	- 15.7	-				
HCM Lane LOS	- C	-				
HCM 95th %tile Q(veh)	- 1.6	-				

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	237	0	54	633	0
Future Vol, veh/h	0	237	0	54	633	0
Conflicting Peds, #/hr	100	0	0	0	0	100
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	252	0	57	673	0
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	337	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	659	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	659	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.8		0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBTEBLn1	SBT				
Capacity (veh/h)	- 659	-				
HCM Lane V/C Ratio	- 0.383	-				
HCM Control Delay (s)	- 13.8	-				
HCM Lane LOS	- B	-				
HCM 95th %tile Q(veh)	- 1.8	-				



















HCM 6th Signalized Intersection Summary  
 30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2025 Future with Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	680	150	0	0	0	0	276	216	4	743	0
Future Volume (veh/h)	15	680	150	0	0	0	0	276	216	4	743	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92				1.00		0.86	0.96		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	16	723	160				0	294	230	4	790	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	32	1543	336				0	788	571	53	1466	0
Arrive On Green	0.34	0.34	0.34				0.00	0.50	0.50	0.50	0.50	0.00
Sat Flow, veh/h	94	4501	980				0	1575	1142	3	3003	0
Grp Volume(v), veh/h	268	420	212				0	294	230	426	368	0
Grp Sat Flow(s),veh/h/ln	1570	1355	1295				0	1575	1142	1573	1362	0
Q Serve(g_s), s	9.5	8.4	9.0				0.0	8.0	8.8	0.0	13.0	0.0
Cycle Q Clear(g_c), s	9.5	8.4	9.0				0.0	8.0	8.8	13.0	13.0	0.0
Prop In Lane	0.06		0.76				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	538	929	444				0	788	571	838	681	0
V/C Ratio(X)	0.50	0.45	0.48				0.00	0.37	0.40	0.51	0.54	0.00
Avail Cap(c_a), veh/h	538	929	444				0	788	571	838	681	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	17.9	18.1				0.0	10.8	11.0	12.0	12.0	0.0
Incr Delay (d2), s/veh	3.3	1.6	3.6				0.0	1.4	2.1	2.2	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	4.9	5.4				0.0	5.1	4.3	8.2	7.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	19.5	21.7				0.0	12.1	13.1	14.2	15.1	0.0
LnGrp LOS	C	B	C				A	B	B	B	B	A
Approach Vol, veh/h		899						524			794	
Approach Delay, s/veh		20.6						12.5			14.6	
Approach LOS		C						B			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		40.5		29.5		40.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		35.0		24.0		35.0						
Max Q Clear Time (g_c+I1), s		15.0		11.5		10.8						
Green Ext Time (p_c), s		5.3		4.9		3.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									




















HCM 6th Signalized Intersection Summary  
30: Los Angeles St & Aliso St/US-101 SB On-Ramp

Year 2025 Future with Project Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1281	26	0	0	0	0	1046	556	2	293	0
Future Volume (veh/h)	42	1281	26	0	0	0	0	1046	556	2	293	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89				1.00		0.84	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1600	1575	1600				0	1575	1575	1575	1575	0
Adj Flow Rate, veh/h	45	1363	28				0	1113	591	2	312	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	68	2210	46				0	753	537	40	1294	0
Arrive On Green	0.40	0.40	0.40				0.00	0.48	0.48	0.48	0.48	0.00
Sat Flow, veh/h	170	5526	116				0	1575	1125	0	2781	0
Grp Volume(v), veh/h	414	652	370				0	1113	591	163	151	0
Grp Sat Flow(s),veh/h/ln	1567	1355	1537				0	1575	1125	1348	1362	0
Q Serve(g_s), s	19.4	17.1	17.1				0.0	43.0	43.0	0.0	5.9	0.0
Cycle Q Clear(g_c), s	19.4	17.1	17.1				0.0	43.0	43.0	43.0	5.9	0.0
Prop In Lane	0.11		0.08				0.00		1.00	0.01		0.00
Lane Grp Cap(c), veh/h	627	1084	615				0	753	537	684	651	0
V/C Ratio(X)	0.66	0.60	0.60				0.00	1.48	1.10	0.24	0.23	0.00
Avail Cap(c_a), veh/h	627	1084	615				0	753	537	684	651	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.0	21.3	21.3				0.0	23.5	23.5	13.9	13.8	0.0
Incr Delay (d2), s/veh	5.4	2.5	4.3				0.0	222.7	68.9	0.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	9.6	11.0				0.0	94.5	30.5	3.7	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	23.8	25.7				0.0	246.2	92.4	14.7	14.6	0.0
LnGrp LOS	C	C	C				A	F	F	B	B	A
Approach Vol, veh/h		1436						1704			314	
Approach Delay, s/veh		25.3						192.9			14.7	
Approach LOS		C						F			B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		48.5		41.5		48.5						
Change Period (Y+Rc), s		5.5		5.5		5.5						
Max Green Setting (Gmax), s		43.0		36.0		43.0						
Max Q Clear Time (g_c+I1), s		45.0		21.4		45.0						
Green Ext Time (p_c), s		0.0		8.4		0.0						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			107.0									
HCM 6th LOS			F									























HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp

Year 2025 Future with Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	636	1576	263	200	1208	0	0	1674	44
Future Volume (veh/h)	0	0	0	636	1576	263	200	1208	0	0	1674	44
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A <sub>pbt</sub> )				1.00		0.94	1.00		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				658	1703	280	213	1285	0	0	1781	47
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				729	1905	310	103	1090	0	0	1565	41
Arrive On Green				0.49	0.49	0.49	0.36	0.36	0.00	0.00	0.36	0.36
Sat Flow, veh/h				1500	3923	638	255	3071	0	0	4438	113
Grp Volume(v), veh/h				658	1364	619	213	1285	0	0	1188	640
Grp Sat Flow(s),veh/h/ln				1500	1575	1411	255	1496	0	0	1433	1543
Q Serve(g <sub>s</sub> ), s				28.1	27.5	28.2	0.0	25.5	0.0	0.0	25.5	25.5
Cycle Q Clear(g <sub>c</sub> ), s				28.1	27.5	28.2	25.5	25.5	0.0	0.0	25.5	25.5
Prop In Lane				1.00		0.45	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h				729	1530	685	103	1090	0	0	1044	562
V/C Ratio(X)				0.90	0.89	0.90	2.07	1.18	0.00	0.00	1.14	1.14
Avail Cap(c <sub>a</sub> ), veh/h				729	1530	685	103	1090	0	0	1044	562
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.5	16.3	16.5	35.0	22.3	0.0	0.0	22.3	22.3
Incr Delay (d2), s/veh				16.7	8.3	17.5	513.6	90.1	0.0	0.0	73.8	82.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				17.6	15.9	17.0	29.4	32.3	0.0	0.0	27.4	31.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				33.2	24.6	34.0	548.6	112.4	0.0	0.0	96.1	104.7
LnGrp LOS				C	C	C	F	F	A	A	F	F
Approach Vol, veh/h					2641			1498			1828	
Approach Delay, s/veh					28.9			174.4			99.1	
Approach LOS					C			F			F	
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s		30.5			39.5			30.5				
Change Period (Y+Rc), s		5.0			5.5			5.0				
Max Green Setting (Gmax), s		25.5			34.0			25.5				
Max Q Clear Time (g <sub>c</sub> +I1), s		27.5			30.2			27.5				
Green Ext Time (p <sub>c</sub> ), s		0.0			3.6			0.0				
Intersection Summary												
HCM 6th Ctrl Delay				87.0								
HCM 6th LOS				F								
Notes												
User approved volume balancing among the lanes for turning movement.												




















HCM 6th Signalized Intersection Summary  
 31: Alameda St & Arcadia St/US-101 NB Off-Ramp

Year 2025 Future with Project Conditions  
 Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  			 			  	
Traffic Volume (veh/h)	0	0	0	689	640	310	247	2242	0	0	1382	24
Future Volume (veh/h)	0	0	0	689	640	310	247	2242	0	0	1382	24
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.91	1.00		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1575	1575	1575	1575	1575	0	0	1575	1575
Adj Flow Rate, veh/h				436	1097	330	263	2385	0	0	1470	26
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				475	1075	323	201	1696	0	0	2463	44
Arrive On Green				0.32	0.32	0.32	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h				1500	3394	1021	351	3071	0	0	4488	77
Grp Volume(v), veh/h				436	1018	409	263	2385	0	0	970	526
Grp Sat Flow(s),veh/h/ln				1500	1575	1265	351	1496	0	0	1433	1556
Q Serve(g_s), s				25.2	28.5	28.5	31.1	51.0	0.0	0.0	19.9	19.9
Cycle Q Clear(g_c), s				25.2	28.5	28.5	51.0	51.0	0.0	0.0	19.9	19.9
Prop In Lane				1.00		0.81	1.00		0.00	0.00		0.05
Lane Grp Cap(c), veh/h				475	998	401	201	1696	0	0	1624	882
V/C Ratio(X)				0.92	1.02	1.02	1.31	1.41	0.00	0.00	0.60	0.60
Avail Cap(c_a), veh/h				475	998	401	201	1696	0	0	1624	882
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.6	30.8	30.8	35.6	19.5	0.0	0.0	12.8	12.8
Incr Delay (d2), s/veh				25.2	33.8	50.3	169.2	186.5	0.0	0.0	1.6	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				17.9	21.9	20.5	23.5	90.0	0.0	0.0	10.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				54.8	64.5	81.1	204.8	206.0	0.0	0.0	14.4	15.7
LnGrp LOS				D	F	F	F	F	A	A	B	B
Approach Vol, veh/h				1863				2648				1496
Approach Delay, s/veh				65.9				205.9				14.9
Approach LOS				E				F				B
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	56.0			34.0			56.0					
Change Period (Y+Rc), s	5.0			5.5			5.0					
Max Green Setting (Gmax), s	51.0			28.5			51.0					
Max Q Clear Time (g_c+I1), s	21.9			30.5			53.0					
Green Ext Time (p_c), s	12.4			0.0			0.0					
Intersection Summary												
HCM 6th Ctrl Delay				114.9								
HCM 6th LOS				F								
Notes												




















HCM 6th Signalized Intersection Summary  
 32: Garey St/US-101 SB Ramps & Commercial St

Year 2025 Future with Project Conditions  
 Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	513	74	43	18	108	106	31	62	13	301	109	453
Future Volume (veh/h)	513	74	43	18	108	106	31	62	13	301	109	453
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.97		1.00	1.00		0.90	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	546	79	46	19	115	113	33	66	14	320	116	482
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	409	238	489	469	418	86	177	38	279	101	429
Arrive On Green	0.07	0.44	0.44	0.31	0.31	0.31	0.10	0.10	0.10	0.25	0.25	0.25
Sat Flow, veh/h	2910	925	539	1232	1496	1335	850	1758	381	1115	404	1335
Grp Volume(v), veh/h	546	0	125	19	115	113	59	0	54	436	0	482
Grp Sat Flow(s),veh/h/ln	1455	0	1463	1232	1496	1335	1533	0	1457	1519	0	1335
Q Serve(g_s), s	5.0	0.0	3.6	0.8	4.0	4.4	2.5	0.0	2.4	17.5	0.0	17.5
Cycle Q Clear(g_c), s	5.0	0.0	3.6	0.8	4.0	4.4	2.5	0.0	2.4	17.5	0.0	17.5
Prop In Lane	1.00		0.37	1.00		1.00	0.55		0.26	0.73		1.00
Lane Grp Cap(c), veh/h	208	0	647	489	469	418	155	0	147	380	0	429
V/C Ratio(X)	2.63	0.00	0.19	0.04	0.25	0.27	0.38	0.00	0.36	1.15	0.00	1.12
Avail Cap(c_a), veh/h	208	0	647	489	469	418	416	0	395	380	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	11.9	16.8	17.9	18.0	29.4	0.0	29.4	26.3	0.0	23.8
Incr Delay (d2), s/veh	745.8	0.0	0.7	0.1	1.2	1.6	1.6	0.0	1.5	92.9	0.0	81.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	37.5	0.0	2.2	0.4	2.7	2.7	1.8	0.0	1.6	23.9	0.0	24.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	778.3	0.0	12.6	16.9	19.1	19.6	31.0	0.0	30.9	119.2	0.0	105.3
LnGrp LOS	F	A	B	B	B	B	C	A	C	F	A	F
Approach Vol, veh/h		671			247			113			918	
Approach Delay, s/veh		635.6			19.2			30.9			111.9	
Approach LOS		F			B			C			F	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		37.4		21.5	9.0	28.4		11.1				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		19.0		17.5	5.0	10.0		19.0				
Max Q Clear Time (g_c+I1), s		5.6		19.5	7.0	6.4		4.5				
Green Ext Time (p_c), s		0.7		0.0	0.0	0.4		0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				275.8								
HCM 6th LOS				F								

HCM 6th Signalized Intersection Summary  
32: Garey St/US-101 SB Ramps & Commercial St

Year 2025 Future with Project Conditions  
Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	761	39	15	6	49	352	23	502	22	150	71	334
Future Volume (veh/h)	761	39	15	6	49	352	23	502	22	150	71	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.96		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575	1575
Adj Flow Rate, veh/h	810	41	16	6	52	374	24	534	23	160	76	355
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	517	468	183	357	321	287	28	641	29	184	87	475
Arrive On Green	0.18	0.44	0.44	0.21	0.21	0.21	0.22	0.22	0.22	0.18	0.18	0.18
Sat Flow, veh/h	2910	1071	418	1288	1496	1335	123	2861	129	1033	491	1335
Grp Volume(v), veh/h	810	0	57	6	52	374	306	0	275	236	0	355
Grp Sat Flow(s),veh/h/ln	1455	0	1488	1288	1496	1335	1569	0	1545	1523	0	1335
Q Serve(g_s), s	16.0	0.0	2.0	0.3	2.5	19.3	16.9	0.0	15.1	13.6	0.0	16.0
Cycle Q Clear(g_c), s	16.0	0.0	2.0	0.3	2.5	19.3	16.9	0.0	15.1	13.6	0.0	16.0
Prop In Lane	1.00		0.28	1.00		1.00	0.08		0.08	0.68		1.00
Lane Grp Cap(c), veh/h	517	0	650	357	321	287	352	0	346	271	0	475
V/C Ratio(X)	1.57	0.00	0.09	0.02	0.16	1.30	0.87	0.00	0.79	0.87	0.00	0.75
Avail Cap(c_a), veh/h	517	0	650	357	321	287	392	0	386	271	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.0	0.0	14.8	27.9	28.7	35.3	33.7	0.0	33.0	36.0	0.0	25.5
Incr Delay (d2), s/veh	263.8	0.0	0.3	0.1	1.1	160.0	17.4	0.0	9.9	25.1	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	39.1	0.0	1.3	0.2	1.8	29.6	12.7	0.0	10.8	11.1	0.0	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	300.8	0.0	15.1	28.0	29.8	195.3	51.1	0.0	42.9	61.1	0.0	31.9
LnGrp LOS	F	A	B	C	C	F	D	A	D	E	A	C
Approach Vol, veh/h		867			432			581			591	
Approach Delay, s/veh		282.1			173.1			47.2			43.6	
Approach LOS		F			F			D			D	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		45.8		20.0	20.0	25.8		24.2				
Change Period (Y+Rc), s		6.5		4.0	4.0	6.5		4.0				
Max Green Setting (Gmax), s		37.0		16.0	16.0	17.0		22.5				
Max Q Clear Time (g_c+I1), s		4.0		18.0	18.0	21.3		18.9				
Green Ext Time (p_c), s		0.4		0.0	0.0	0.0		1.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			150.7									
HCM 6th LOS			F									



**DEPARTMENT OF TRANSPORTATION**  
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING  
100 S. MAIN STREET, MS 16  
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February 24, 2017

Ms. Kathleen King  
City of Los Angeles  
Department of City Planning  
200 North Spring Street, Room 750  
Los Angeles, CA 90012

RE: 222 West 2nd Project  
Vic. LA-101/PM 1.101  
GTS# 07-LA-2017-00572ME NOP

Dear Ms. King:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project consists of the development of a 30-story mixed-use building consisting of 107 residential units, approximately 7,200 square feet of ground level commercial floor uses, and 534,044 square feet of office uses in Downtown Los Angeles.

Please refer to the Freeway Impact Analysis Screening Criteria Agreement, between the City of Los Angeles and Caltrans District 7, dated October 1, 2013 and Amendment dated December 15, 2015, to determine if a traffic impact analysis is necessary. If it is determined that this project is not required to conduct additional analysis of the freeway mainline and off ramps based on the screening criteria, a cumulative traffic analysis should still be conducted to determine if there will be a significant cumulative traffic impact on State Facilities when all future development projects are considered. Currently the freeway condition is operating near or at capacity.

However, if a traffic analysis is deemed necessary, it should be prepared prior to preparing the Draft Environmental Impact Report (DEIR). Please include the following components in your traffic analysis to assist us in evaluating the impacts of this project to State Transportation Facilities:

1. State highway facilities in the vicinity of this proposed project include US 101 and Interstate 110. Please analyze on/off ramps as well as main-line freeway segments within the project vicinity.
2. Traffic volume counts which include anticipated AM and PM peak-hour volumes.
3. Level of service (LOS) before, during construction, and after development.
4. Future conditions, which include both, project and project plus cumulative traffic generated up to General Plan build out year.

Ms. King  
February 24, 2017  
Page 2

5. Discussion of mitigation measures appropriate to alleviate anticipated traffic impacts, including sharing of mitigation costs.

Caltrans would like to work with the City in an effort to evaluate traffic impacts, identify potential improvements, and establish a funding mechanism that helps mitigate cumulative transportation impacts in the project vicinity. Fair share funding contributions towards future improvements of State facilities will be accepted so long as it can be shown that such improvements are reasonably expected to be implemented in a reasonable time frame.

If you have any questions, please feel free to contact Miya Edmonson the project coordinator at (213) 897-6536 and refer to IGR/CEQA No. LA-2017-00572.

Sincerely,



DIANNA WATSON  
Branch Chief  
Community Planning & LD / IGR Review



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April 17, 2017

DiAnna Watson  
Caltrans District 7 – Office of Transportation Planning  
100 S. Main Street, MS 16  
Los Angeles, CA 90012

Re: 222 West 2<sup>nd</sup> Street Project

Dear Ms. Watson:

Thank you for your recent correspondence, dated February 24, 2017, relative to the Notice of Preparation/Initial Study for the 222 West 2<sup>nd</sup> Street Project located at 213 South Spring Street, 200-210 South Broadway, and 232-238 West 2<sup>nd</sup> Street. Your letter requested that five components be included when preparing the 222 West 2<sup>nd</sup> Street Project traffic study to assist Caltrans in evaluating the project impacts to State Transportation Facilities. Pursuant to the MOU (Freeway Analysis Agreement) between Caltrans and Los Angeles Department of Transportation (LADOT) executed in 2013 and renewed in 2015, the methodologies and assumptions used to prepare the project traffic study will comply with the screening criteria included in the executed "Freeway Impact Analysis Screening Criteria MOU as agreed upon by the City and Caltrans, as follows:

LADOT will require project applicants to work with Caltrans and prepare a Freeway Impact Analysis, utilizing Caltrans' "Guide for the Preparation of Traffic Impact Studies" (TIS Guide"), for land use proposals that meet any of the following criteria:

- The project's peak hour trips would result in a 1-percent or more increase to the freeway mainline capacity of a freeway segment operating at LOS E or F (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project's peak hour trips would result in a 2-percent or more increase to the freeway mainline capacity of a freeway segment operating at LOS D (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project's peak hour trips would result in a 1-percent or more increase to the capacity of a freeway off-ramp operating at LOS E or F (based on an assumed ramp capacity of 850 vehicles per hour per lane); or

- The project's peak hour trips would result in a 2-percent or more increase to the capacity of a freeway off-ramp operating at LOS D (based on a an assumed ramp capacity of 850 vehicles per hour per lane).

If any of the four thresholds defined above are exceeded, then LADOT will direct the project applicant to Caltrans for a determination on the specific requirements for a freeway study. However, per the terms of the MOU, if none of the thresholds are exceeded, then the project applicant would not be required by the City to prepare a detailed freeway analysis beyond the freeway analysis mandated by Metro's Congestion Management Program.

Sincerely,

Luciralia Ibarra  
Senior City Planner  
Major Projects  
Department of City Planning

**DEPARTMENT OF TRANSPORTATION**

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June 6, 2017

Ms. Lucirella Ibarra  
Department of City Planning  
200 N. Spring Street, Room 750  
Los Angeles, Ca 90012

RE: 222 West 2<sup>nd</sup> Street Project  
Vic. LA-101/PM 1.101  
GTS#07-LA-2017-00921ME

Dear Ms. Ibarra:

This is a follow-up to your letter dated April 17, 2017 in regards to the MOU (Freeway Impact Analysis Screening Criteria) between Caltrans and Los Angeles Department of Transportation (LADOT). We would like to use this opportunity to reach out to your office.

As a reminder from the renewal of the Agreement signed in December 2015, the Agreement expired in December 2016. Section 2 indicates that "This Agreement will be extended for a period of one year after execution or when the revisions to the California environmental Quality Act are adopted relative to how transportation impacts are determined pursuant to Senate Bill 743, whichever occurs first." The NOP was circulated in January 2017, therefore the MOU does not apply to this project. When preparing the traffic analysis on the State facilities, please refer the projects traffic consultant the Caltrans' traffic study guide Website:

[http://www.dot.ca.gov/hq/tpp/offices/ocp/igr\\_ceqa\\_files/tisguide.pdf](http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf)

Caltrans will continue to involve in the development of LADOT's VMT guidelines and to provide feedback on upcoming key milestones in relates to VMT methodology and VMT thresholds, etc. If you have any questions regarding these comments, please contact project coordinator Ms. Miya Edmonson, at (213) 897-6536 and refer to GTS# LA-2017-00921ME

Sincerely,

A handwritten signature in black ink, appearing to read "Dianna Watson".

DIANNA WATSON  
LD-IGR/CEQA Branch Chief

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CITY PLANNING

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July 6, 2017

DiAnna Watson  
Department of Transportation  
District 7 – Office of Transportation Planning  
100 S. Main Street, MS 16  
Los Angeles, CA 90012

Re: **222 West 2<sup>nd</sup> Street Project**

Dear Ms. Watson:

Thank you for your recent correspondence, dated June 6, 2017, relative to the application of the MOU (Freeway Analysis Agreement) between Caltrans and the Los Angeles Department of Transportation (LADOT) for the project proposed at 222 West 2<sup>nd</sup> Street (Project). In response to your comment we are providing this communication to explain the methodology the City intends to use and the City's reason for not using the 2002 Guide.

In our letter dated April 17, 2017, we confirmed the City's continued application of the Freeway Analysis Agreement ('Agreement'). The City's continued reliance on the Agreement is based upon verbal direction from Caltrans that the Agreement will remain in effect until such time as the City formally implements a Vehicles Miles Traveled (VMT) methodology.

In your June 6th letter, you recommend that the City utilize the 2002 Caltrans' "Guide for the Preparation of Traffic Studies," (2002 Guide),<sup>1</sup> to analyze impacts to State highway facilities. As discussed below, the City finds that the City's reliance on the 2002 Guide would be inconsistent with more recent Caltrans' guidelines and the State law those updated guidelines are intended to implement. Specifically, the "Local Development – Intergovernmental Review Program Interim Guide" (LD-IGR), dated November 2016, expressly provides that in commenting on local projects, including development projects, the LD-IGR supersedes the 2002 Guide:

*"In the interim, this Interim Guidance document intends to ensure that all Caltrans LD-IGR comments on growth plans, development projects, and infrastructure investments align with state policies . ... We also continue to recognize that under the California Environmental Quality Act (CEQA), it is ultimately the Lead Agency's responsibility to perform a CEQA analysis, set local thresholds of significance, analyze potential impacts, determine significance, and identify, implement, and monitor any required mitigations.*

***This guidance supersedes the 2002 Caltrans Guide for the Preparation of Traffic Impact Studies*** in comments to local agencies. ....

---

<sup>1</sup> [http://www.dot.ca.gov/hq/tpp/offices/ocp/igr\\_ceqa\\_files/tisguide.pdf](http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf)

*In order to ensure alignment of Caltrans comments with state goals described above, LD-IGR comments henceforth should take into consideration whether the project exhibits low or high VMT (by place type e.g., urban, suburban, and rural areas) and should focus recommendations on smart land use, multimodal access, safety for all users, and reducing single occupant vehicle trips. . . . <sup>2</sup>*

The LD-IGR program is intended to implement recent legislation related to State Climate Change goals and sustainable land use and transportation practices, such as AB 32 (2006), SB 375 (2008), SB 226 (2011), SB 743 (2013), and planning guidance relative to the Smart Mobility Framework, Complete Streets Implementation Action Plan, the California Transportation Plan 2014, and Caltrans' adoption of the Strategic Management Plan 2015-2020 (SMP).

As indicated in the LD-IGR quote above, the explicit direction is to consider "multi-modal solutions from existing regional transportation plans, regional plans, transit plans, bicycle plans, and pedestrian plans." Moreover, it calls for Lead Agencies to implement the goals of the SMP, and states that the SMP is *not intended to be used or interpreted* "as specific thresholds in the review of individual development projects." The SMP identifies specific targets and objectives related to the LDG-IR, including, but not limited to: doubling of walking and transit; tripling of bicycle trips as percentage of overall trips; a reduction of per capita vehicle miles traveled (VMT); a reduction of the number of fatalities in each travel mode; improve the quality of life for all Californians by providing mobility choice; and reduce peak period travel times and delay for all modes through intelligent transportation systems, operational strategies, demand management, and land use/transportation integration.

Based on the above, we find that the 2002 Guide is not aligned or consistent with current State law in regards to transportation analysis and as such, the City intends to continue its reliance on the Agreement in preparation of its traffic studies, including for the Project, until such time as the VMT methodology is formally released.

The City is currently undertaking its effort to establish a VMT methodology, which is tentatively slated for release by the end of 2017. In the interim, the Department of City Planning and LADOT will be beta testing a VMT Calculator, in conjunction with our current methodology for development project EIRs to inform what the potential VMT impacts could be and identify potential mitigation that promote other travel modes in line with the SMP. The result of the beta testing will be available for your review upon release of a Draft EIR.

The City looks forward to your comments on VMT, recommendations on smart land use, multi-modal access, reducing single occupant vehicle trips, and safety for all users as we move forward in our implementation of recent state legislation, including SB 743, which mandates that CEQA review focus on VMT.

Sincerely,



Luciralia Ibarra  
Senior City Planner  
Major Projects  
Department of City Planning

---

<sup>2</sup> See page 3 at: <http://www.dot.ca.gov/hq/tpp/documents/LDIGRInterimGuidanceApproved.pdf>

**CITY OF LOS ANGELES**  
**INTER-DEPARTMENTAL MEMORANDUM**

Date: October 9, 2018

To: Luciralia Ibarra, Senior City Planner  
Department of City Planning

From: Eddie Guerrero, Senior Transportation Engineer  
Department of Transportation

Subject: **FREEWAY ANALYSIS FOR PROPOSED PROJECT AT 222 W. 2<sup>ND</sup> STREET (CASE NO. CPC-2016-3808-VZC-CDO-SPR)**

Senate Bill 743 requires California cities to establish new guidelines for evaluating transportation impacts under CEQA that shift from measuring vehicle delay and level of service (LOS) to Vehicle-Miles-Travelled (VMT). To adapt to SB743, LADOT and the Department of City Planning (DCP) have worked collaboratively to develop and finalize the City's methodology to assess projects' transportation impacts based on anticipated VMT. The new Transportation Impact Study Guidelines that adapt to SB743 are expected to be considered for City Council approval later this year.

LADOT and DCP have had recent discussions with Caltrans regarding the appropriate methodology for evaluating development projects' potential impacts on State highway facilities consistent with SB 743, and in particular, consistent with the State's Local Development Intergovernmental Review (LD-IGR) Program Guidance (November 9, 2016). The State's Office of Planning and Research (OPR) recommended that VMT replace LOS as the transportation review criteria in the CEQA process statewide, and the LD-IGR Program Guidance explicitly states that the 2016 LD-IGR Guidance supersedes the 2002 Caltrans Guide for the preparation of traffic impact studies in comments to local agencies. The new guidance encourages local Caltrans Districts to provide comments on projects exhibiting high or low VMT, "and should focus recommendations on smart land use, multimodal access, safety for all users, and reducing single occupant vehicle trips."

In conjunction with the switch to a VMT-based analysis, Caltrans approved and released the LD-IGR Guidance which was approved in September 2016 and revised on November 9, 2016. Recognizing the adoption of SB743 and other State, County, and City legislation to address GHG emission reductions and promote sustainable land use and transportation policies, the 2016 LD-IGR Guidance, which recognizes that Caltrans is pursuing VMT as a metric of project impacts, also states that it will remain in effect until superseded by new Caltrans transportation impact study guidelines, currently under development.

LADOT, similarly, updated its Transportation Impact Study Guidelines (TIS Guidelines) in December 2016. With respect to analysis of State highway facilities, the current TIS Guidelines references the screening criteria set forth in the Freeway Agreement between LADOT and Caltrans District 7, which was executed in 2013 and updated in 2015. In tandem with the Freeway Agreement, the TIS Guidelines also refer transportation consultants to Caltrans' 2002 "Guide for the Preparation of Traffic Studies" (2002 Caltrans Guide). However, inasmuch as this updating occurred during the release of the 2016 LD-IGR, it is clear that the continued use of the 2002 Caltrans Guide is no longer applicable or appropriate.

As it pertains to the proposed development project on 222 West 2<sup>nd</sup> Street, LADOT is in receipt of, and concurs with the recommended methodology outlined in DCP's letter to Caltrans dated July 6, 2017. Based on the above, and notwithstanding any language to the contrary in the TIS Guidelines, LADOT agrees with DCP and finds that reliance on the 2002 Caltrans Guide to evaluate the Project's potential impacts on State highway facilities would be inconsistent with current State law and the 2016 LD-IGR Guidance. LADOT looks forward to reviewing the Project's transportation impact analysis consistent with the 2016 LD-IGR Guidance.

c: Wes Pringle, LADOT  
Kathleen King, Heather Bleemers, LADCP

## APPENDIX E

### CMA DATA WORKSHEETS DURING PEAK BUILDING CONSTRUCTION PHASE – WEEKDAY AM AND PM PEAK HOURS



**Appendix Table E-1**  
**PEAK CONSTRUCTION TRIP GENERATION [1]**

LAND USE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Construction Employees	442	Nom.	Nom.	Nom.	Nom.	55	55
Construction Trucks [3]	250	11	11	22	11	11	22
<b>TOTAL CONSTRUCTION TRIPS (IN PCEs)</b>	<b>692</b>	<b>11</b>	<b>11</b>	<b>22</b>	<b>11</b>	<b>66</b>	<b>77</b>

[1] Based on information provided by the project Applicant. Refer to report text for detailed discussion of construction traffic trip generation.

[2] Trips are one-way traffic movements, entering or leaving.

[3] Truck trips have been adjusted by a passenger car equivalent (PCE) factor of 2.5 for the purposes of this analysis. This assumes that construction-related trucks have the same effect on intersection traffic operations as 2.5 passenger cars.

Appendix Table E-2  
SUMMARY OF VOLUME TO CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS  
Construction Analysis



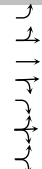
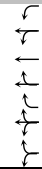



NO.	INTERSECTION	PEAK HOUR	[1]		[2]			[3]		[4]				
			YEAR 2017 EXISTING V/C	LOS	YEAR 2017 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2025 FUTURE W/O PROJECT V/C	LOS	YEAR 2025 FUTURE WITH PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]
5	Beaudry Avenue/ 2nd Street	AM	0.640	B	0.640	B	0.000	No	0.788	C	0.789	C	0.001	No
		PM	0.896	D	0.898	D	0.002	No	1.101	F	1.103	F	0.002	No
8	Figueroa Street/ 2nd Street	AM	0.747	C	0.748	C	0.001	No	1.091	F	1.092	F	0.001	No
		PM	1.059	F	1.061	F	0.002	No	1.408	F	1.409	F	0.001	No
9	Figueroa Street/ 3rd Street-SR-110 Ramps	AM	0.789	C	0.789	C	0.000	No	0.893	D	0.893	D	0.000	No
		PM	1.131	F	1.133	F	0.002	No	1.449	F	1.452	F	0.003	No
31	Alameda Street/ Arcadia Street - US-101 NB Off-Ramp	AM	0.530	A	0.531	A	0.001	No	0.929	E	0.929	E	0.000	No
		PM	0.630	B	0.631	B	0.001	No	0.941	E	0.941	E	0.000	No

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

<u>Final v/c</u>	<u>LOS</u>	<u>Project Related Increase in v/c</u>
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Beaudry Avenue			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
5		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					2			2			2		2			2			2			2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			0		NB-- 0 SB-- 0 EB-- 0 WB-- 0			0				
ATSAC-1 or ATSAC+ATCS-2?					2			2			2		2			2			2			2			
Override Capacity					0			0			0		0			0			0			0			
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	56	0	56	0	56	56	44	105	0	105	0	105	0	105	0	105	0	105	0	105			
		Left-Through		1						1				1				1		1					
		Through	282	1	253	0	282	253	140	445	1	433	0	445	1	433	0	445	1	433					
		Through-Right		0						0				0				0		0					
		Right	89	1	47	0	89	47	3	99	1	53	0	99	1	53	0	99	1	53					
SOUTHBOUND		Left-Through-Right		0						0				0				0		0					
		Left-Right		0						0				0				0		0					
		Left	144	0	144	0	144	144	0	156	0	156	0	156	0	156	0	156	0	156					
		Left-Through		1						1				1				1		1					
		Through	774	0	546	0	774	546	101	939	0	642	0	939	0	642	0	939	0	642					
EASTBOUND		Through-Right		1						1				1				1		1					
		Right	30	0	546	0	30	546	0	32	0	642	0	32	0	642	0	32	0	642					
		Left-Through-Right		0						0				0				0		0					
		Left-Right		0						0				0				0		0					
		Left	46	1	46	0	46	46	0	50	1	50	0	50	1	50	0	50	1	50					
WESTBOUND		Left-Through		0						0				0				0		0					
		Through	845	2	423	1	846	423	71	986	2	493	1	987	2	494	0	987	2	494					
		Through-Right		0						0				0				0		0					
		Right	365	1	365	0	365	365	9	404	1	404	0	404	1	404	0	404	1	404					
		Left-Through-Right		0						0				0				0		0					
CRITICAL VOLUMES		Left-Right		0						0				0				0		0					
		Left	85	1	85	0	85	85	0	92	1	92	0	92	1	92	0	92	1	92					
		Left-Through		0						0				0				0		0					
		Through	232	1	232	1	233	233	70	321	1	321	1	322	1	322	0	322	1	322					
		Through-Right		0						0				0				0		0					
VOLUME/CAPACITY (V/C) RATIO: V/C LESS ATSAC/ATCS ADJUSTMENT: LEVEL OF SERVICE (LOS):		Right	64	1	64	0	64	64	0	69	1	69	0	69	1	69	0	69	1	69					
		Left-Through-Right		0						0				0				0		0					
		Left-Right		0						0				0				0		0					
		North-South:	602			North-South:	602		North-South:	747			North-South:	747			North-South:	747							
		East-West:	508			East-West:	508		East-West:	585			East-West:	586			East-West:	586							
V/C LESS ATSAC/ATCS ADJUSTMENT: LEVEL OF SERVICE (LOS):		SUM:	1110			SUM:	1110		SUM:	1332			SUM:	1333			SUM:	1333							
			0.740				0.740			0.888				0.889				0.889							
			0.640				0.640			0.788				0.789				0.789							
		LEVEL OF SERVICE (LOS):	B				B			C				C				C							

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.001	Δv/c after mitigation:	0.001
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Beaudry Avenue			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
5		East-West Street:		2nd Street			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases				2			2			2			2			2			2					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0			NB-- 0 SB-- 0 EB-- 0 WB-- 0								
ATSAC-1 or ATSAC+ATCS-2?				2			2			2			2			2			2					
Override Capacity				0			0			0			0			0			0					
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	209	0	209	0	209	209	28	254	0	254	0	254	0	254	0	254	0	254				
		Left-Through		1							1				1				1					
		Through	1033	1	726	0	1033	726	152	1271	1	890	0	1271	1	890	0	1271	1	890				
		Through-Right		0							0				0				0					
		Right	273	1	211	0	273	211	14	310	1	243	0	310	1	243	0	310	1	243				
SOUTHBOUND		Left-Through-Right		0							0				0				0					
		Left-Right		0							0				0				0					
		Left	63	0	63	0	63	63	0	68	0	68	0	68	0	68	0	68	0	68				
		Left-Through		1							1				1				1					
		Through	331	0	344	0	331	344	181	539	0	481	0	539	0	481	0	539	0	481				
EASTBOUND		Through-Right		1							1				1				1					
		Right	13	0	0	0	13	0	0	14	0	481	0	14	0	481	0	14	0	481				
		Left-Through-Right		0							0				0				0					
		Left-Right		0							0				0				0					
		Left	49	1	49	0	49	49	0	53	1	53	0	53	1	53	0	53	1	53				
WESTBOUND		Left-Through		0							0				0				0					
		Through	457	2	229	1	458	229	65	560	2	280	1	561	2	281	0	561	2	281				
		Through-Right		0							0				0				0					
		Right	152	1	152	0	152	152	46	211	1	211	0	211	1	211	0	211	1	211				
		Left-Through-Right		0							0				0				0					
CRITICAL VOLUMES		Left-Right		0							0				0				0					
		Left	125	1	125	0	125	125	0	135	1	135	0	135	1	135	0	135	1	135				
		Left-Through		0							0				0				0					
		Through	656	1	656	3	659	659	80	790	1	790	3	793	1	793	0	793	1	793				
		Through-Right		0							0				0				0					
VOLUME/CAPACITY (V/C) RATIO: V/C LESS ATSAC/ATCS ADJUSTMENT: LEVEL OF SERVICE (LOS):		Right	121	1	90	0	121	90	0	131	1	131	0	131	1	131	0	131	1	131				
		Left-Through-Right		0							0				0				0					
		Left-Right		0							0				0				0					
		Left			789			789				958			958					958				
		Left-Through			705			708				843			846					846				
SUM:			1494			1497			1801				1804				1804							
VOLUME/CAPACITY (V/C) RATIO:			0.996			0.998			1.201				1.203				1.203							
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.896			0.898			1.101				1.103				1.103							
LEVEL OF SERVICE (LOS):			D			D			F				F				F							

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.002	Δv/c after mitigation:	0.002
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figuroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
8		East-West Street:			2nd Street			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?								3			3			3			3			3			3		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0			NB-- 0 SB-- 0 EB-- 3 WB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2			2		
Override Capacity					0			0			0			0			0			0			0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	141	1	141	0	141	141	0	153	1	153	0	153	1	153	0	153	1	153	0	153	1	153	
		Left-Through		0							0				0				0			0			
		Through	720	2	360	0	720	360	379	1159	2	580	0	1159	2	580	0	1159	2	580	0	1159	2	580	
		Through-Right		0						0				0				0				0			
		Right	114	1	91	0	114	91	15	138	1	72	0	138	1	72	0	138	1	72	0	138	1	72	
SOUTHBOUND		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
EASTBOUND		Left	208	1	208	0	208	208	8	233	1	233	0	233	1	233	0	233	1	233	0	233	1	233	
		Left-Through		0							0				0				0			0			
		Through	609	1	305	0	609	305	0	659	1	330	0	659	1	330	0	659	1	330	0	659	1	330	
		Through-Right		1						1				1				1				1			
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WESTBOUND		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
		Left-Through-Right		0						0				0				0				0			
CRITICAL VOLUMES					North-South: 568 East-West: 639 SUM: 1207			North-South: 568 East-West: 640 SUM: 1208			North-South: 813 East-West: 884 SUM: 1697				North-South: 813 East-West: 885 SUM: 1698				North-South: 813 East-West: 885 SUM: 1698						
VOLUME/CAPACITY (V/C) RATIO:					0.847			0.848			1.191				1.192				1.192						
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.747			0.748			1.091				1.092				1.092						
LEVEL OF SERVICE (LOS):					C			C			F				F				F						

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	<b>0.001</b>	Δv/c after mitigation:	<b>0.001</b>
Significant impacted?	<b>NO</b>	Fully mitigated?	<b>N/A</b>

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:		Figueroa Street		Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
8		East-West Street:		2nd Street		Projection Year:		2025		Peak Hour:		PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						3		3				3				3				3	
Right Turns: FREE-1, NRTOR-2 or OLA-3?				NB-- 0 SB-- 0		0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0		NB-- 0 SB-- 0		0	
ATSAC-1 or ATSAC+ATCS-2?				EB-- 3 WB-- 0		0		0		EB-- 3 WB-- 0		0		EB-- 3 WB-- 0		0		EB-- 3 WB-- 0		0	
Override Capacity						2		2				2				2				2	
				0		0		0				0				0				0	
MOVEMENT				EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION			
				Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	460	1	460	0	460	460	0	498	1	498	0	498	1	498	0	498	1	498	
		Left-Through		0						0					0				0		
		Through	1904	2	952	0	1904	952	491	2553	2	1277	0	2553	2	1277	0	2553	2	1277	
		Through-Right		0						0					0				0		
		Right	165	1	133	0	165	133	9	188	1	99	0	188	1	99	0	188	1	99	
SOUTHBOUND		Left-Through-Right		0						0				0				0			
		Left-Right		0						0				0				0			
		Left	129	1	129	0	129	129	16	156	1	156	0	156	1	156	0	156	1	156	
		Left-Through		0						0				0				0			
		Through	337	1	206	0	337	206	0	365	1	223	0	365	1	223	0	365	1	223	
EASTBOUND		Through-Right		1						1				1				1			
		Right	74	0	74	0	74	74	0	80	0	80	0	80	0	80	0	80	0	80	
		Left-Through-Right		0						0				0				0			
		Left-Right		0						0				0				0			
		Left	90	1	90	0	90	90	22	119	1	119	0	119	1	119	0	119	1	119	
WESTBOUND		Left-Through		0						0				0				0			
		Through	382	1	382	1	383	383	124	538	1	538	1	539	1	539	0	539	1	539	
		Through-Right		0						0				0				0			
		Right	365	1	0	0	365	0	0	395	1	0	0	395	1	0	0	395	1	0	
		Left-Through-Right		0						0				0				0			
WESTBOUND		Left-Right		0						0				0				0			
		Left	65	1	65	0	65	65	108	178	1	178	0	178	1	178	0	178	1	178	
		Left-Through		0						0				0				0			
		Through	480	1	480	3	483	483	64	584	1	584	3	587	1	587	0	587	1	587	
		Through-Right		0						0				0				0			
WESTBOUND		Right	24	1	0	0	24	0	9	35	1	0	0	35	1	0	0	35	1	0	
		Left-Through-Right		0						0				0				0			
		Left-Right		0						0				0				0			
		Left																			
		Left-Through																			
CRITICAL VOLUMES				North-South: 1081		North-South: 1081		North-South: 1433				North-South: 1433				North-South: 1433					
				East-West: 570		East-West: 573		East-West: 716				East-West: 717				East-West: 717					
				SUM: 1651		SUM: 1654		SUM: 2149				SUM: 2150				SUM: 2150					
VOLUME/CAPACITY (V/C) RATIO:				1.159		1.161		1.508				1.509				1.509					
V/C LESS ATSAC/ATCS ADJUSTMENT:				1.059		1.061		1.408				1.409				1.409					
LEVEL OF SERVICE (LOS):				F		F		F				F				F					

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.001	Δv/c after mitigation:	0.001
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figueroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
9		East-West Street:			3rd Street-SR 110 Ramps			Projection Year:			2025		Peak Hour:			AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0					
Override Capacity					2			2			2			2			2			2					
					1000			1000			1000			1000			1000			1000					
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	145	3	51	0	145	51	7	164	3	57	0	164	3	57	0	164	3	57					
		Left-Through		0						0				0				0							
		Through	838	2	341	0	838	341	439	1346	2	515	0	1346	2	515	0	1346	2	515					
		Through-Right		1						1				1				1							
		Right	184	0	184	0	184	184	0	199	0	199	0	199	0	199	0	199	0	199					
		Left-Through-Right		0						0				0				0							
SOUTHBOUND		Left	19	1	19	0	19	19	0	21	1	21	0	21	1	21	0	21	1	21					
		Left-Through		0						0				0				0							
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0						0				0				0							
		Right	1101	2	606	0	1101	606	53	1245	2	685	0	1245	2	685	0	1245	2	685					
		Left-Through-Right		0						0				0				0							
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0						0				0				0							
		Through	463	2	232	0	463	232	0	501	2	251	0	501	2	251	0	501	2	251					
		Through-Right		0						0				0				0							
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0						0				0				0							
WESTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0						0				0				0							
		Through	972	5	194	2	974	195	188	1241	5	248	2	1243	5	249	0	1243	5	249					
		Through-Right		0						0				0				0							
		Right	100	1	91	0	100	91	0	108	1	98	0	108	1	98	0	108	1	98					
		Left-Through-Right		0						0				0				0							
CRITICAL VOLUMES			North-South: 657			North-South: 657			North-South: 742			North-South: 742			North-South: 742										
			East-West: 232			East-West: 232			East-West: 251			East-West: 251			East-West: 251										
			SUM: 889			SUM: 889			SUM: 993			SUM: 993			SUM: 993										
VOLUME/CAPACITY (V/C) RATIO:			0.889			0.889			0.993			0.993			0.993										
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.789			0.789			0.893			0.893			0.893										
LEVEL OF SERVICE (LOS):			C			C			D			D			D										

REMARKS: Construction Analysis



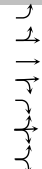
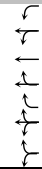
Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Figuroa Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
9		East-West Street:			3rd Street-SR 110 Ramps			Projection Year:			2025		Peak Hour:			PM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2	
No. of Phases					0			0			0			0			0			0			0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0		
					EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0			EB-- 0 WB-- 0		
ATSAC-1 or ATSAC+ATCS-2?					2			2			2			2			2			2			2		
Override Capacity					1000			1000			1000			1000			1000			1000			1000		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION						
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume			
NORTHBOUND		Left	922	3	323	0	922	323	5	1003	3	351	0	1003	3	351	0	1003	3	351					
		Left-Through		0					0					0				0							
		Through	2447	2	842	0	2447	842	550	3200	2	1096	0	3200	2	1096	0	3200	2	1096					
		Through-Right		1					1				1				1								
		Right	80	0	80	0	80	80	0	87	0	87	0	87	0	87	0	87	0	87					
SOUTHBOUND		Left-Through-Right		0					0				0				0								
		Left-Right		0					0				0				0								
		Left	24	1	24	0	24	24	0	26	1	26	0	26	1	26	0	26	1	26					
		Left-Through		0					0				0				0								
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
EASTBOUND		Through-Right		0					0				0				0								
		Right	696	2	383	0	696	383	131	885	2	487	0	885	2	487	0	885	2	487					
		Left-Through-Right		0					0				0				0								
		Left-Right		0					0				0				0								
		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WESTBOUND		Left-Through		0					0				0				0								
		Through	61	2	31	0	61	31	0	66	2	33	0	66	2	33	0	66	2	33					
		Through-Right		0					0				0				0								
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
		Left-Through-Right		0					0				0				0								
CRITICAL VOLUMES		North-South:	866		North-South:	866		North-South:	1122		North-South:	1122		North-South:	1122		North-South:	1122							
		East-West:	365		East-West:	367		East-West:	427		East-West:	430		East-West:	430		East-West:	430							
		SUM:	1231		SUM:	1233		SUM:	1549		SUM:	1552		SUM:	1552		SUM:	1552							
VOLUME/CAPACITY (V/C) RATIO:					1.231			1.233			1.549			1.552			1.552								
V/C LESS ATSAC/ATCS ADJUSTMENT:					1.131			1.133			1.449			1.452			1.452								
LEVEL OF SERVICE (LOS):					F			F			F			F			F								

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.003	Δv/c after mitigation:	0.003
Significant impacted?	NO	Fully mitigated?	N/A



# Level of Service Worksheet (Circular 212 Method)



I/S #:	North-South Street:		Alameda Street			Year of Count:		2017		Ambient Growth (%):		1.0		Conducted by:		LLG Engineers		Date:		2/20/2018	
	31	East-West Street:		Arcadia Street-US-101 NB Off-Ramp			Projection Year:		2025		Peak Hour:		AM		Reviewed by:				Project:		222 West 2nd Project/1-15-4154-2
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2			2			2			2			2			2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB-- 0 SB-- 0 EB-- 0 WB-- 2			NB-- 0 SB-- 0 EB-- 0 WB-- 2			NB-- 0 SB-- 0 EB-- 0 WB-- 2			NB-- 0 SB-- 0 EB-- 0 WB-- 2			NB-- 0 SB-- 0 EB-- 0 WB-- 2			NB-- 0 SB-- 0 EB-- 0 WB-- 2			
ATSAC-1 or ATSAC+ATCS-2?			2			2			2			2			2			2			
Override Capacity			0			0			0			0			0			0			
MOVEMENT			EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION				
			Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	
NORTHBOUND		Left	44	1	44	0	44	44	152	200	1	200	0	200	1	200	0	200	1	200	
		Left-Through		0							0				0				0		
		Through	838	2	419	0	838	419	301	1208	2	604	0	1208	2	604	0	1208	2	604	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0				0				0		
		Through	1141	2	394	0	1141	394	438	1674	2	573	0	1674	2	573	0	1674	2	573	
		Through-Right		1							1				1				1		
		Right	41	0	41	0	41	41	0	44	0	44	0	44	0	44	0	44	0	44	
		Left-Through-Right		0							0				0				0		
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through		0							0				0				0		
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Through-Right		0							0				0				0		
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Left-Through-Right		0							0				0				0		
WESTBOUND		Left	272	1	272	0	272	272	341	636	1	636	0	636	1	636	0	636	1	636	
		Left-Through		1							1				1				1		
		Through	1366	1	507	1	1367	508	60	1539	1	770	1	1540	1	770	0	1540	1	770	
		Through-Right		1							1				1				1		
		Right	156	0	156	0	156	156	94	263	0	263	0	263	0	263	0	263	0	263	
		Left-Through-Right		0							0				0				0		
CRITICAL VOLUMES			North-South: 438 East-West: 507 SUM: 945			North-South: 438 East-West: 508 SUM: 946			North-South: 773 East-West: 770 SUM: 1543				North-South: 773 East-West: 770 SUM: 1543				North-South: 773 East-West: 770 SUM: 1543				
VOLUME/CAPACITY (V/C) RATIO:			0.630			0.631			1.029				1.029				1.029				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.530			0.531			0.929				0.929				0.929				
LEVEL OF SERVICE (LOS):			A			A			E				E				E				

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

# Level of Service Worksheet (Circular 212 Method)



I/S #:		North-South Street:			Alameda Street			Year of Count:			2017		Ambient Growth (%):			1.0		Conducted by:			LLG Engineers		Date:		2/20/2018			
31		East-West Street:			Arcadia Street-US-101 NB Off-Ramp			Projection Year:			2025		Peak Hour:			PM		Reviewed by:					Project:		222 West 2nd Project/1-15-4154-2			
No. of Phases					2			2			2			2			2			2			2					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0			0			0			0			0			0					
Right Turns: FREE-1, NRTOR-2 or OLA-3?					NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0			NB-- 0 SB-- 0					
ATSAC-1 or ATSAC+ATCS-2?					EB-- 0 WB-- 2			EB-- 0 WB-- 2			EB-- 0 WB-- 2			EB-- 0 WB-- 2			EB-- 0 WB-- 2			EB-- 0 WB-- 2			EB-- 0 WB-- 2					
Override Capacity					2			2			2			2			2			2			2			2		
					0			0			0			0			0			0			0			0		
MOVEMENT					EXISTING CONDITION			EXISTING PLUS PROJECT			FUTURE CONDITION W/O PROJECT				FUTURE CONDITION W/ PROJECT				FUTURE W/ PROJECT W/ MITIGATION									
					Volume	No. of Lanes	Lane Volume	Project Traffic	Total Volume	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume						
NORTHBOUND		Left	18	1	18	0	18	18	228	247	1	247	0	247	1	247	0	247	1	247	0	247	1	247				
		Left-Through		0					0		0		0		0		0		0		0		0					
		Through	1707	2	854	0	1707	854	394	2242	2	1121	0	2242	2	1121	0	2242	2	1121	0	2242	2	1121				
		Through-Right		0					0		0		0		0		0		0		0		0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0					0		0		0		0		0		0		0		0					
SOUTHBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0					0		0		0		0		0		0		0		0					
		Through	895	2	306	0	895	306	413	1382	2	469	0	1382	2	469	0	1382	2	469	0	1382	2	469				
		Through-Right		1					1		1		1		1		1		1		1		1					
		Right	22	0	22	0	22	22	0	24	0	24	0	24	0	24	0	24	0	24	0	24	0	24				
		Left-Through-Right		0					0		0		0		0		0		0		0		0					
EASTBOUND		Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through		0					0		0		0		0		0		0		0		0					
		Through	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Through-Right		0					0		0		0		0		0		0		0		0					
		Right	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
		Left-Through-Right		0					0		0		0		0		0		0		0		0					
WESTBOUND		Left	194	1	194	0	194	194	479	689	1	440	0	689	1	440	0	689	1	440	0	689	1	440				
		Left-Through		1					1		1		1		1		1		1		1		1					
		Through	514	1	241	1	515	242	74	631	1	440	1	632	1	440	0	632	1	440	0	632	1	440				
		Through-Right		1					1		1		1		1		1		1		1		1					
		Right	210	0	210	0	210	210	83	310	0	310	0	310	0	310	0	310	0	310	0	310	0	310				
		Left-Through-Right		0					0		0		0		0		0		0		0		0					
CRITICAL VOLUMES					North-South: 854			North-South: 854			North-South: 1121			North-South: 1121			North-South: 1121			North-South: 1121								
					East-West: 241			East-West: 242			East-West: 440			East-West: 440			East-West: 440			East-West: 440								
					SUM: 1095			SUM: 1096			SUM: 1561			SUM: 1561			SUM: 1561			SUM: 1561								
VOLUME/CAPACITY (V/C) RATIO:					0.730			0.731			1.041			1.041			1.041			1.041								
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.630			0.631			0.941			0.941			0.941			0.941								
LEVEL OF SERVICE (LOS):					B			B			E			E			E			E								

REMARKS: Construction Analysis

Version: 1i Beta; 8/4/2011

## PROJECT IMPACT

Change in v/c due to project:	0.000	Δv/c after mitigation:	0.000
Significant impacted?	NO	Fully mitigated?	N/A

## APPENDIX F

### CMA DATA WORKSHEETS EXISTING WITH PROJECT WITH MITIGATION – WEEKDAY AM AND PM PEAK HOURS

Appendix Table F-1  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		[2]				[3]			
			YEAR 2017 EXISTING V/C	LOS	YEAR 2017 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2017 W/ PROJECT MITIGATION V/C	LOS	CHANGE V/C [(3)-(1)]	MITIGATED
5	Beaudry Avenue/ 2nd Street	AM	0.640	B	0.647	B	0.007	No	0.647	B	0.007	---
		PM	0.896	D	0.910	E	0.014	Yes	0.910	E	0.014	No
8	Figueroa Street/ 2nd Street	AM	0.747	C	0.773	C	0.026	No	0.763	C	0.016	---
		PM	1.059	F	1.073	F	0.014	Yes	1.063	F	0.004	Yes
9	Figueroa Street/ 3rd Street-SR-110 Ramps	AM	0.789	C	0.789	C	0.000	No	0.779	C	-0.010	---
		PM	1.131	F	1.148	F	0.017	Yes	1.138	F	0.007	Yes

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

<u>Final v/c</u>	<u>LOS</u>	<u>Project Related Increase in v/c</u>
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

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CRITICAL MOVEMENT ANALYSIS

N-S St: Beaudry Avenue  
E-W St: 2nd Street  
Project: 222 West 2nd Project/1-4154-2  
File Name: CMA5  
Counts by: National Data & Surveying Services

Beaudry Avenue @ 2nd Street  
Peak Hour: AM  
Annual Growth: 1.0%

Date: 02/20/2018  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	56	0	56	0	56	0	56	0	56	0	56	49	105	0	105	0	105	0	105	0	105	0	105
Comb. L-T		1				1				1				1				1			1		
NB Thru	282	1	253	0	282	1	253	0	282	1	253	163	445	1	432	0	445	1	432	0	445	1	432
Comb. T-R		0				0				0				0				0			0		
NB Right	89	1	89	14	103	1	103	0	103	1	103	10	99	1	99	14	113	1	113	0	113	1	113
Comb. L-T-R -		0				0				0				0				0			0		
SB Left	144	0	144	0	144	0	144	0	144	0	144	12	156	0	156	0	156	0	156	0	156	0	156
Comb. L-T		1				1				1				1				1			1		
SB Thru	774	0	546	0	774	0	546	0	774	0	546	165	939	0	642	0	939	0	642	0	939	0	642
Comb. T-R		1				1				1				1				1			1		
SB Right	30	0	-	0	30	0	-	0	30	0	-	2	32	0	-	0	32	0	-	0	32	0	-
Comb. L-T-R -		0				0				0				0				0			0		
EB Left	46	1	46	0	46	1	46	0	46	1	46	4	50	1	50	0	50	1	50	0	50	1	50
Comb. L-T		0	-			0	-			0	-			0	-			0	-		0	-	
EB Thru	845	2	423	23	868	2	434	0	868	2	434	141	986	2	493	23	1009	2	505	0	1009	2	505
Comb. T-R		0	-			0	-			0	-			0	-			0	-		0	-	
EB Right	365	1	365	0	365	1	365	0	365	1	365	39	404	1	404	0	404	1	404	0	404	1	404
Comb. L-T-R -		0				0				0				0				0			0		
WB Left	85	1	85	0	85	1	85	0	85	1	85	7	92	1	92	0	92	1	92	0	92	1	92
Comb. L-T		0	-			0	-			0	-			0	-			0	-		0	-	
WB Thru	232	1	232	5	237	1	237	0	237	1	237	89	321	1	321	5	326	1	326	0	326	1	326
Comb. T-R		0	-			0	-			0	-			0	-			0	-		0	-	
WB Right	64	1	64	0	64	1	64	0	64	1	64	5	69	1	69	0	69	1	69	0	69	1	69
Comb. L-T-R -		0				0				0				0				0			0		
Crit. Volumes:	N-S:	602				N-S:	602			N-S:	602			N-S:	746			N-S:	746			N-S:	746
	E-W:	508				E-W:	519			E-W:	519			E-W:	585			E-W:	597			E-W:	597
	SUM:	1110				SUM:	1121			SUM:	1121			SUM:	1331			SUM:	1343			SUM:	1343
No. of Phases:		2					2				2				2				2				2
(N/A=0, ATSAC=1, ATCS=2)		2					2				2				2				2				2
Volume / Capacity:		0.640					0.647				0.647				0.788				0.796				0.796
Level of Service:		B					B				B				C				C				C

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.

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CRITICAL MOVEMENT ANALYSIS

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E-W St: 2nd Street  
Project: 222 West 2nd Project/1-4154-2  
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Counts by: National Data & Surveying Services

Beaudry Avenue @ 2nd Street  
Peak Hour: PM  
Annual Growth: 1.0%

Date: 02/20/2018  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	No. of Lanes	Lane Volume	Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	209	0	209	0	209	0	209	0	209	0	209	45	254	0	254	0	254	0	254	0	254	0	254
Comb. L-T	1	1				1				1		1		1		1		1		1		1	
NB Thru	1033	1	726	0	1033	1	726	0	1033	1	726	238	1271	1	890	0	1271	1	890	0	1271	1	890
Comb. T-R	0	-				0	-			0	-	0		0	-	0		0	-	0		0	-
NB Right	273	1	273	4	277	1	277	0	277	1	277	37	310	1	310	4	314	1	314	0	314	1	314
Comb. L-T-R -	0	0				0				0		0		0		0		0		0		0	
SB Left	63	0	63	0	63	0	63	0	63	0	63	5	68	0	68	0	68	0	68	0	68	0	68
Comb. L-T	1	1				1				1		1		1		1		1		1		1	
SB Thru	331	0	361	0	331	0	361	0	331	0	361	208	539	0	481	0	539	0	481	0	539	0	345
Comb. T-R	1	1				1				1		1		1		1		1		1		1	
SB Right	13	0	-	0	13	0	-	0	13	0	-	1	14	0	-	0	14	0	-	0	14	0	-
Comb. L-T-R -	0	0				0				0		0		0		0		0		0		0	
EB Left	49	1	49	0	49	1	49	0	49	1	49	4	53	1	53	0	53	1	53	0	53	1	53
Comb. L-T	0	-				0	-			0	-	0		0	-	0		0	-	0		0	-
EB Thru	457	2	229	6	463	2	232	0	463	2	232	103	560	2	280	6	566	2	283	0	566	2	283
Comb. T-R	0	-				0	-			0	-	0		0	-	0		0	-	0		0	-
EB Right	152	1	152	0	152	1	152	0	152	1	152	59	211	1	211	0	211	1	211	0	211	1	211
Comb. L-T-R -	0	0				0				0		0		0		0		0		0		0	
WB Left	125	1	125	0	125	1	125	0	125	1	125	10	135	1	135	0	135	1	135	0	135	1	135
Comb. L-T	0	-				0	-			0	-	0		0	-	0		0	-	0		0	-
WB Thru	656	1	656	21	677	1	677	0	677	1	677	134	790	1	790	21	811	1	811	0	811	1	811
Comb. T-R	0	-				0	-			0	-	0		0	-	0		0	-	0		0	-
WB Right	121	1	121	0	121	1	121	0	121	1	121	10	131	1	131	0	131	1	131	0	131	1	131
Comb. L-T-R -	0	0				0				0		0		0		0		0		0		0	
Crit. Volumes:	N-S:	789				N-S:	789			N-S:	789			N-S:	958			N-S:	958			N-S:	958
	E-W:	705				E-W:	726			E-W:	726			E-W:	843			E-W:	864			E-W:	864
	SUM:	1494				SUM:	1515			SUM:	1515			SUM:	1801			SUM:	1822			SUM:	1822
No. of Phases:	2					2				2				2				2				2	
(N/A=0, ATSC=1, ATCS=2)	2					2				2				2				2				2	
Volume / Capacity:	0.896					0.910				0.910				1.101				1.115				1.115	
Level of Service:	D					E				E				F				F				F	

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.

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CRITICAL MOVEMENT ANALYSIS

N-S St: Figueroa Street  
E-W St: 2nd Street  
Project: 222 West 2nd Project/1-4154-2  
File Name: CMA8  
Counts by: Wiltec

Figueroa Street @ 2nd Street  
Peak Hour: AM  
Annual Growth: 1.0%

Date: 10/26/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	141	1	141	0	141	1	141	0	141	1	141	12	152	1	152	0	152	1	152	0	152	1	152
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
NB Thru	720	2	360	0	720	2	360	0	720	2	360	439	1159	2	579	0	1159	2	579	0	1159	2	579
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
NB Right	114	1	114	0	114	1	114	0	114	1	114	24	138	1	138	0	138	1	138	0	138	1	138
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Left	208	1	208	0	208	1	208	0	208	1	208	25	233	1	233	0	233	1	233	0	233	1	233
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Thru	609	1	304	0	609	1	304	0	609	1	304	50	659	1	329	0	659	1	329	0	659	1	329
Comb. T-R	1	-	304	0	-	1	-	0	-	1	-	1	-	1	-	0	-	1	-	0	-	1	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Left	48	1	48	0	48	1	48	0	48	1	48	41	89	1	89	0	89	1	89	0	89	1	89
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Thru	592	1	592	37	629	1	629	0	629	1	629	159	751	1	751	37	788	1	788	0	788	1	788
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Right [1]	440	1	299	0	440	1	299	0	440	1	299	36	476	1	324	0	476	1	324	0	476	1	324
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Left	47	1	47	0	47	1	47	0	47	1	47	86	132	1	132	0	132	1	132	0	132	1	132
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Thru	275	1	275	5	280	1	280	0	280	1	280	75	350	1	350	5	355	1	355	0	355	1	355
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Right	39	1	39	0	39	1	39	0	39	1	39	17	56	1	56	0	56	1	56	0	56	1	56
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Crit. Volumes:	N-S:	568		N-S:	568			N-S:	568			N-S:	813			N-S:	813			N-S:	813		
	E-W:	639		E-W:	676			E-W:	676			E-W:	884			E-W:	921			E-W:	921		
	SUM:	1207		SUM:	1244			SUM:	1244			SUM:	1696			SUM:	1734			SUM:	1734		
No. of Phases:	3			3				3				3				3				3			
(N/A=0, ATSAC=1, ATCS=2)	2			2				2				2				2				2			
Volume / Capacity:	0.747			0.773				0.763				1.091				1.117				1.107			
Level of Service:	C			C				C				F				F				F			

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.  
[1] Eastbound right-turn has an overlapping phase with the northbound left-turn phase.

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CRITICAL MOVEMENT ANALYSIS

N-S St: Figueroa Street  
E-W St: 2nd Street  
Project: 222 West 2nd Project/1-4154-2  
File Name: CMA8  
Counts by: Wiltec

Figueroa Street @ 2nd Street  
Peak Hour: PM  
Annual Growth: 1.0%

Date: 10/26/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	460	1	460	0	460	1	460	0	460	1	460	38	498	1	498	0	498	1	498	0	498	1	498
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
NB Thru	1904	2	952	0	1904	2	952	0	1904	2	952	649	2552	2	1276	0	2552	2	1277	0	2552	2	1277
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
NB Right	165	1	165	0	165	1	165	0	165	1	165	23	187	1	187	0	187	1	187	0	187	1	187
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Left	129	1	129	0	129	1	129	0	129	1	129	27	156	1	156	0	156	1	156	0	156	1	156
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Thru	337	1	205	0	337	1	205	0	337	1	205	28	365	1	222	0	365	1	222	0	365	1	222
Comb. T-R	1	-	205	0	-	1	205	0	-	1	205	1	-	1	222	0	-	1	222	0	-	1	222
SB Right	74	0	-	0	74	0	-	0	74	0	-	6	80	0	-	0	80	0	-	0	80	0	-
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Left	90	1	90	0	90	1	90	0	90	1	90	29	119	1	119	0	119	1	119	0	119	1	119
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Thru	382	1	382	9	391	1	391	0	391	1	391	156	538	1	538	9	547	1	547	0	547	1	547
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Right [1]	365	1	0	0	365	1	0	0	365	1	0	30	395	1	0	0	395	1	0	0	395	1	0
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Left	65	1	65	0	65	1	65	0	65	1	65	113	178	1	178	0	178	1	178	0	178	1	178
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Thru	480	1	480	21	501	1	501	0	501	1	501	104	583	1	583	21	604	1	604	0	604	1	604
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Right	24	1	24	0	24	1	24	0	24	1	24	11	35	1	35	0	35	1	35	0	35	1	35
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Crit. Volumes:	N-S:	1081		N-S:	1081			N-S:	1081			N-S:	1432			N-S:	1433			N-S:	1433		
	E-W:	570		E-W:	591			E-W:	591			E-W:	716			E-W:	725			E-W:	725		
	SUM:	1651		SUM:	1672			SUM:	1672			SUM:	2149			SUM:	2158			SUM:	2158		
No. of Phases:	3			3				3				3				3			3				
(N/A=0, ATSAC=1, ATCS=2)	2			2				2				2				2			2				
Volume / Capacity:	1.059			1.073				1.063				1.408				1.414			1.404				
Level of Service:	F			F				F				F				F			F				

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.  
For dual turn lanes, 55% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.  
[1] Eastbound right-turn has an overlapping phase with the northbound left-turn phase.



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CRITICAL MOVEMENT ANALYSIS

N-S St: Figueroa Street  
E-W St: 3rd Street-SR-110 Ramps  
Project: 222 West 2nd Project/1-4154-2  
File Name: CMA9  
Counts by: Wiltec

Figueroa Street @ 3rd Street-SR-110 Ramps  
Peak Hour: AM  
Annual Growth: 1.0%

Date: 10/26/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	145	3	51	0	145	3	51	0	145	3	51	19	164	3	57	0	164	3	57	0	164	3	57
Comb. L-T	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
NB Thru	838	2	341	0	838	2	341	0	838	2	341	508	1347	2	515	0	1347	2	515	0	1347	2	515
Comb. T-R	1	-	341	0	1	-	341	0	1	-	341	1	515	1	515	0	1	1	515	0	1	1	515
NB Right	184	0	-	0	184	0	-	0	184	0	-	15	199	0	-	0	199	0	-	0	199	0	-
Comb. L-T-R -	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
SB Left	19	1	19	0	19	1	19	0	19	1	19	2	21	1	21	0	21	1	21	0	21	1	21
Comb. L-T	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
SB Right	1101	2	606	0	1101	2	606	0	1101	2	606	144	1246	2	685	0	1246	2	685	0	1246	2	685
Comb. L-T-R -	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
EB Thru	463	2	232	0	463	2	232	0	463	2	232	38	502	2	251	0	502	2	251	0	502	2	251
Comb. T-R	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
WB Thru	972	5	194	19	991	5	198	0	991	5	198	269	1241	5	248	19	1260	5	252	0	1260	5	252
Comb. T-R	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
WB Right	100	1	100	0	100	1	100	0	100	1	100	8	108	1	108	0	108	1	108	0	108	1	108
Comb. L-T-R -	0	-	-	0	0	-	-	0	0	-	-	0	0	0	-	0	0	0	-	0	0	0	-
Crit. Volumes:	N-S:	657		N-S:	657			N-S:	657			N-S:	742			N-S:	742			N-S:	742		
	E-W:	232		E-W:	232			E-W:	232			E-W:	251			E-W:	252			E-W:	252		
	SUM:	889		SUM:	889			SUM:	889			SUM:	993			SUM:	994			SUM:	994		
No. of Phases:	Override			Override				Override				Override				Override				Override			
(N/A=0, ATCS=1, ATCS=2)	2			2				2				2				2				2			
Volume / Capacity:	0.789			0.789				0.779				0.893				0.894				0.884			
Level of Service:	C			C				C				D				D				D			

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200, Override=1000.  
For dual turn lanes, 55% of volume is assigned to heavier lane. For triple turn lanes, 35% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.

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CRITICAL MOVEMENT ANALYSIS

N-S St: Figueroa Street  
E-W St: 3rd Street-SR-110 Ramps  
Project: 222 West 2nd Project/1-4154-2  
File Name: CMA9  
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Figueroa Street @ 3rd Street-SR-110 Ramps  
Peak Hour: PM  
Annual Growth: 1.0%

Date: 10/26/2017  
Date of Count: 2017  
Buildout Year: 2025

Movement	2017 EXIST. TRAFFIC			2017 EXIST. + PROJECT				2017 EXIST. + PROJ. + MIT				2025 FUTURE BASELINE				2025 FUTURE W/PROJECT				2025 FUTURE W/MITIGATION			
	No. of Lanes	Lane Volume	Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	922	3	323	0	922	3	323	0	922	3	323	81	1003	3	351	0	1003	3	351	0	1003	3	351
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
NB Thru	2447	2	842	0	2447	2	842	0	2447	2	842	753	3200	2	1096	0	3200	2	1096	0	3200	2	1096
Comb. T-R	1	842	-	0	-	1	842	0	-	1	842	0	-	1	1096	0	-	1	1096	0	-	1	1096
NB Right	80	0	-	0	80	0	-	0	80	0	-	7	87	0	-	0	87	0	-	0	87	0	-
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Left	24	1	24	0	24	1	24	0	24	1	24	2	26	1	26	0	26	1	26	0	26	1	26
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
SB Right	696	2	383	0	696	2	383	0	696	2	383	189	885	2	487	0	885	2	487	0	885	2	487
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Thru	61	2	30	0	61	2	30	0	61	2	30	5	66	2	33	0	66	2	33	0	66	2	33
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Thru	1824	5	365	85	1909	5	382	0	1909	5	382	313	2137	5	427	85	2222	5	444	0	2222	5	444
Comb. T-R	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
WB Right	116	1	116	0	116	1	116	0	116	1	116	10	125	1	125	0	125	1	125	0	125	1	125
Comb. L-T-R -	0	-	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Crit. Volumes:	N-S: 866			N-S: 866		N-S: 866		N-S: 866		N-S: 866		N-S: 1121		N-S: 1121		N-S: 1121		N-S: 1121		N-S: 1121		N-S: 1121	
	E-W: 365			E-W: 382		E-W: 382		E-W: 382		E-W: 382		E-W: 427		E-W: 427		E-W: 444		E-W: 444		E-W: 444		E-W: 444	
	SUM: 1231			SUM: 1248		SUM: 1248		SUM: 1248		SUM: 1248		SUM: 1549		SUM: 1549		SUM: 1566		SUM: 1566		SUM: 1566		SUM: 1566	
No. of Phases:	Override			Override				Override				Override				Override				Override			
(N/A=0, ATCS=1, ATCS=2)	2			2				2				2				2				2			
Volume / Capacity:	1.131			1.148				1.138				1.449				1.466				1.456			
Level of Service:	F			F				F				F				F				F			

Assumptions: Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200, Override=1000.  
For dual turn lanes, 55% of volume is assigned to heavier lane. For triple turn lanes, 35% of volume is assigned to heavier lane.  
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.  
Right turns on red from excl. lanes = 50% of overlapping left turn.

## **Appendix L.2**


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### LADOT Assessment Letter

**CITY OF LOS ANGELES**  
INTER-DEPARTMENTAL CORRESPONDENCE

222 W. 2<sup>nd</sup> St  
DOT Case No. CEN 16-44536

Date: December 27, 2018

To: Heather Bleemers, Senior City Planner  
Department of City Planning  


From: Wes Pringle, Transportation Engineer  
Department of Transportation

Subject: **TRANSPORTATION IMPACT ANALYSIS FOR THE PROPOSED MIXED-USE DEVELOPMENT LOCATED AT 222 WEST 2<sup>ND</sup> STREET (ENV-2016-3809-EIR/CPC-2006-3808-VZC-CDO-SPR/VT-74320)**

The Department of Transportation (DOT) has reviewed the transportation impact analysis dated December 20, 2018, prepared by Linscott, Law & Greenspan, Engineers, for the proposed mixed-use development located at 222 West 2<sup>nd</sup> Street. In order to evaluate the effects of the project's traffic on the available transportation infrastructure, the significance of the project's traffic impacts is measured in terms of change to the volume-to-capacity (V/C) ratio between the "future no project" and the "future with project" scenarios. This change in the V/C ratio is compared to DOT's established threshold standards to assess the project-related traffic impacts. The transportation impact analysis included the detailed analysis of 31 signalized intersections and one unsignalized intersection. Based on DOT's current traffic impact criteria<sup>1</sup>, four of these signalized intersections would be significantly impacted by project-related traffic prior to mitigation. The results of the transportation impact analysis, which accounted for other known development projects in evaluating potential cumulative impacts, adequately evaluated the project's traffic impacts on the surrounding community and is summarized in **Attachment 1**. The transportation analysis identifies the transportation mitigation measures designed to reduce the project's potential traffic impacts to a less than significant level although the impacts at two intersections remain significant and unavoidable.

## DISCUSSION AND FINDINGS

### A. Project Description

The proposed Project will be a 30-story mixed-use development consisting of 534,044 square feet of general office, 107 residential units, and 7,200 square feet of retail. The Project Site is currently divided into two portions: the northern portion is used as a staging area for construction of the Metro Regional Connector 2<sup>nd</sup> Street/Broadway station and portal, and the southern portion contains a five-story 1,460 vehicular space parking structure for Los Angeles Times Square tenants, businesses, commuters, and residents in the area. The new building would be constructed on the northern portion

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<sup>1</sup> Per the DOT Transportation Impact Study Guidelines, a significant impact is identified as an increase in the Critical Movement Analysis (CMA) value, due to project related traffic, of 0.01 or more when the final ("with project") Level of Service (LOS) is LOS E or F; an increase of 0.020 or more when the final LOS is LOS D; or an increase of 0.040 or more when the final LOS is LOS C.

above the Metro Regional Connector 2<sup>nd</sup> Street/Broadway rail station and the portal would be located at the northwest corner of the project site. The existing five-level parking structure located on the southern portion of the project site would remain and be reconfigured to provide 1,436 vehicular spaces and 218 long-term bicycle parking spaces. An additional 68 short-term bicycle parking spaces would be provided outside and on the project site. The existing three parking structure driveways will be retained: one full-access driveway on Broadway and two driveways restricted to right-turn in and right-turn out only movements on Spring Street. A new driveway on Spring Street on the northern portion of the project will provide access to loading and service activities. The project is expected to be completed by 2025.

B. Trip Generation

The project is estimated to generate 4,006 daily trips, a net increase of 560 trips in the a.m. peak hour, and a net increase of 541 trips in the p.m. peak. The trip generation estimates are based on formulas published by the Institute of Transportation Engineers (ITE) Trip Generation, 9<sup>th</sup> Edition, 2012. A copy of the trip generation table can be found in **Attachment 2**.

C. Freeway Analysis

The traffic study included a freeway impact analysis that was prepared in accordance with the State-mandated Congestion Management Program (CMP) administered by the Los Angeles County Metropolitan Transportation Authority (MTA). According to this analysis, the project would not result in significant traffic impacts on any of the evaluated freeway mainline segments. To comply with the Freeway Analysis Agreement executed between Caltrans and DOT in December 2015, the study also included a screening analysis to determine if additional evaluation of freeway mainline and ramp segments was necessary beyond the CMP requirements. Exceeding one of the four screening criteria would require the applicant to work directly with Caltrans to prepare more detailed freeway analyses. According to this analysis, the project would exceed the freeway mainline and off-ramp screening criteria at four locations; therefore, the traffic study included a freeway segment analysis, freeway intersection (ramp) analysis, and a freeway off-ramp queueing analysis pursuant to the Caltrans Guide for the Preparation of Traffic Impact Studies. The Caltrans analysis can be found in Appendix D of the report.

D. Traffic Impacts

The study determined that the project would result in significant traffic impacts (pre-mitigation) at the following intersections:

1. Beaudry Avenue and 2<sup>nd</sup> Street (P.M. Peak Hour)
2. Figueroa Street and 2<sup>nd</sup> Street (A.M. Peak Hour)
3. Figueroa Street and 3<sup>rd</sup> Street-SR 110 Freeway Ramps (P.M. Peak Hour)
4. Alameda Street and Arcadia Street-US 101 NB Off Ramp (A.M. Peak Hour)

In consideration of the City's goals to reduce greenhouse gas emissions, the transportation study proposed a transportation demand management and mitigation program designed to reduce project-related trips and promote other travel modes. The transportation demand management and mitigation program (described below) would

partially but not fully mitigate the project's significant traffic impacts during the peak commute hours at the above intersections (see **Attachment 1**). Physical traffic mitigation improvement options at these impacted intersections were evaluated in an attempt to fully mitigate the impacts; however, no feasible physical traffic mitigations were identified due to the constraints of the existing physical conditions and recent adoption of Vision Zero, Mobility Plan 2035 and Complete Streets Design Guide. Due to these new standards and geometric design constraints, there were no feasible and effective physical improvements proposed that would fully mitigate the project-related traffic impact to a level below significance at the following intersections:

1. Beaudry Avenue and 2<sup>nd</sup> Street (P.M. Peak Hour)
2. Figueroa Street and 2<sup>nd</sup> Street (A.M. Peak Hour)

## PROJECT REQUIREMENTS

### A. Traffic Demand Management and Mitigation Program

Consistent with City policies on sustainability and smart growth and with DOT's trip reduction and multi-modal transportation goals, the project includes the development of a trip reduction program and solutions that promote other modes of travel. The traffic demand management and mitigation program includes the following improvements:

#### 1. **Transportation Demand Management (TDM)**

The purpose of a TDM plan is to reduce the use of single occupant vehicles (SOV) by increasing the number of trips by walking, bicycle, carpool, vanpool and transit. A TDM plan should include design features, transportation services, education, and incentives intended to reduce the amount of SOV during commute hours. Through strategic building design and orientation, this project can facilitate access to transit, can provide a pedestrian-friendly environment, can promote non-automobile travel and can support the goals of a trip-reduction program.

A preliminary TDM program shall be prepared and provided for DOT review prior to the issuance of the first building permit for this project and a final TDM program approved by DOT is required prior to the issuance of the first certificate of occupancy for the project. The TDM program should include, but not be limited to, the following strategies:

- An on-site Transportation Information Center;
- Preferential rideshare loading/unloading or parking location;
- Convenient parking and facilities for bicycle riders;
- Guaranteed ride home programs for employees;
- Allowance for flexible and alternative work schedules;
- Administrative support for the formation of carpools/vanpools;
- Promotion of transit, walk, or bike to work events;
- Project design elements to ensure a bicycle, transit, and pedestrian friendly environment;
- Parking cash-out programs for Project and uses as appropriate;
- A Covenant and Agreement to ensure that the TDM program will be maintained;

- Make a one-time financial contribution of **\$100,000** to the City of Los Angeles Department of Transportation to be used in the implementation of the Mobility Hub in the general area of the Project;
- Make a one-time fixed-fee financial contribution of **\$50,000** to the City's Bicycle Plan Trust Fund to implement bicycle improvements in the general Downtown Los Angeles area of the Project.

## 2. **Transportation Systems Management (TSM) Improvements**

The project would contribute up to **\$105,000** toward TSM improvements within the Central District that may be considered to better accommodate intersection operations and increase intersection capacity throughout the study area. LADOT's ATSAC Section has identified the need to install new CCTV cameras at two intersections: Figueroa Street and 3<sup>rd</sup> Street; and Alameda Street and Arcadia Street. The new camera installations will also include the necessary mounting poles, fiber optics, electrical connections, hardware, and conduit installations. These cables would provide the network capacity for additional (CCTV) cameras to real-time video monitoring of intersection, corridor, transit, and pedestrian operations in Downtown Los Angeles. Collectively, these TSM improvements provide a system wide benefit by reducing delays experienced by motorists at study intersections.

Should the project be approved, then a final determination on how to implement these CCTV installations will be made by DOT prior to the issuance of the first building permit. These installations will be implemented **either** by the applicant through the B-Permit process of the Bureau of Engineering (BOE), **or** through payment of a one-time fixed fee of **\$105,000** to DOT to fund the cost of the upgrades. If DOT selects the payment option, then the applicant would be required to pay **\$105,000** to DOT, and DOT shall design and construct the upgrades.

If the installations are implemented by the applicant through the B-Permit process, then these improvements must be guaranteed prior to the issuance of any building permit and completed prior to the issuance of any certificate of occupancy. Temporary certificates of occupancy may be granted in the events of any delay through no fault of the applicant, provided that, in each case, the applicant has demonstrated reasonable efforts and due diligence to the satisfaction of DOT.

### B. Implementation of Improvements and Mitigation Measures

For all of the proposed intersection improvements, the final determination on the feasibility of street widening shall be made by BOE. The applicant should be responsible for the cost and implementation of any necessary traffic signal equipment modifications, bus stop relocations and lost parking meter revenues associated with the proposed transportation improvements described above. All proposed street improvements and associated traffic signal work within the City of Los Angeles must be guaranteed through BOE's B-Permit process, prior to the issuance of any building permit and completed prior to the issuance of any certificate of occupancy. Prior to setting the bond amount, BOE shall require that the developer's engineer or contractor contact DOT's B-Permit Coordinator, at (213) 972-8687, to arrange a pre-design meeting to finalize the proposed design. Costs related to any relocation of bus zones

and shelters, and to modifying or upgrading traffic signal equipment and that are necessary to implement the proposed mitigations shall be incurred by the applicant.

If a proposed traffic mitigation measure does not receive the required approval during plan review, a substitute mitigation measure may be provided subject to the approval of LADOT or other governing agency with jurisdiction over the mitigation location, upon demonstration that the substitute measure is environmentally equivalent or superior to the original measure in mitigating the project's significant traffic impact. To the extent that a mitigation measure proves to be infeasible and no substitute mitigation is available, then a significant traffic impact would remain.

C. Highway Dedication and Street Widening Requirements

On January 20, 2016, the City Council adopted the Mobility Plan 2035 which is the new Mobility Element of the General Plan. A key feature of the updated plan is to revise street standards in an effort to provide a more enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the new Mobility Element, **Broadway** has been designated as Modified Avenue II, which would require a 28-foot half-width roadway within a 40-foot half-width right-of-way. **Spring Street** has been designated as Modified Avenue II, which would require a 26-foot half-width roadway within a 40-foot half-width right-of-way. **West 2<sup>nd</sup> Street** has been designated as a Modified Avenue III, which would require a 22-foot half-width roadway within a 37-foot half-width right-of-way. The applicant should check with BOE's Land Development Group to determine the specific highway dedication, street widening and/or sidewalk requirements for this project.

D. Construction Impacts

DOT recommends that a construction work site traffic control plan be submitted to DOT for review and approval prior to the start of any construction work. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related traffic be restricted to off-peak hours, to the extent feasible.

E. Parking Requirements

The Project will provide the code-required 601 vehicular parking spaces, plus 27 residential guest parking spaces. The existing five-level parking structure located on the southern portion of the project site will remain and be reconfigured to provide 1,436 vehicular spaces. The applicant should also check with the Department of Building and Safety on the number of Code-required parking spaces needed for the project.

F. Driveway Access and Circulation

The proposed site plan illustrated in **Attachment 3** is acceptable to DOT; however, review of the study does not constitute approval of internal circulation schemes and driveway dimensions. Those require separate review and approval and should be coordinated with DOT's Citywide Planning Coordination Section 201 N. Figueroa Street, 5th Floor, Room 550, at (213) 482-7024. Any changes to the project's site access, circulation scheme, or loading/unloading area after issuance of this report



would require separate review and approval and should be coordinated as well. In order to minimize potential building design changes, the applicant should contact DOT for driveway width and internal circulation requirements so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans.

G. Development Review Fees

An ordinance adding Section 19.15 to the Los Angeles Municipal Code relative to application fees paid to DOT for permit issuance activities was adopted by the Los Angeles City Council in 2009 and updated in 2014. This ordinance identifies specific fees for transportation impact analysis review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Johnathan Yu of my staff at (213) 972-4993.

Attachments

*J:\Letters\2018\CEN16-44536\_222 2nd St Mixed-Use ltr r3.docx*

c: Shawn Kuk, Council District No. 14  
Mehrdad Moshksar, Central, DOT  
Taimour Tanavoli, Case Management Office, DOT  
Carl Mills, Central District, BOE  
Alfred Ying, Linscott, Law & Greenspan, Engineers.

Table 9-1  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		[2]				[3]		[4]				[5]			
			YEAR 2017 EXISTING V/C	LOS	YEAR 2017 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2025 FUTURE W/O PROJECT V/C	LOS	YEAR 2025 FUTURE WITH PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	YEAR 2025 W/ PROJECT MITIGATION V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
1	Belmont Avenue-Loma Drive/ Beverly Boulevard	AM PM	0.425 0.407	A A	0.426 0.412	A A	0.001 0.005	No No	0.516 0.475	A A	0.517 0.481	A A	0.001 0.006	No No	0.517 0.481	A A	0.001 0.006	--- ---
2	Glendale Boulevard/ Court Street-Laveta Terrace	AM PM	0.469 0.368	A A	0.475 0.372	A A	0.006 0.004	No No	0.583 0.507	A A	0.588 0.512	A A	0.005 0.005	No No	0.588 0.512	A A	0.005 0.005	--- ---
3	Glendale Boulevard-Lucas Avenue/ Beverly Boulevard-1st St-2nd St	AM PM	0.694 0.558	B A	0.699 0.564	B A	0.005 0.006	No No	0.881 0.720	D C	0.885 0.729	D C	0.004 0.009	No No	0.885 0.729	D C	0.004 0.009	--- ---
4	Beaudry Avenue/ 1st Street	AM PM	0.499 0.767	A C	0.501 0.769	A C	0.002 0.002	No No	0.562 1.009	A F	0.565 1.011	A F	0.003 0.002	No No	0.565 1.011	A F	0.003 0.002	--- ---
5	Beaudry Avenue/ 2nd Street	AM PM	0.640 0.896	B D	0.647 0.910	B E	0.007 0.014	No Yes	0.788 1.101	C F	0.796 1.115	C F	0.008 0.014	No Yes	0.796 1.115	C F	0.008 0.014	--- No
6	Beaudry Avenue/ SR-110 SB Off-Ramp	AM PM	0.468 0.510	A A	0.468 0.510	A A	0.000 0.000	No No	0.563 0.640	A B	0.563 0.640	A B	0.000 0.000	No No	0.563 0.640	A B	0.000 0.000	--- ---
7	Beaudry Avenue/ 3rd Street-Miramar Street	AM PM	0.761 0.519	C A	0.761 0.519	C A	0.000 0.000	No No	0.864 0.765	D C	0.864 0.765	D C	0.000 0.000	No No	0.864 0.765	D C	0.000 0.000	--- ---
8	Figueroa Street/ 2nd Street	AM PM	0.747 1.059	C F	0.773 1.073	C F	0.026 0.014	No Yes	1.091 1.408	F F	1.117 1.414	F F	0.026 0.006	Yes No	1.107 1.404	F F	0.016 -0.004	No ---
9	Figueroa Street/ 3rd Street-SR-110 Ramps	AM PM	0.789 1.131	C F	0.789 1.148	C F	0.000 0.017	No Yes	0.893 1.449	D F	0.894 1.466	D F	0.001 0.017	No Yes	0.884 1.456	D F	-0.009 0.007	--- Yes
10	Figueroa Street/ SR-110 NB and SB On-Ramps- 5th Street	AM PM	0.563 0.835	A D	0.564 0.840	A D	0.001 0.005	No No	0.798 1.136	C F	0.799 1.142	C F	0.001 0.006	No No	0.799 1.142	C F	0.001 0.006	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

Final v/c	LOS	Project Related Increase in v/c
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

Table 9-1 (Continued)  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		YEAR 2017 EXISTING WITH PROJECT		[2]		[3]		[4]				[5]			
			V/C	LOS	V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	V/C	LOS	V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
11	Figueroa Street/ SR-110 NB and SB Off-Ramps- 6th Street	AM PM	0.672 0.614	B B	0.680 0.616	B B	0.008 0.002	No No	0.889 0.903	D E	0.897 0.905	D E	0.008 0.002	No No	0.897 0.905	D E	0.008 0.002	--- ---
12	Hill Street/ 2nd Street	AM PM	0.601 0.579	B A	0.628 0.589	B A	0.027 0.010	No No	0.749 0.807	C D	0.776 0.818	C D	0.027 0.011	No No	0.776 0.818	C D	0.027 0.011	--- ---
13	Broadway/ US-101 SB Off-Ramp-Aliso Street	AM PM	0.323 0.378	A A	0.339 0.403	A A	0.016 0.025	No No	0.452 0.547	A A	0.469 0.572	A A	0.017 0.025	No No	0.469 0.572	A A	0.017 0.025	--- ---
14	Broadway/ Temple Street	AM PM	0.550 0.565	A A	0.572 0.576	A A	0.022 0.011	No No	0.698 0.762	B C	0.720 0.772	C C	0.022 0.010	No No	0.720 0.772	C C	0.022 0.010	--- ---
15	Broadway/ 1st Street	AM PM	0.551 0.586	A A	0.576 0.614	A B	0.025 0.028	No No	0.666 0.744	B C	0.692 0.755	B C	0.026 0.011	No No	0.692 0.755	B C	0.026 0.011	--- ---
16	Broadway/ 2nd Street	AM PM	0.396 0.406	A A	0.445 0.430	A A	0.049 0.024	No No	0.607 0.610	B B	0.639 0.645	B B	0.032 0.035	No No	0.639 0.645	B B	0.032 0.035	--- ---
17	Broadway/ 3rd Street	AM PM	0.652 0.554	B A	0.658 0.577	B A	0.006 0.023	No No	0.701 0.739	C C	0.713 0.774	C C	0.012 0.035	No No	0.713 0.774	C C	0.012 0.035	--- ---
18	Broadway/ 4th Street	AM PM	0.305 0.442	A A	0.329 0.452	A A	0.024 0.010	No No	0.530 0.694	A B	0.553 0.705	A C	0.023 0.011	No No	0.553 0.705	A C	0.023 0.011	--- ---
19	Spring Street/ US-101 NB Off-Ramp	AM PM	0.387 0.251	A A	0.418 0.259	A A	0.031 0.008	No No	0.529 0.439	A A	0.561 0.447	A A	0.032 0.008	No No	0.561 0.447	A A	0.032 0.008	--- ---
20	Spring Street/ Aliso Street	AM PM	0.353 0.146	A A	0.375 0.166	A A	0.022 0.020	No No	0.495 0.265	A A	0.517 0.285	A A	0.022 0.020	No No	0.517 0.285	A A	0.022 0.020	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

Final v/c	LOS	Project Related Increase in v/c
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Table 9-1 (Continued)  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		YEAR 2017 EXISTING WITH PROJECT		[2]		[3]		[4]			[5]				
			V/C	LOS	V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	V/C	LOS	V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
21	Spring Street/ Temple Street	AM PM	0.610 0.381	B A	0.633 0.387	B A	0.023 0.006	No No	0.744 0.520	C A	0.767 0.527	C A	0.023 0.007	No No	0.767 0.527	C A	0.023 0.007	--- ---
22	Spring Street/ 1st Street	AM PM	0.413 0.315	A A	0.436 0.320	A A	0.023 0.005	No No	0.519 0.443	A A	0.542 0.449	A A	0.023 0.006	No No	0.542 0.449	A A	0.023 0.006	--- ---
23	Spring Street/ 2nd Street	AM PM	0.466 0.376	A A	0.514 0.393	A A	0.048 0.017	No No	0.633 0.602	B B	0.681 0.619	B B	0.048 0.017	No No	0.681 0.619	B B	0.048 0.017	--- ---
24	Spring Street/ 3rd Street	AM PM	0.565 0.462	A A	0.571 0.519	A A	0.006 0.057	No No	0.774 0.671	C B	0.780 0.685	C B	0.006 0.014	No No	0.780 0.685	C B	0.006 0.014	--- ---
25	Spring Street/ 4th Street	AM PM	0.370 0.459	A A	0.373 0.471	A A	0.003 0.012	No No	0.593 0.739	A C	0.596 0.751	A C	0.003 0.012	No No	0.596 0.751	A C	0.003 0.012	--- ---
26	Main Street/ 1st Street	AM PM	0.334 0.545	A A	0.334 0.545	A A	0.000 0.000	No No	0.432 0.664	A B	0.432 0.664	A B	0.000 0.000	No No	0.432 0.664	A B	0.000 0.000	--- ---
27	Main Street/ 2nd Street	AM PM	0.301 0.581	A A	0.319 0.586	A A	0.018 0.005	No No	0.501 0.805	A D	0.519 0.809	A D	0.018 0.004	No No	0.519 0.809	A D	0.018 0.004	--- ---
28	Main Street/ 3rd Street	AM PM	0.626 0.789	B C	0.631 0.791	B C	0.005 0.002	No No	0.829 1.053	D F	0.834 1.055	D F	0.005 0.002	No No	0.834 1.055	D F	0.005 0.002	--- ---
29	Main Street/ 4th Street	AM PM	0.230 0.743	A C	0.234 0.747	A C	0.004 0.004	No No	0.413 0.991	A E	0.416 0.996	A E	0.003 0.005	No No	0.416 0.996	A E	0.003 0.005	--- ---
30	Los Angeles Street/ Aliso Street - US-101 SB On-Ramp	AM PM	0.209 0.614	A B	0.212 0.625	A B	0.003 0.011	No No	0.289 0.812	A D	0.291 0.823	A D	0.002 0.011	No No	0.291 0.823	A D	0.002 0.011	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

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>0.901	E/F	equal to or greater than 0.010

Table 9-1 (Continued)  
SUMMARY OF VOLUME-TO-CAPACITY RATIOS  
AND LEVELS OF SERVICE  
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1]		[2]				[3]		[4]				[5]			
			YEAR 2017 EXISTING V/C	LOS	YEAR 2017 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT [a]	YEAR 2025 FUTURE W/O PROJECT V/C	LOS	YEAR 2025 FUTURE WITH PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT [a]	YEAR 2025 W/ PROJECT MITIGATION V/C	LOS	CHANGE V/C [(5)-(3)]	MITIGATED
31	Alameda Street/ Arcadia Street - US-101 NB Off-Ramp	AM PM	0.530 0.630	A B	0.539 0.632	A B	0.009 0.002	No No	0.929 0.941	E E	0.941 0.943	E E	0.012 0.002	Yes No	0.931 0.933	E E	0.002 -0.008	Yes ---
32	US-101 SB Ramps-Garey Street/ Commercial Street	AM PM	0.299 0.467	A A	0.301 0.481	A A	0.002 0.014	No No	0.528 0.760	A C	0.531 0.774	A C	0.003 0.014	No No	0.531 0.774	A C	0.003 0.014	--- ---

[a] According to LADOT's "Transportation Impact Study Guidelines," December 2016, a transportation impact on an intersection shall be deemed significant in accordance with the following table:

<u>Final v/c</u>	<u>LOS</u>	<u>Project Related Increase in v/c</u>
>0.701 - 0.800	C	equal to or greater than 0.040
>0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E/F	equal to or greater than 0.010

**Attachment 2**  
**222 W. 2nd St**

Table 7-1  
PROJECT TRIP GENERATION [1]

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
<u>Proposed Project</u>								
General Office [3]	534,044 GSF	4,690	643	88	731	115	562	677
- Less Transit/HOV Adjustment (25%) [4]		(1,172)	(161)	(22)	(183)	(29)	(141)	(170)
- Less Walk/Bike Adjustment (5%) [5]		<u>(176)</u>	<u>(24)</u>	<u>(3)</u>	<u>(27)</u>	<u>(4)</u>	<u>(21)</u>	<u>(25)</u>
Subtotal		3,342	458	63	521	82	400	482
Apartment [6]	107 DU	712	11	44	55	43	23	66
- Less Internal Capture Adjustment (5%) [7]		(36)	(1)	(2)	(3)	(2)	(1)	(3)
- Less Transit/HOV Adjustment (25%) [4]		(170)	(3)	(11)	(14)	(10)	(6)	(16)
- Less Walk/Bike Adjustment (5%) [5]		<u>(26)</u>	<u>0</u>	<u>(2)</u>	<u>(2)</u>	<u>(2)</u>	<u>(1)</u>	<u>(3)</u>
Subtotal		480	7	29	36	29	15	44
Retail [8]	7,200 GLSF	308	4	3	7	13	14	27
- Less Internal Capture (20%) [7]		(62)	(1)	(1)	(2)	(3)	(3)	(6)
- Less Transit/HOV Adjustment (25%) [4]		<u>(62)</u>	<u>(1)</u>	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(3)</u>	<u>(6)</u>
Subtotal		184	2	1	3	7	8	15
NET INCREASE		4,006	467	93	560	118	423	541

[1] Source: ITE "Trip Generation Manual", 9th Edition, 2012.

[2] Trips are one-way traffic movements, entering or leaving.

[3] ITE Land Use Code 710 (General Office Building) trip generation equation rates.

- Daily Trip Rate:  $\ln(T) = 0.76 \ln(X) + 3.68$  trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate:  $\ln(T) = 0.80 \ln(X) + 1.57$  trips/1,000 SF of floor area; 88% inbound/12% outbound
- PM Peak Hour Trip Rate:  $(T) = 1.12 (X) + 78.48$  trips/1,000 SF of floor area; 17% inbound/83% outbound

[4] Per LADOT policy, a transit trip adjustment of 25% is assumed because the project site is located directly above the new Metro Regional Connector's 2nd Street/Broadway station.

[5] A 5% walk/bike adjustment factor was assumed, consistent with other similar projects approved in downtown Los Angeles.

[6] ITE Land Use Code 220 (Apartment) trip generation average rates.

- Daily Trip Rate: 6.65 trips/dwelling unit; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.51 trips/dwelling units; 20% inbound/80% outbound
- PM Peak Hour Trip Rate: 0.62 trips/dwelling units; 65% inbound/35% outbound

[7] A 5% and a 20% internal capture trip reduction factors were applied to the residential and retail components of the project, respectively, to reflect the internal trip making between proposed land uses. The trip reduction factors were derived based on data provided in Chapter 6 of the "Trip Generation Handbook", Third Edition, August 2014, ITE.

[8] ITE Land Use Code 820 (Shopping Center) trip generation average rates.

- Daily Trip Rate: 42.7 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.96 trips/1,000 SF of floor area; 62% inbound/38% outbound
- PM Peak Hour Trip Rate: 3.71 trips/1,000 SF of floor area; 48% inbound/52% outbound



NOT TO SCALE

SOURCE: GENSLER

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 2-3  
GROUND FLOOR SITE PLAN

222 WEST 2ND PROJECT