Appendix I

Transportation Assessment and
LADOT Assessment Letter

Appendix I-1

LADOT Assessment Letter

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

1351-1361 South Sepulveda Boulevard
DOT Case No. HRB20-110181

Date: February 22, 2021

To: Susan Jimenez, Administrative Clerk
Department of City Planning

Robert Sanchez (Feb 22, 2021 12:52 PST)

From: Robert Sanchez, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION IMPACT ASSESSMENT FOR THE PROPOSED WAREHOUSE USE PROJECT AT 1351-1361 WEST SEPULVEDA BOULEVARD**

The DOT has reviewed the transportation analysis prepared by Gibson Transportation Consulting, Inc., dated November 25, 2020, with a subsequent revision on January 22, 2021 for the proposed project located at 1351-1361 Sepulveda Boulevard. In compliance with SB 743 and the CEQA, a VMT analysis is required to identify the project's ability to promote the reduction of green-house gas emissions, access to diverse land uses, and the development of multi-modal networks. The significance of a project's impact in this regard is measured against the VMT thresholds established in DOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes the construction of 174,211 square feet of warehouse space on a 7.6-acre site located on the north side of West Sepulveda Boulevard approximately 1000 feet west of Normandie Avenue. The site was previously occupied by the Mulligan Family Fun Center, which operated as a miniature golf course and family fun center until February 2020. Access to the site will be provided via two driveways on Sepulveda Boulevard. The eastern driveway is for employees and visitors, while the western driveway is for use by trucks for deliveries as illustrated in (Figure 1) **Attachment A**. The project is expected to be completed by 2022.

B. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool, which draws upon trip rate estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold. The VMT calculator version 1.3 was the latest VMT calculator available at the time the November 25, 2020 analysis was submitted and accepted by DOT. A copy of the VMT calculator screening page, with the corresponding net daily trips estimate, is provided as **Attachment B** to this report.

C. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's

CEQA Guidelines, the City of Los Angeles adopted VMT as a criteria in determining transportation impacts under CEQA. The new DOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

The DOT VMT Calculator tool measures project impact in terms of Household VMT per Capita, and Work VMT per Employee. DOT identified distinct thresholds for significant VMT impacts for each of the seven Area Planning Commission (APC) areas in the City. For the Harbor APC area, in which the project is located, the following thresholds have been established:

- Household VMT per Capita: 9.2
- Work VMT per Employee: 12.3

As cited in the VMT Analysis report, prepared by Gibson Transportation Consulting, the proposed project is projected to have a Household VMT per capita of 0.0 since the project does not have a residential component and a Work VMT per employee of 11.5. Therefore, it is concluded that implementation of the Project would not result in a significant Household or Work VMT impact. A copy of the VMT Calculator summary reports is provided as **Attachment C** that to this report.

D. Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the Los Angeles Municipal Code (LAMC). Therefore, DOT continues to require and review a project's site access, circulation, and operational plan to determine if any access enhancements, transit amenities, intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed. In accordance with this authority, the project has completed a circulation analysis using a "level of service" screening methodology that indicates that the trips generated by the proposed development will likely result in adverse circulation conditions at several locations. DOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as (Tables 10 and11) **Attachment D** to this report.

PROJECT REQUIREMENTS

To comply with transportation and mobility goals and provisions of adopted City plans and ordinances, the applicant should be required to implement the following:

1. Parking Requirements

Parking for vehicles and bicycles will be provided onsite. The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for this project. The project is proposing 160 parking spaces in the surface parking lots on the site plus a total of 38 bicycle parking spaces.

2. Highway Dedication and Street Widening Requirements
In order to mitigate potential access and circulation impacts, the applicant may be required to make highway dedications and improvements. The applicant shall consult the Bureau of Engineering (BOE) for any highway dedication or street widening requirements. These requirements must be guaranteed before the issuance of any building permit through the B-permit process of the BOE. They must be constructed and completed prior to the issuance of any certificate of occupancy to the satisfaction of DOT and BOE.

3. Project Access and Circulation
The proposed site plan is acceptable to DOT; however, review of the study does not constitute approval of the driveway dimensions and internal circulation schemes. Those require separate review and approval and should be coordinated with DOT's West LA/Coastal Development Review Section (7166 W Manchester Ave, @ 213-485-1062). 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. All new driveways should be Case 2 driveways and any security gates should be a minimum 20 feet from the property line. All truck loading and unloading should take place on site with no vehicles backing into the project from public streets via any of the project driveways.

4. Worksite Traffic Control Requirements
DOT recommends that a construction work site traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/what-we-do/plan-review to determine which section to coordinate review of the work site traffic control plan. 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 truck traffic be restricted to off-peak hours to the extent feasible.

5. Development Review Fees
Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact me or Pedro Ayala at (213) 485-1062.

Attachments

c: Jacob Haik, Aksel Palacios, Council District No. 15
Roy Kim, DOT
Crystal Lee, BOE
Eugene Tang, David Roachford, Gibson Transportation Consulting, Inc.

Gibson transportation consulting, inc.

Source: Herdman Architecture + Design. October, 2020.

PROJECT SITE PLAN

FIGURE 1

Attachment "B"

1351-1361 W. Sepulveda Blvd. (HRB20-110181)

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

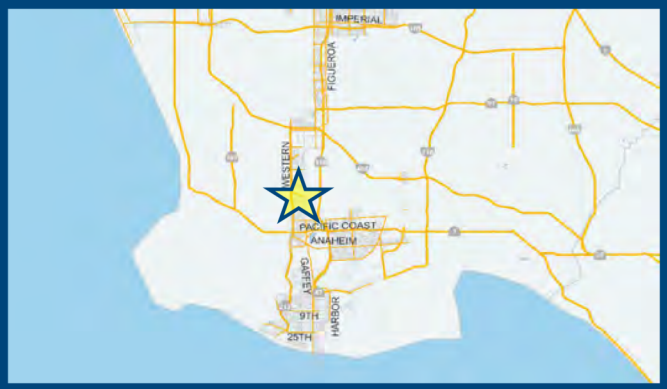
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: Bridge South Bay VII

Scenario:

Address: 1351 W SEPULVEDA BLVD, 90501



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

Yes No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU
(custom) Mulligan Family Fun Center | Retail/Non-	Retail	LU type
(custom) Mulligan Family Fun Center | Residents	0	Person
(custom) Mulligan Family Fun Center | Employees	30	Person
(custom) Mulligan Family Fun Center | Daily	456	Trips
(custom) Mulligan Family Fun Center | HBW-Attra	4	Percent
(custom) Mulligan Family Fun Center | HBO-Attrac	76	Percent
(custom) Mulligan Family Fun Center | NHB-Attrac	10	Percent
(custom) Mulligan Family Fun Center | HBW-Prod	0	Percent
(custom) Mulligan Family Fun Center | HBO-Produ	0	Percent
(custom) Mulligan Family Fun Center | NHB-Produ	10	Percent

☑ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Industrial | Light Industrial		ksf
Industrial | Light Industrial	174.211	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
391 Daily Vehicle Trips	1,095 Daily Vehicle Trips
2,276 Daily VMT	7,449 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	704 Net Daily Trips
The net increase in daily VMT ≤ 0	5,173 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	0.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

1/14/2021

Attachment "C"

1351-1361 W. Sepulveda Bl., HRB20-110181

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: Bridge South Bay VII

Scenario:

Address: 1351 W SEPULVEDA BLVD, 90501

Proposed Project Land Use Type	Value	Unit
Industrial | Light Industrial	174.211	ks

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

- A Parking
- B Transit
- C Education & Encouragement
- D Commute Trip Reductions
- E Shared Mobility
- F Bicycle Infrastructure
  - Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy — ☐ Proposed Prj ☐ Mitigation
  - Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy — ☑ Proposed Prj ☐ Mitigation
  - Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy — ☐ Proposed Prj ☐ Mitigation
- G Neighborhood Enhancement

Analysis Results

Proposed Project	With
1,088 Daily Vehicle Trips	1,088 Daily Vehicle Trips
7,401 Daily VMT	7,401 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT
11.5 Work VMT per Employee	11.5 Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: No Threshold = 12.3 15% Below APC	**Work: No** Threshold = 12.3 15% Below APC

Measuring the Miles

10/14/2020

TABLE 10
EXISTING WITH PROJECT CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Exisiting		Existing with Project	
			Delay	LOS	Delay	LOS
1.	Western Avenue & Sepulveda Boulevard	AM	89.0	F	90.3	F
		PM	91.7	F	91.9	F
2.	Lockness Avenue & Sepulveda Boulevard	AM	4.0	A	4.0	A
		PM	3.7	A	3.7	A
3.	Halldale Avenue & Sepulveda Boulevard [a]	AM	31.2	D	115.8	F
		PM	49.3	E	*	F
4.	Normandie Avenue & Sepulveda Boulevard	AM	35.4	D	39.0	D
		PM	47.6	D	47.9	D
5.	Vermont Avenue & Sepulveda Boulevard	AM	103.3	F	109.5	F
		PM	57.7	E	61.6	E
6.	I-110 SB Off-Ramp & Sepulveda Boulevard	AM	80.0	E	85.9	F
		PM	27.3	C	29.4	C
7.	I-110 NB Off-Ramp & Sepulveda Boulevard	AM	21.7	C	22.7	C
		PM	20.0	B	24.9	C

Notes

Delay is measured in seconds per vehicle, where "*" represents value exceeding the maximum delay.

LOS = Level of service

Results per Synchro 10 (HCM 6th Edition Methodology)

[a] Stop-controlled intersection; minor street approach.

TABLE 11
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
INTERSECTION LEVELS OF SERVICE

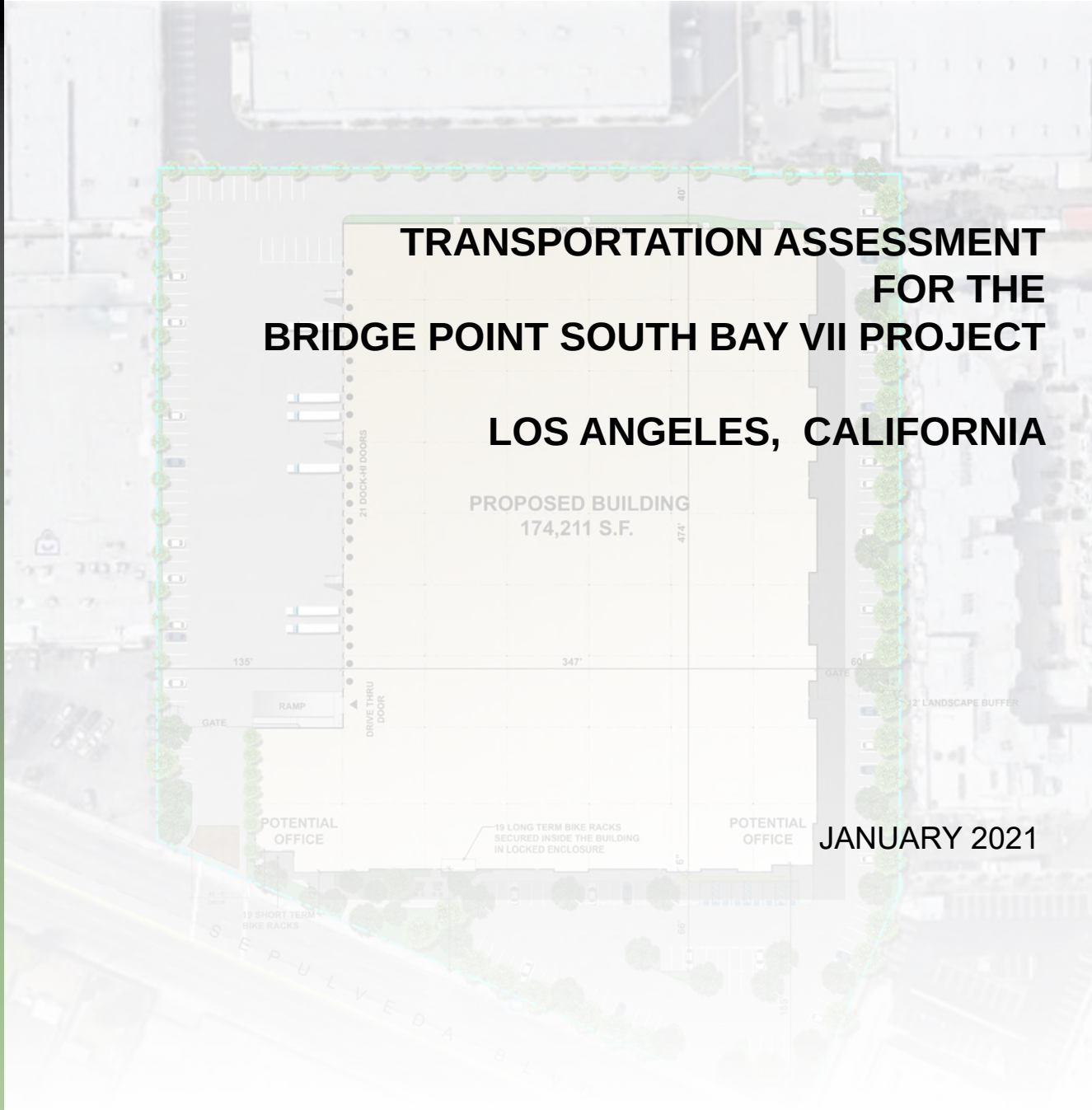
No	Intersection	Peak Hour	Future without Project		Future with Project	
			Delay	LOS	Delay	LOS
1.	Western Avenue & Sepulveda Boulevard	AM	94.7	F	96.1	F
		PM	97.3	F	98.3	F
2.	Lockness Avenue & Sepulveda Boulevard	AM	4.1	A	4.1	A
		PM	3.7	A	3.7	A
3.	Halldale Avenue & Sepulveda Boulevard [a]	AM	32.6	D	137.6	F
		PM	52.2	F	*	F
4.	Normandie Avenue & Sepulveda Boulevard	AM	39.3	D	42.5	D
		PM	48.5	D	49.1	D
5.	Vermont Avenue & Sepulveda Boulevard	AM	103.8	F	117.2	F
		PM	62.4	E	62.0	E
6.	I-110 SB Off-Ramp & Sepulveda Boulevard	AM	87.4	F	93.3	F
		PM	29.8	C	31.2	C
7.	I-110 NB Off-Ramp & Sepulveda Boulevard	AM	22.4	C	23.5	C
		PM	20.6	C	21.8	C

Notes

Delay is measured in seconds per vehicle, where "*" represents value exceeding the maximum delay.
LOS = Level of service
Results per Synchro 10 (HCM 6th Edition Methodology)
[a] Stop-controlled intersection; minor street approach.

Appendix I-2

Transportation Assessment



TRANSPORTATION ASSESSMENT FOR THE BRIDGE POINT SOUTH BAY VII PROJECT

LOS ANGELES, CALIFORNIA

JANUARY 2021

PREPARED FOR

BRIDGE 1355 SEPULVEDA, LLC

PREPARED BY

Gibson transportation consulting, inc.

TRANSPORTATION ASSESSMENT
FOR THE
BRIDGE POINT SOUTH BAY VII PROJECT

LOS ANGELES, CALIFORNIA

January 2021

Prepared for:

BRIDGE 1355 SEPULVEDA, LLC

Prepared by:

GIBSON TRANSPORTATION CONSULTING, INC.
555 W. 5th Street, Suite 3375
Los Angeles, California 90013
(213) 683-0088

Ref: J1850

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Chapter 1
Introduction

This study presents the transportation assessment for the proposed development of a warehouse project (Project) at 1351-1361 Sepulveda Boulevard (Project Site) in the *Harbor Gateway Community Plan* (Los Angeles Department of City Planning [LADCP], 1996) (Community Plan) area of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established in conjunction with the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

The Project proposes the construction of 174,211 square feet (sf) of new warehouse space on an existing 7.6-acre site formerly occupied by the Mulligan Family Fun Center, which operated as a miniature golf course and family entertainment center until February 2020. The Project could function as either as a standard warehouse or a last-mile delivery facility.[1] Approximately 160 parking spaces would be provided in surface parking areas on-site. Vehicular access will be provided via two full access driveways on Sepulveda Boulevard, which are generally located in the same location as the two existing driveways. The eastern driveway is for employees and visitors to the Project, while the western driveaway is for trucks entering and leaving the Project. The Project is anticipated to be complete in Year 2022.

The conceptual Project site plan is shown in Figure 1.

[1] While the Project is anticipated and designed to function as a standard warehouse, a tenant has not yet been identified; as such, to be conservative, this facility was analyzed as a last-mile delivery facility, which is generally the last link of the logistics chain where goods are directly distributed to consumers and end-users.

PROJECT LOCATION

The Project Site is within Council District 15, in the Harbor Gateway neighborhood of the Community Plan area and is contained within Assessor Parcel Number 7347-018-003, 7347-018-078, and 7347-018-085. As shown in Figure 2, the Project Site is bounded by industrial uses to the north and west, residential uses to the east, and Sepulveda Boulevard to the south.

The Project is located approximately 0.85 miles west of the Harbor Freeway (I-110), which provides regional transportation between downtown Los Angeles and the Port of Los Angeles. The Project Site is served by major streets such as Sepulveda Boulevard, Western Avenue (State Route 213), Normandie Avenue and Vermont Avenue.

An existing transit stop is located along the Project Site frontage and transit bus service is provided along Sepulveda Boulevard, Western Avenue, Normandie Avenue and Vermont Avenue within the Project Study Area.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, July 2020) (TAG) and in compliance with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following). The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) that was reviewed and approved by LADOT in October 2020 and is provided in Appendix A.

ORGANIZATION OF REPORT

This report is divided into six chapters, including this introduction. Chapter 2 describes the Project context including the existing and future circulation system, traffic volumes, and traffic conditions in the Project area. Chapter 3 provides the Project traffic and trip distribution. Chapter 4 presents the CEQA analysis of transportation impacts. Chapter 5 details the non-CEQA transportation

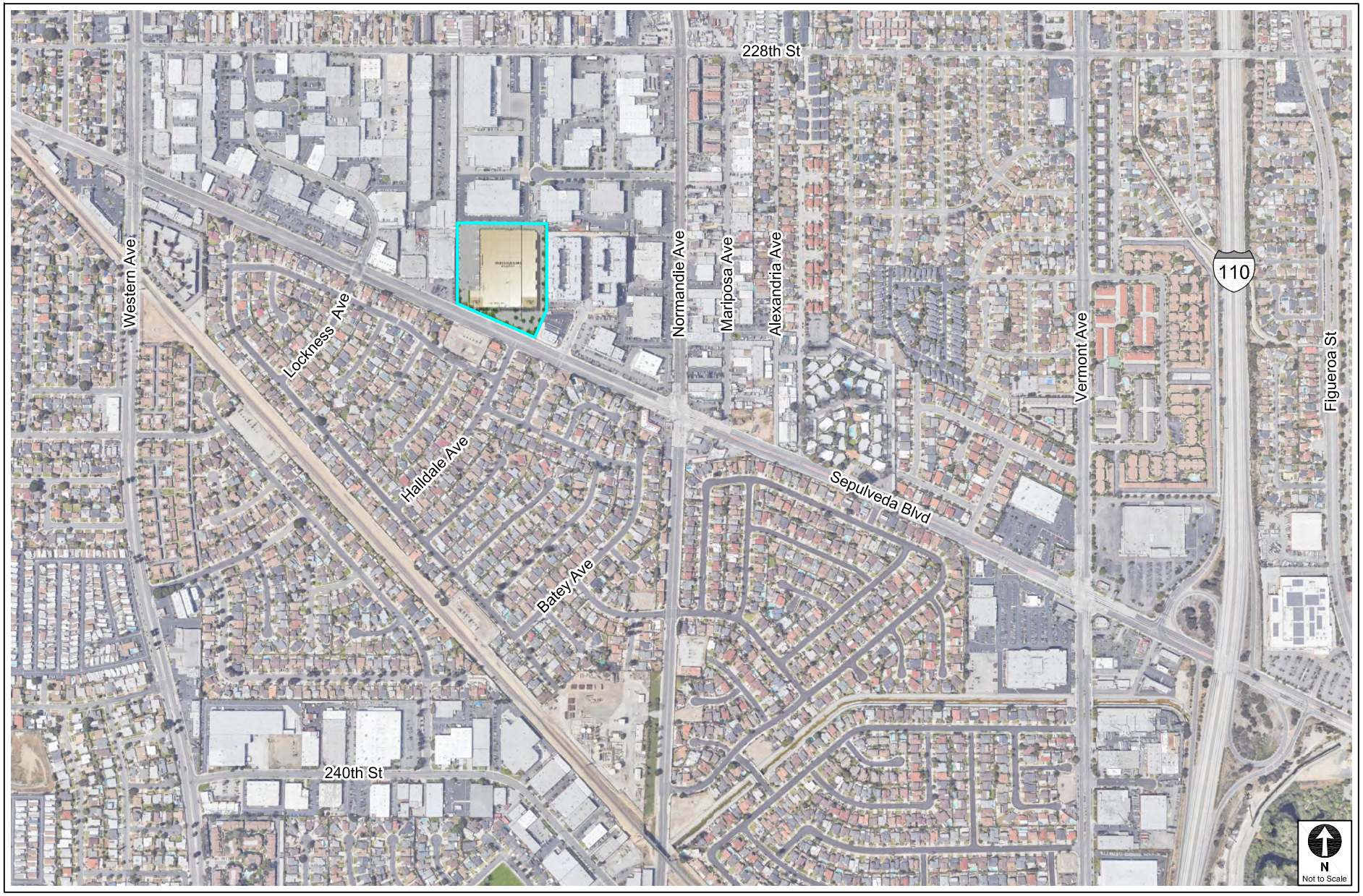
analyses. Chapter 6 summarizes the analyses and study conclusions. The appendices contain supporting documentation, including the signed MOU that outlines the study scope and assumptions and additional details supporting the technical analyses.

Source: Herdman Architecture + Design. October, 2020.

N
Not to Scale

PROJECT SITE PLAN

FIGURE 1



PROJECT SITE LOCATION

FIGURE 2

Chapter 2
Project Context

A comprehensive data collection effort was undertaken to develop a detailed description of existing and future conditions in the Project area.

The Existing Conditions analysis includes an assessment of the existing transportation infrastructure and conditions including freeway and street systems and transit service, as well as pedestrian and bicycle circulation, at the time the MOU was approved in October 2020. Relevant operational characteristics (e.g., lane configurations, signal phasing, parking restrictions, etc.) for the analyzed intersections were verified as part of this analysis.

In addition, this Chapter contains a discussion of the future condition assumptions used to develop the Future without Project Conditions in Year 2022, which corresponds to projected occupancy of the Project.

STUDY AREA

The Project's transportation analysis Study Area, shown in Figure 3, includes intersections along Sepulveda Boulevard. This Study Area was established in consultation with LADOT based on the following factors identified in the TAG:

1. Primary Project driveway(s)
2. Intersections at either end of the block on which the Project is located or up to 600 feet from the primary Project driveway(s)
3. Unsignalized intersections adjacent to the Project Site that are expected to be integral to the Project's site access and circulation plan
4. Signalized intersections in proximity to the Project Site where 100 or more net new Project peak hour trips would be added

A total of seven intersections (Study Intersections), listed in Table 1, were identified for detailed analysis during the MOU process[2]. The existing lane configurations at the analyzed intersections are provided in Figure 4.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

The existing street system in the Study Area consists of a regional roadway system including arterials and local streets that provide regional, sub-regional, or local access and circulation within the Study Area. These transportation facilities generally provide two to six travel lanes and usually allow parking on one or both sides of the street. Typically, the speed limits range between 25 and 40 miles per hour (mph) on the streets and 55 mph on the freeways.

Street classifications for roadways are designated in *Mobility Plan 2035, An Element of the General Plan* (LADCP, September 2016) (Mobility Plan). The Mobility Plan defines specific street standards in an effort to provide an 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 Mobility Plan, street classifications are defined as follows:

- Boulevards represent the widest arterial streets that typically provide regional access to major destinations and include two categories:
    - Boulevard I provides up to four travel lanes in each direction with a target operating speed of 40 mph and generally includes a right-of-way (ROW) width of 126 feet and pavement width of 102 feet.
    - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph, with ROW widths varying from 104-110 feet and pavement widths from 70-80 feet.
- Avenues are narrower arterial streets which pass through both residential and commercial areas and include three categories:

[2] Of the seven study intersections, three are directly controlled by LADOT and the remaining four intersections are either under shared control and/or located outside the jurisdiction.

- Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph, with a ROW width of 100 feet and pavement width of 70 feet.
- Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph, with a ROW width of 86 feet and pavement width of 56 feet.
- Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph, with a ROW width of 72 feet and pavement width of 46 feet.

- Collector Streets are generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. They provide one travel lane in each direction with a target operating speed of 25 mph, with a ROW width of generally 66 feet and pavement width of 40 feet.

- Local Streets are intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. They provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Pavement widths will vary between 30-36 feet within a ROW width of 50-60 feet. Local Streets include two categories:
  - Continuous Local Streets connect to other streets at both ends
  - Non-continuous Local Streets lead to a dead-end

Since the Study Area encompasses adjacent jurisdictions, street classifications were also summarized as designated by Los Angeles County (County) in *Los Angeles County General Plan 2035* (County Department of Regional Planning, Adopted October 6, 2015) (County General Plan). Per the County General Plan, street classifications are defined as follows:

- Major Highway includes urban and rural highways that are of Countywide significance and are, or are projected to be, the most highly traveled routes. These roads generally require four or more lanes of moving traffic, channelized medians and, to the extent possible, access control and limits on intersecting streets.

- Secondary Highway includes urban and rural routes that serve or are planned to serve an areawide or Countywide function but are less heavily traveled than major highways. Secondary Highways also frequently act as oversized collector roads that feed the Countywide system. In this capacity, the routes serve to remove heavy traffic from local streets, especially in residential areas. Access control, especially to residential property and minor streets, is desirable along these roads.
  - Limited Secondary Highway includes urban and rural routes that provide access to low-density areas.

- Parkway includes urban and rural routes that have park-like features either within or adjacent to the roadway. The ROW width required varies as necessary to incorporate these features, typically with a minimum of 80 feet. Roadway improvements vary depending on the composition and volume of traffic carried.

- Expressway includes urban and rural controlled-access highways connecting communities. Expressways can generally accommodate six to ten traffic lanes and are intended for through-traffic, featuring full or partial control of access. The ROW required varies as necessary to incorporate these features but is typically 180 feet in width. Roadway improvements vary depending upon the composition and volume of traffic carried.

Primary regional access to the Project Site is provided by I-110. In proximity to the Project Site, the Study Area is served by arterial streets such as Sepulveda Boulevard, Western Avenue, Normandie Avenue and Vermont Avenue. The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Plan or County General Plan, as applicable:

Freeways

- I-110 – I-110 generally runs in the north-south direction and is located 0.85 miles east of the Project Site. In the vicinity of the Project Site, I-110 provides four travel lanes in each direction. Access to and from I-110 is available via interchanges at Sepulveda Boulevard.

Roadways

- Sepulveda Boulevard – Within the City, Sepulveda Boulevard is a designated Boulevard II in the Mobility Plan. Within Los Angeles County, it is a designated Major Highway in the County General Plan. It travels in the east-west direction adjacent to the southern boundary of the Project Site and provides six travel lanes, three in each direction, and a painted, two-way left-turn median. On-street parking is prohibited within the Study Area. Inside lanes are typically 11 feet wide and the total paved width is typically 86 feet.

- Western Avenue – Within the City, Western Avenue is a designated Boulevard II in the Mobility Plan. It travels in the north-south direction to the west of the Project Site and provides four travel lanes, two in each direction, with left-turn lanes at intersections. Limited unmetered on-street parking is available on both sides of the street within the Study Area. Inside lanes are typically 10 feet wide and the total paved width is typically 80 feet.

- Lockness Avenue – Within the City, Lockness Avenue is classified as a Local Street in the Mobility Plan. It travels in the north-south direction to the west of the Project Site and provides two travel lanes, one in each direction. Unmetered on-street parking is available on both side of the street within the Study Area. The total paved width is typically 40 feet.

- Halldale Avenue – Within the City, Halldale Avenue is classified as a Local Street in the Mobility Plan. It travels in the north-south direction to the south of the Project Site and aligns with one of the two Project driveways. It provides two travel lanes, one in each direction.

Unmetered on-street parking is available on both sides of the street within the Study Area. The total paved width is typically 36 feet.

- Normandie Avenue – Within the County, Normandie Avenue is a designated Secondary Highway in the County General Plan. It travels in the north-south direction and provides four travel lanes, one in each direction, and a two-way left-tun lane. Unmetered on-street parking is available on the east side of the street north of Sepulveda Boulevard but is prohibited on the west side north of Sepulveda Boulevard and on both sides south of Sepulveda Boulevard. Bicycle lanes are provided on both sides of the street south of Sepulveda Boulevard. Inside vehicle lanes are typically 10 feet wide and the total paved width is typically 70 feet.

- Vermont Avenue – Within the County, Vermont Avenue is a designated Major Highway in the County General Plan. It travels in the north-south direction and provides four travel lanes, two in each direction, with left turn lanes at intersections. Unmetered on-street parking is available on both sides of the street in the study area. Bicycle lanes are provided on both sides of the street. Inside vehicle lanes are typically 11 feet wide and the total paved width is typically 84 feet.

The existing intersection mobility facilities at the Study Intersections are shown in Figure 5, and the Mobility Plan roadway designations and pedestrian destinations are illustrated in Figure 6.

Existing Transit System

Figure 7 illustrates the existing public transit service in the Study Area, which is served by bus lines operated by the County Metropolitan Transportation Authority (Metro), Gardena GTrans, and Torrance Transit.

Table 2 summarizes the existing transit service operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service. The average headways during the peak hour were estimated using detailed trip data provided by Metro in April 2019 and by Gardena GTrans and Torrance Transit in November 2020. Within 0.25 miles of the Project Site, bus stops are provided for GTrans Route 2 (at Normandie Avenue) and Torrance Transit Line 7 (along Sepulveda Boulevard). However, no ridership data for these lines were available to determine the total capacity of the transit system during the morning and afternoon peak hours. Bus lines with stop locations located more than 0.25 miles from the Project Site were excluded from any ridership analysis.

Existing Bicycle System

Based on the Mobility Plan, *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, Adopted March 1, 2011) (City Bicycle Plan), and *County of Los Angeles Bicycle Master Plan* (Alta Planning + Design and County of Los Angeles Public Works, March 2012) (County Bicycle Plan), the existing bicycle system in the Study Area is limited.

The components of the City Bicycle Plan have been incorporated into the bicycle network of the Mobility Plan. The Mobility Plan consists of a Bicycle Enhanced Network (Low-Stress Bikeway System) (BEN) and a Bicycle Lane Network (BLN). The BEN is a subset of, and supplemental to, the City Bicycle Plan and is comprised of a network of streets that prioritize bicyclists and provide bicycle paths (Class I) and protected bicycle lanes (Class IV). Class IV protected bicycle lanes including cycle tracks, bicycle traffic signals, and demarcated areas to facilitate turns at intersections and along neighborhood streets, provide further protection from vehicular travel lanes. These Class IV networks typically provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxes, and bicycle-only left-turn pockets. Once implemented, these facilities offer a safer environment for both cyclists and motorists. The BLN consists of Class II bicycle lanes with striped separation and Class III bicycle lanes (sharrows).

The County Bicycle Plan is part of the County General Plan and uses the same bicycle network designations (Class I, II, and III) as the Mobility Plan; however, no distinction is made between the BLN and BEN. Instead, the County Bicycle Plan has one set of bikeway recommendations that includes sharrows, lanes, and separated paths.

Currently, within the Study Area, bicycle lanes are provided on Vermont Avenue and on Normandie Avenue south of Sepulveda Boulevard.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by Walk Score and assigned a score out of 100 points. With limited access to various commercial

businesses, residences, and cultural centers near the Project Site, the walkability of the Project Site is approximately 56 points[3].

The sidewalks that serve as routes to the Project Site generally provide proper connectivity for a comfortable and safe pedestrian environment. All signalized study intersections provide pedestrian facilities and connectivity to the Project Site, with Americans with Disabilities Act (ADA) compliant curb ramps, pedestrian phasing and crosswalk striping on all approaches, as shown in Figure 5. An inventory of pedestrian attractors within a 0.25-mile walking distance from the Project Site is illustrated in Figure 6.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies, including modifying the design of streets, to eliminate collisions that result in severe injury or death and increase safety for the most vulnerable road users. Vision Zero has identified the High Injury Network (HIN), a network of streets based on the collision data from the last five years, where strategic investments would have the biggest impact in reducing death and severe injury. Within the Study Area, no streets within the City were identified as part of the HIN.

Similarly, the County Department of Public Works has a Vision Zero program for unincorporated areas. As described in *Vision Zero: A Plan for Safer Roadways 2020*-2025 (November 2019), the plan will "focus the County's efforts over the next five years to achieve the goal of eliminating traffic-related fatalities on unincorporated County roadways by 2035." While no specific improvement measures were identified in the Study Area, Normandie Avenue north of Sepulveda Boulevard, Vermont Avenue north of Sepulveda Boulevard, and Sepulveda Boulevard between Normandie Avenue and Vermont Avenue were identified as Collision Concentration Corridors.

[3] Walk Score (www.walkscore.com) rates the Project Site (1351-1361 Sepulveda Boulevard) with a score of 56 of 100 possible points (scores assessed on November 12, 2020 for the Harbor Gateway neighborhood). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

Existing Traffic Volumes

Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses in full operation, weeks without holidays, etc.). Due to the ongoing Safer at Home/Safer LA emergency orders[4] in response to the COVID-19 pandemic, typical traffic patterns are disrupted and LADOT is allowing the use of historical traffic count data with application of an adjustment factor and/or other alternate measures.

Historical intersection turning movement counts for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods were available at four of the seven study intersections. These counts were collected while schools were in session in November 2015 (Halldale Avenue & Sepulveda Boulevard), December 2015 (Western Avenue & Sepulveda Boulevard), March 2017 (Lockness Avenue & Sepulveda Boulevard), and September 2017 (Normandie Avenue & Sepulveda Boulevard) and were acquired from the Navigate LA database[5] and other environmental documents[6]. Per the TAG, a growth factor of 1% per year was applied to these intersections to estimate Year 2020 (pre-pandemic) traffic volumes.

To estimate the traffic volumes at the three remaining intersections, traffic counts representing pandemic-condition traffic volumes were collected at all seven intersections in November 2020. The traffic volumes at the four intersections with historical data were totaled for each peak hour and a comparison was made between the November 2020 traffic counts and the historical counts adjusted to simulate Year 2020 (pre-pandemic) traffic volumes. This difference represents the pre-pandemic traffic adjustment factor. This comparison conservatively indicated that the projected traffic volumes based on historical counts were, on average, 45% higher in the morning peak hour and 14% higher in the afternoon peak hour than the November 2020 counts, which, as expected, were low due to business and travel restrictions.

[4] The standing public health orders issued by the City and/or County beginning March 2020 and remaining in effect until further notice.

[5] Accessed at https://navigatela.lacity.org/navigatela/.

[6] Draft EIR for the Harbor-UCLA Medical Center Campus Master Plan Project (County Department of Public Works, 2016).

Based on this comparison, the three intersections without historical data utilized the November 2020 traffic counts and were increased by 45% in the morning peak hour and 14% in the afternoon peak hour to simulate Year 2020 traffic volumes under typical traffic conditions (pre-pandemic).

The existing intersection peak hour traffic volumes, representing Existing Conditions in Year 2020, are illustrated in Figure 8. Traffic volume data is provided in Appendix B.

FUTURE CUMULATIVE TRANSPORTATION CONDITIONS

The forecast of Future without Project Conditions was prepared in accordance with procedures outlined in the TAG. Specifically, two requirements are provided for developing the cumulative traffic volume forecast:

> "The Transportation Assessment must estimate ambient traffic conditions for the study horizon year selected during the scoping phase and recorded in the executed MOU. The study must clearly identify the horizon year and annual ambient growth rate used for the study. The horizon year should align with the development project's expected completion year. For development projects constructed in phases over several years, the Transportation Assessment should analyze intermediary milestones before the buildout and completion of the project. The annual ambient growth rate shall be determined by LADOT staff during the scoping process and can be based on an adopted TSP, the most recent SCAG regional transportation model, the citywide transportation model, or other empirical information approved by LADOT.
>
> "The Transportation Assessment must consider related projects. For related development projects, this should include the associated trip generation for known development projects within one-half mile (2,640 foot) radius of the project site and one-quarter mile (1,320 foot) radius of the farthest outlying study intersections. Consultation with the Department of City Planning and LADOT may be required to compile the related projects list. The City's ZIMAS database can be used to assist in identifying development projects that have submitted applications to the City of Los Angeles. Project access and circulation constraints would be determined by adding project-generated trips to future base traffic volumes including ambient growth and related projects and conducting the operational analysis."

As described in detail below, this analysis includes increases to traffic from future projects and from regional growth projections. No Related Projects were identified within 0.5 miles of the Project Site

or within 0.25 miles of the farthest study intersections.[7] Therefore, the Future without Project traffic volumes alone account for ambient growth.

Ambient Traffic Growth

Existing traffic levels have historically been projected to increase as a result of regional growth and development. To provide a conservative estimate of future background conditions, this analysis used the 1% annual growth precedent specified by LADOT, compounded annually to the existing traffic volumes to simulate Year 2022 traffic volumes. The total adjustment applied over the two-year period was 2.01%. This growth factor accounts for increases in traffic due to potential projects not yet proposed and projects located outside the Study Area.

Future without Project Traffic Volumes

As discussed above, the ambient growth through the projected Project completion year of 2022 was added to the existing traffic volumes. These volumes represent the Future without Project Conditions for Year 2022 at the Study Intersections and are shown in Figure 9.

Future Improvements

The analysis of Future Conditions would typically account for any transportation improvements that were funded and expected to be implemented prior to the buildout of the proposed Project. These improvements could result in changes to the physical configuration at the Study Intersections.

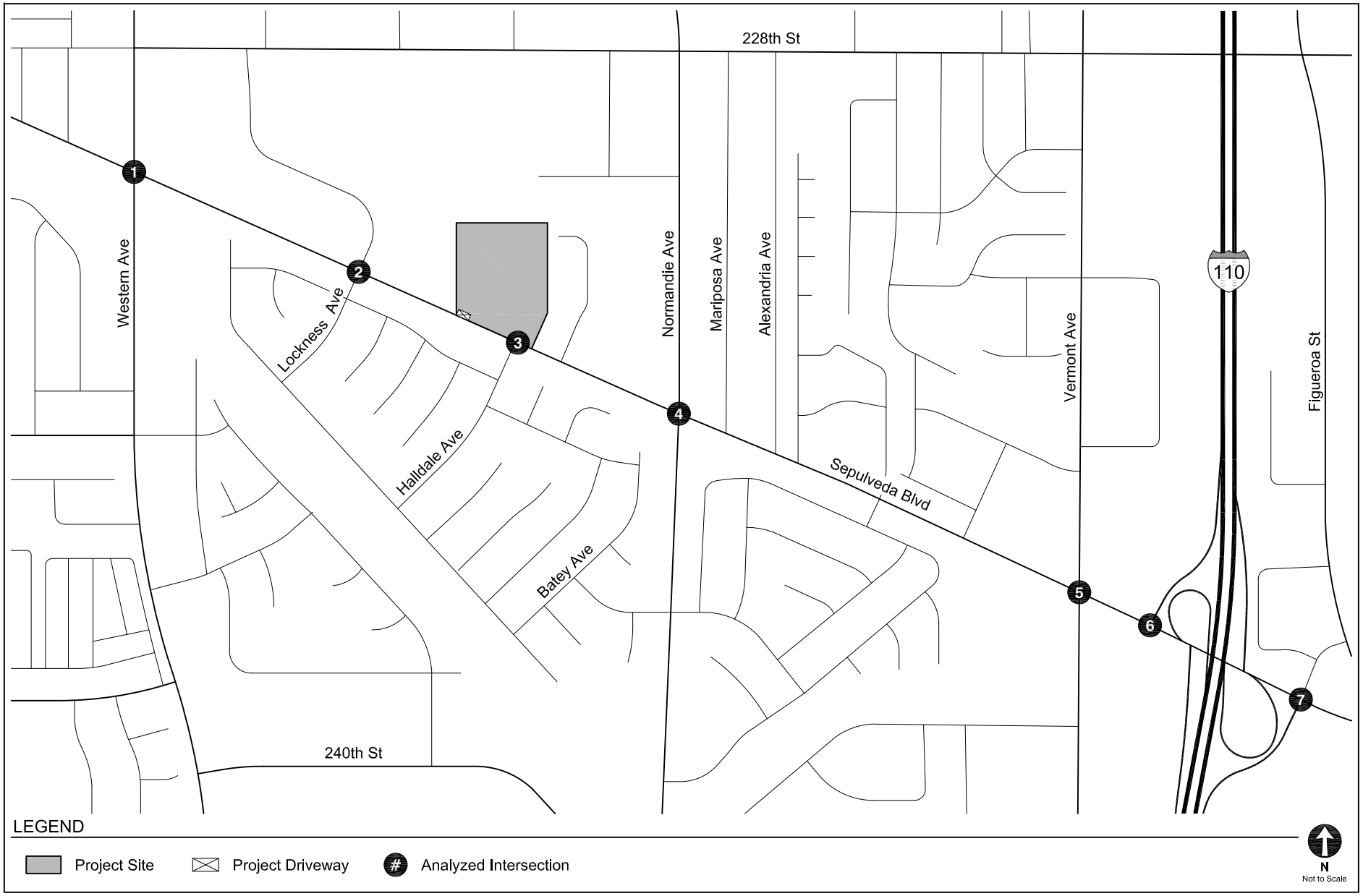
Mobility Plan. In the Mobility Plan, the City identifies key corridors as components of various "mobility-enhanced networks." Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet

[7] Based on projects information provided by LADOT and LADCP in September 2020.

been identified, nor is there a proposed schedule for their implementation. Therefore, no changes to vehicular lane configurations were made as a result of future Mobility Plan improvements. The following mobility-enhanced networks included corridors within 0.25 miles of the Project Site and are depicted in Figure 10:

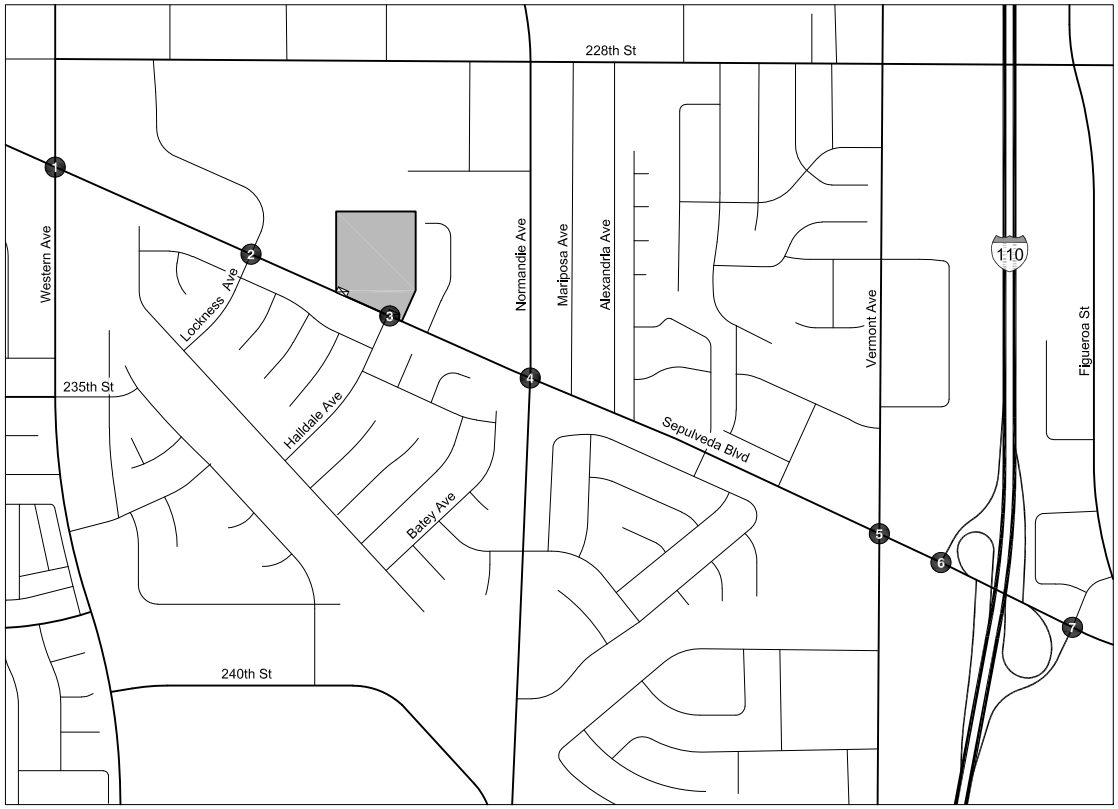
- BEN: Western Avenue is identified as part of the Bicycle Path Network.

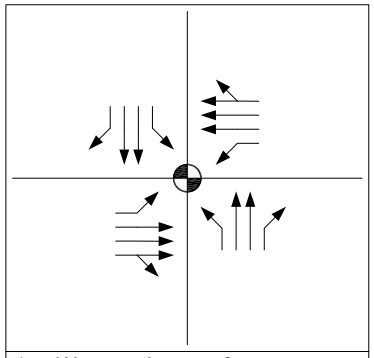
County Bicycle Plan. Similar to the Mobility Plan, the County identifies key corridors for a Bicycle Network of Class I, II, or III bicycle facilities. The specific improvements that may be implemented in those networks have not yet been identified, nor is there a proposed schedule for their implementation. Therefore, no changes to vehicular lane configurations were made as a result of future County Bicycle Plan improvements. Within the Study Area, Vermont Avenue and Normandie Avenue are both identified as part of a Bicycle Network with Class II bicycle lanes. Normandie Avenue north of Sepulveda Boulevard is the only unbuilt portion of this network.



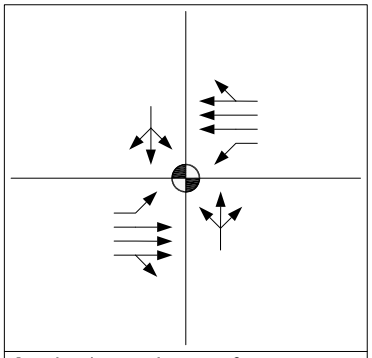
STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 3

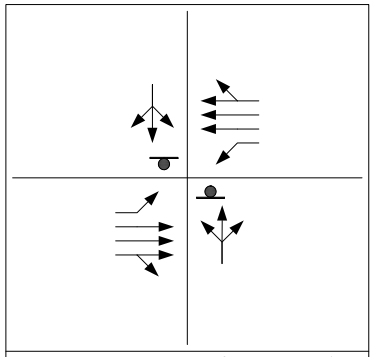




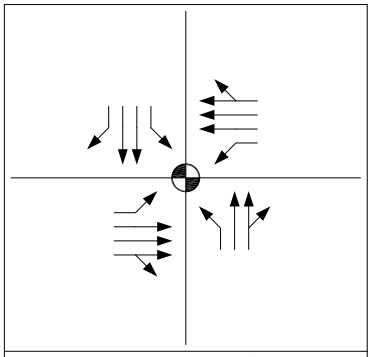
1. Western Avenue & Sepulveda Boulevard



2. Lockness Avenue & Sepulveda Boulevard



3. Halldale Avenue / Driveway & Sepulveda Boulevard

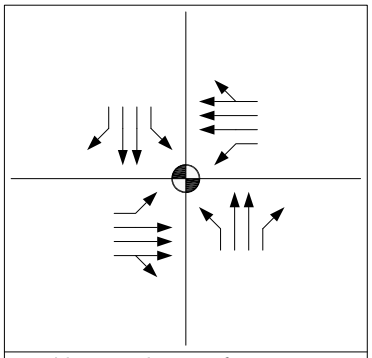


4. Normandie Avenue & Sepulveda Boulevard

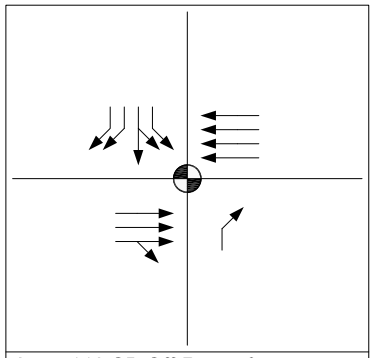
LEGEND

- Project Site
- Project Driveway
- Analyzed Intersection
- Traffic Signal
- Stop Sign

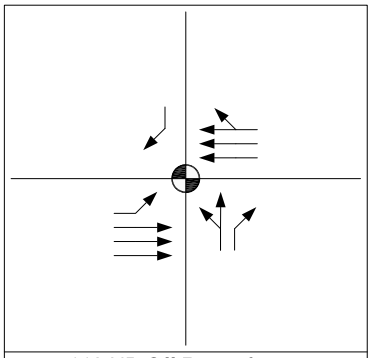
N
Not to Scale



5. Vermont Avenue & Sepulveda Boulevard



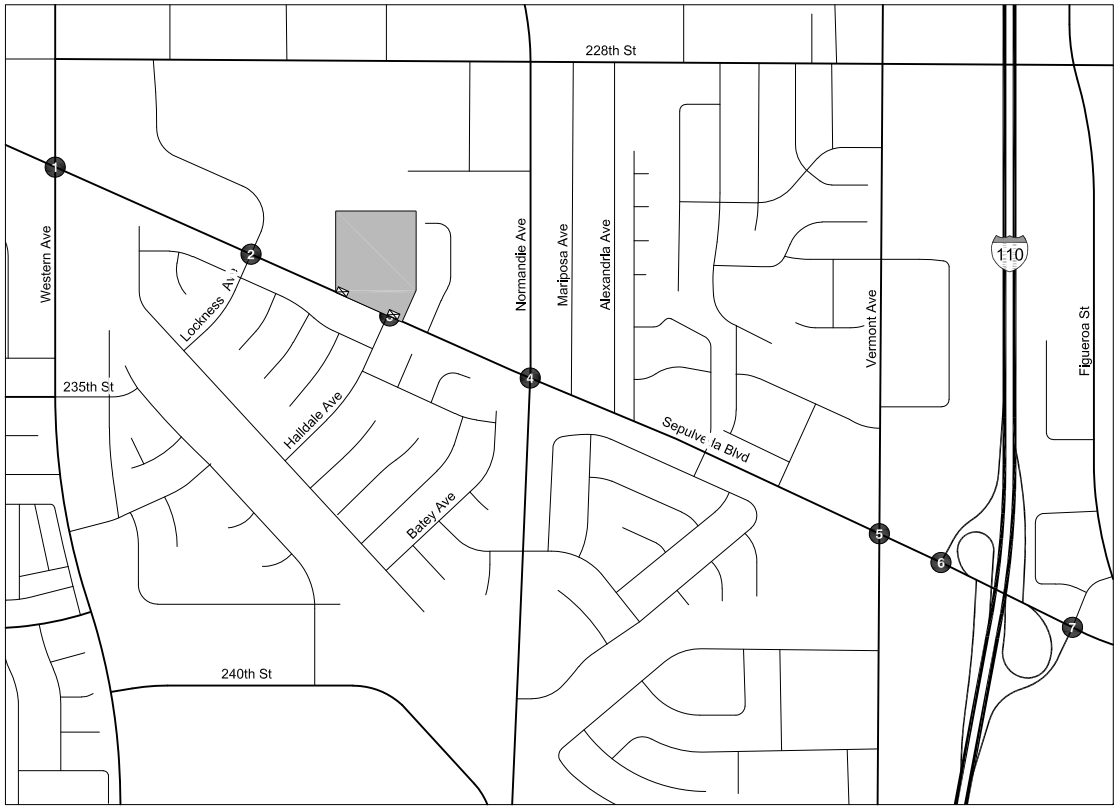
6. I-110 SB Off-Ramp & Sepulveda Boulevard

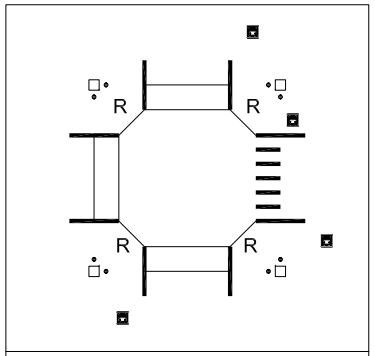


7. I-110 NB Off-Ramp & Sepulveda Boulevard

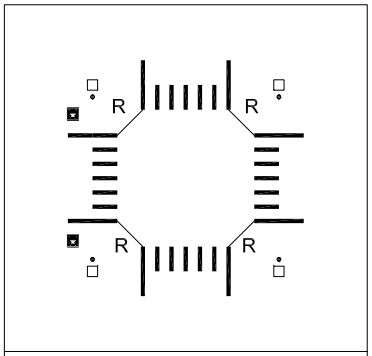
INTERSECTION LANE CONFIGURATIONS

FIGURE 4

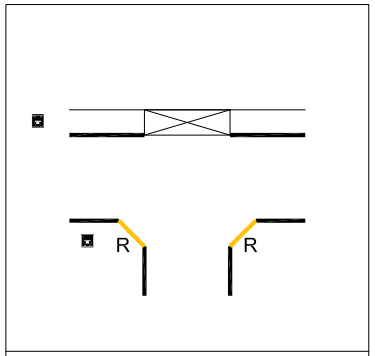




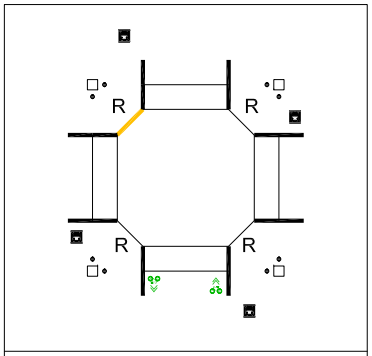
1. Western Avenue & Sepulveda Boulevard



2. Lockness Avenue & Sepulveda Boulevard



3. Halldale Avenue / Driveway & Sepulveda Boulevard

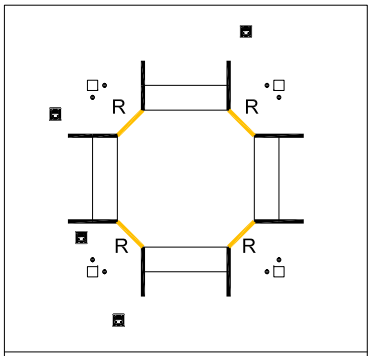


4. Normandie Avenue & Sepulveda Boulevard

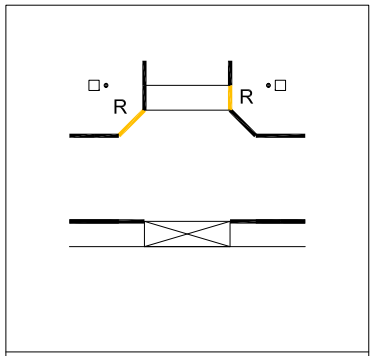
LEGEND

- Project Site
- Project Driveway
- Analyzed Intersection
- Continental Crosswalk
- Bus Stop
- Bike Lane
- Ramp
- Sharrow
- Tactile Curb
- Ped Signal
- Ped Call Button

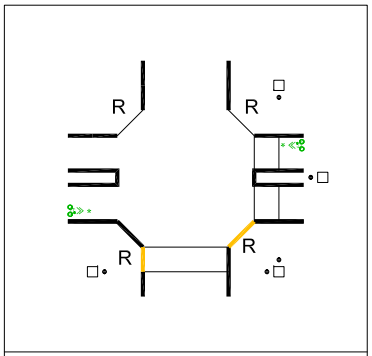
N
Not to Scale



5. Vermont Avenue & Sepulveda Boulevard



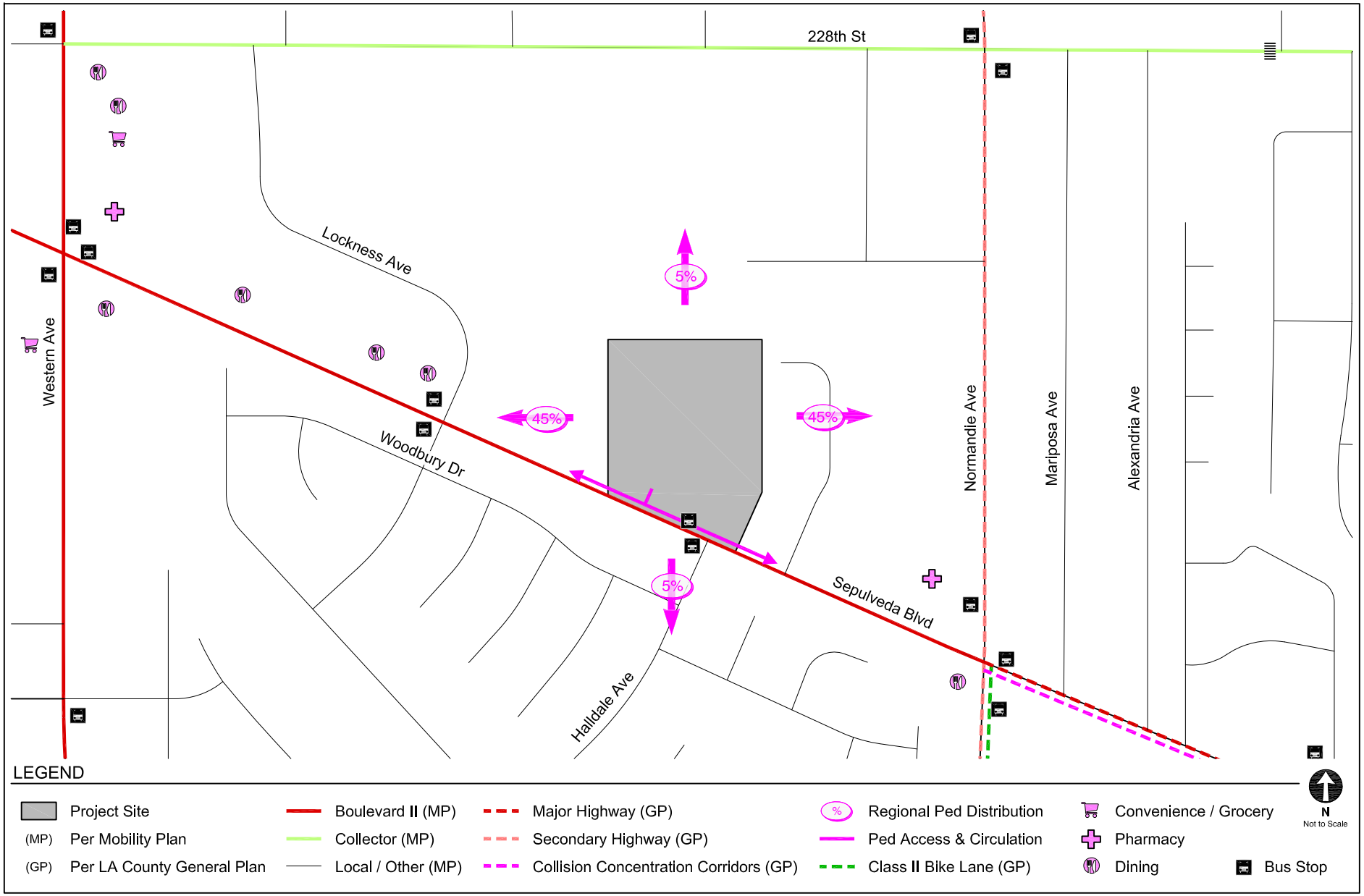
6. I-110 SB Off-Ramp & Sepulveda Boulevard



7. I-110 NB Off-Ramp & Sepulveda Boulevard

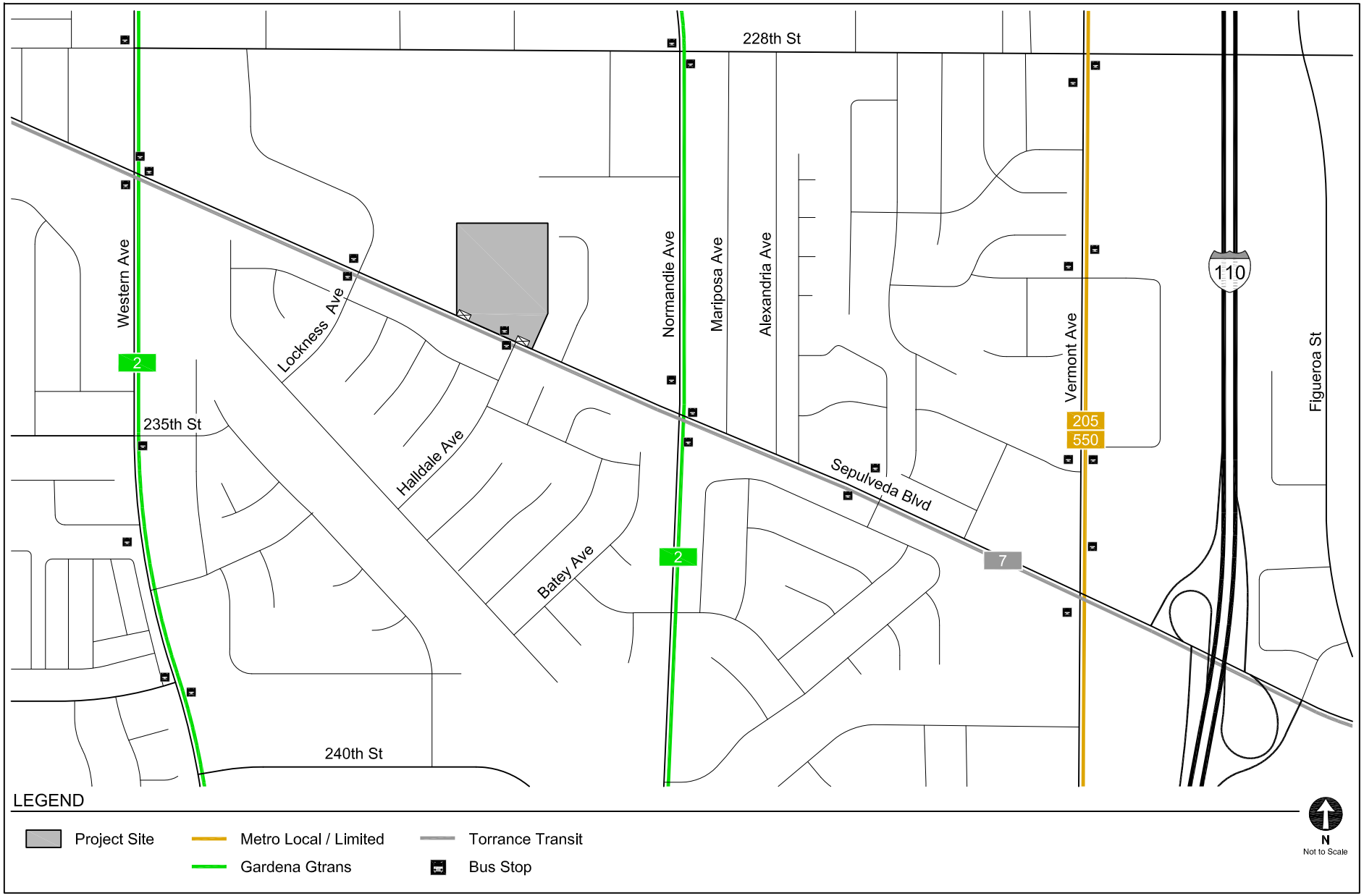
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 5



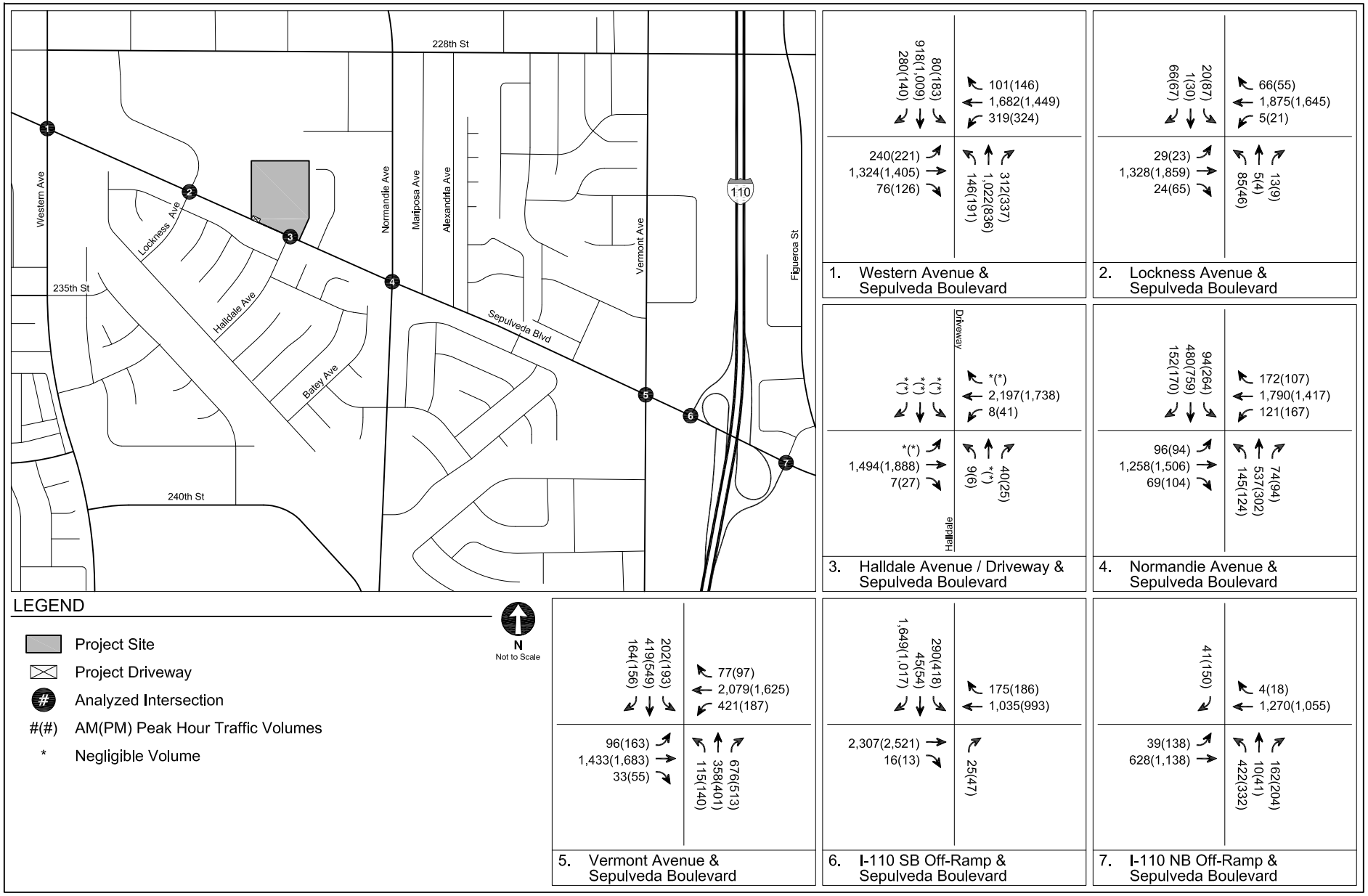
EXISTING TRANSPORTATION DESIGNATIONS & PEDESTRIAN DESTINATIONS

FIGURE 6



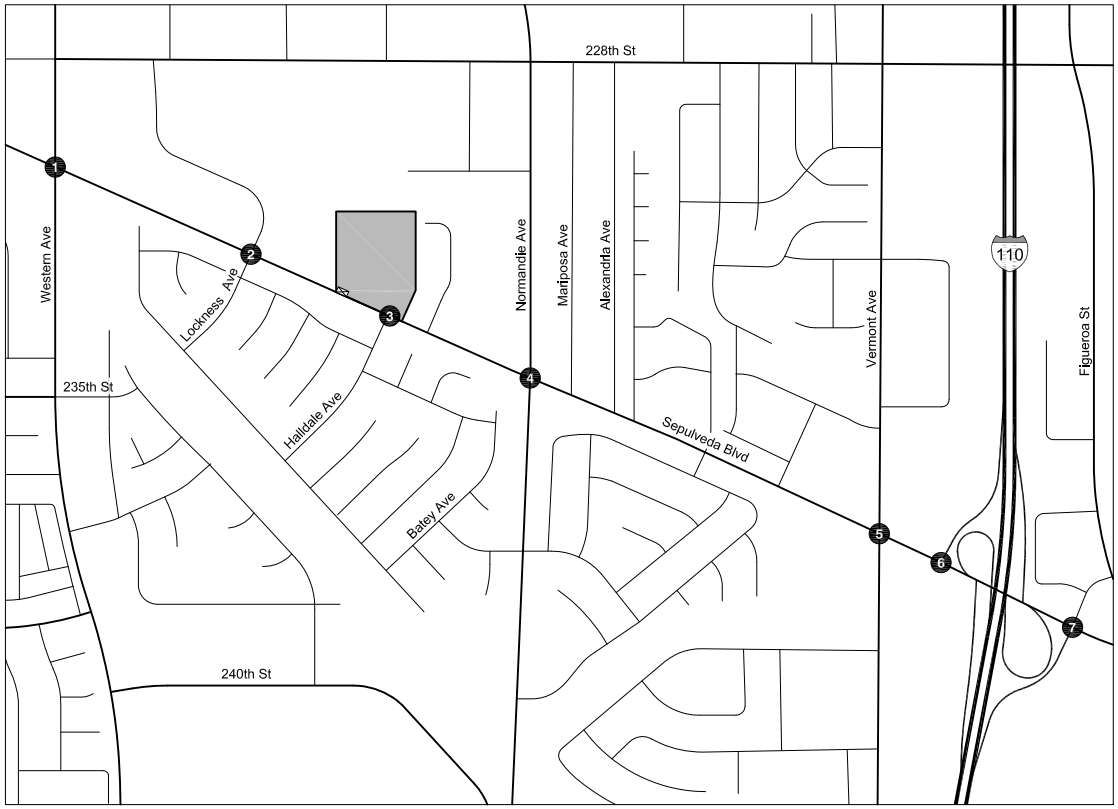
EXISTING TRANSIT SERVICE

FIGURE 7

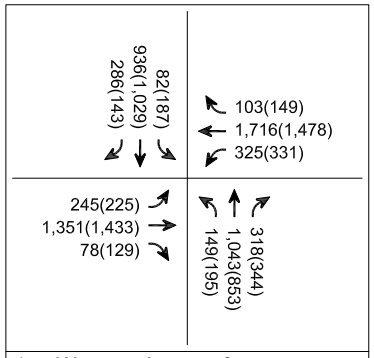


EXISTING CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

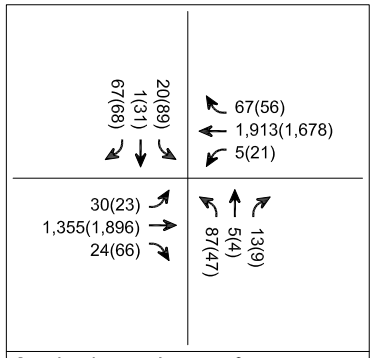
FIGURE 8



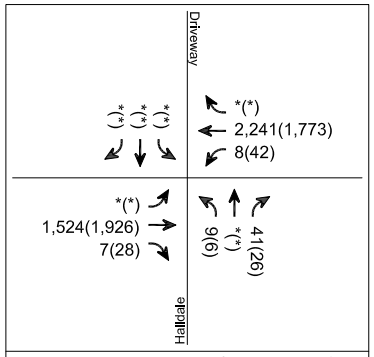
1. Western Avenue & Sepulveda Boulevard



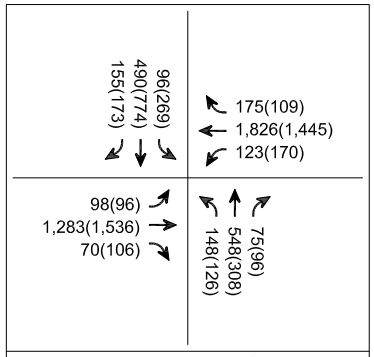
2. Lockness Avenue & Sepulveda Boulevard



3. Halldale Avenue / Driveway & Sepulveda Boulevard



4. Normandie Avenue & Sepulveda Boulevard

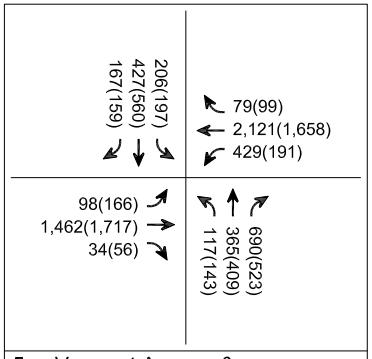


LEGEND

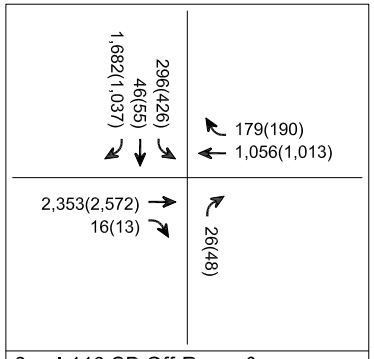
- Project Site
- Project Driveway
- # Analyzed Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

N
Not to Scale

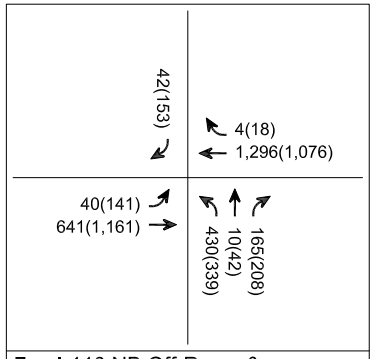
5. Vermont Avenue & Sepulveda Boulevard



6. I-110 SB Off-Ramp & Sepulveda Boulevard



7. I-110 NB Off-Ramp & Sepulveda Boulevard



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 9

FUTURE TRANSPORTATION FACILITIES & ROADWAY MODAL PRIORITIES

FIGURE 10

TABLE 1
STUDY INTERSECTIONS

No.	Intersection	Jurisdiction
1.	Western Avenue & Sepulveda Boulevard	City of Los Angeles
2.	Lockness Avenue & Sepulveda Boulevard	City of Los Angeles
3.	Halldale Avenue & Sepulveda Boulevard (stop control)	City of Los Angeles
4.	Normandie Avenue & Sepulveda Boulevard	Los Angeles County
5.	Vermont Avenue & Sepulveda Boulevard	Los Angeles County
6.	I-110 SB Off Ramp & Sepulveda Boulevard	Los Angeles County / Caltrans
7.	I-110 NB Off Ramp & Sepulveda Boulevard	City of Carson / Caltrans

TABLE 2
EXISTING TRANSIT SERVICE IN STUDY AREA

Provider, Route, and Service Area		Service Type	Hours of Operation	Average Headway (minutes) [a]			
				Morning Peak Hour		Afternoon Peak Hour	
Metro Bus Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
205	Eastbound to Downtown Los Angeles - Westbound to Westwood	Local	5:30 A.M. - 11:30 P.M.	34	27	48	80
550	Hollywood/Vine Station - South Bay Galleria via Crenshaw Boulevard	Local	5:00 A.M. - 11:00 P.M.	34	34	34	34
Gardena Gtrans				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
2	Gardena Loop	Local	5:30 A.M. - 9:00 P.M.	27	30	24	24
Torrance Transit				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
7	Downtown Los Angeles - North Hollywood	Local	5:30 A.M. - 10:00 P.M.	60	60	60	48

Notes
Metro: Los Angeles County Metropolitan Transportation Authority
NB: Northbound
EB: Eastbound
SB: Southbound
WB: Westbound
[a] Metro average headway data was collected in April 2019, prior to the COVID-19 Pandemic. Data for Gtrans and Torrance Transit were collected in November 2020, since trip data prior to March 2020 was unavailable.

Chapter 3
Project Traffic

Trip generation estimates, trip distribution patterns, and trip assignments were prepared for the Project. These components form the basis of the Project's Non-CEQA traffic analysis.

PROJECT TRIP GENERATION

The number of trips expected to be generated by the Project was estimated using rates published in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers [ITE], 2017) and the *(Not So) Brief Guide of Vehicular Traffic Generation Rate for the San Diego Region* (San Diego Association of Governments [SANDAG], April 2002).[8] These rates are based on surveys of similar land uses at sites around the country and are utilized to calculate the number of vehicle trips traveling to and from the Project Site during the day and the morning and afternoon peak hours relative to the size of development.

The daily trip estimates are provided here for informational purposes only and the CEQA analyses in this study are based on the daily trip estimate from the vehicle miles traveled (VMT) calculation discussed in Section 4B.

Warehouse

The warehouse component of the Project is expected to operate as either a standard or a last-mile delivery warehouse. *Trip Generation Manual, 10th Edition* provides a rate for warehousing (ITE Land Use Code 150) that would be suitable for a standard warehouse facility. However, to provide flexibility for a potential tenant to use the facility as a last-mile delivery warehouse, the study instead utilized the rate for a high-cube parcel hub warehouse (ITE Land Use Code 156)

[8] LADOT has accepted use of the SANDAG reference in instances where no ITE reference is available.

as the closest rate to a last-mile facility. While the warehouse would not be a high-cube facility, the trip generation rate for a high-cube warehouse is higher than for typical warehouses and the parcel hub reflects the characteristics of a last-mile facility. Thus, the trip generation estimates for a high-cube parcel hub warehouse provides a more conservative analysis.

Based on ITE Land Use Code 156, the vehicle fleet mix is anticipated to be approximately 89% light vehicles and 11% trucks on a daily basis.

Multipurpose Recreational Facility

The previous active land use at the Project Site was the Mulligan Family Fun Center, which operated as a miniature golf course and family entertainment center until closing in February 2020. To estimate the existing trip credit, the Multipurpose Recreational Facility (ITE Land Use Code 435) rate in *Trip Generation Manual, 10th Edition* was used for the afternoon peak hour rate; no morning peak hour activity at the site was assumed for the existing use. As ITE does not identify a daily trip generation rate with this land use code, *(Not So) Brief Guide of Vehicular Traffic Generation Rate for the San Diego Region* was utilized for informational purposes only.

As shown in Table 3, the Project is expected to generate 138 net new morning peak hour trips (69 inbound trips, 69 outbound trips) and 94 net new afternoon peak hour trips (67 inbound trips, 27 outbound trips).

PROJECT TRIP DISTRIBUTION

The geographic distribution of trips generated by the Project is dependent on the location of employment, residential, and commercial centers to and from which employees and patrons of the Project would be drawn, characteristics of the street system serving the Project Site, the location of the Project driveways, existing traffic patterns, as well as input from LADOT staff.

The intersection-level trip distribution pattern for Project traffic at the Study Intersections is shown in Figure 11A for cars (light vehicles) and Figure 11B for trucks.

The regional pattern is generally as follows for cars (light vehicles):

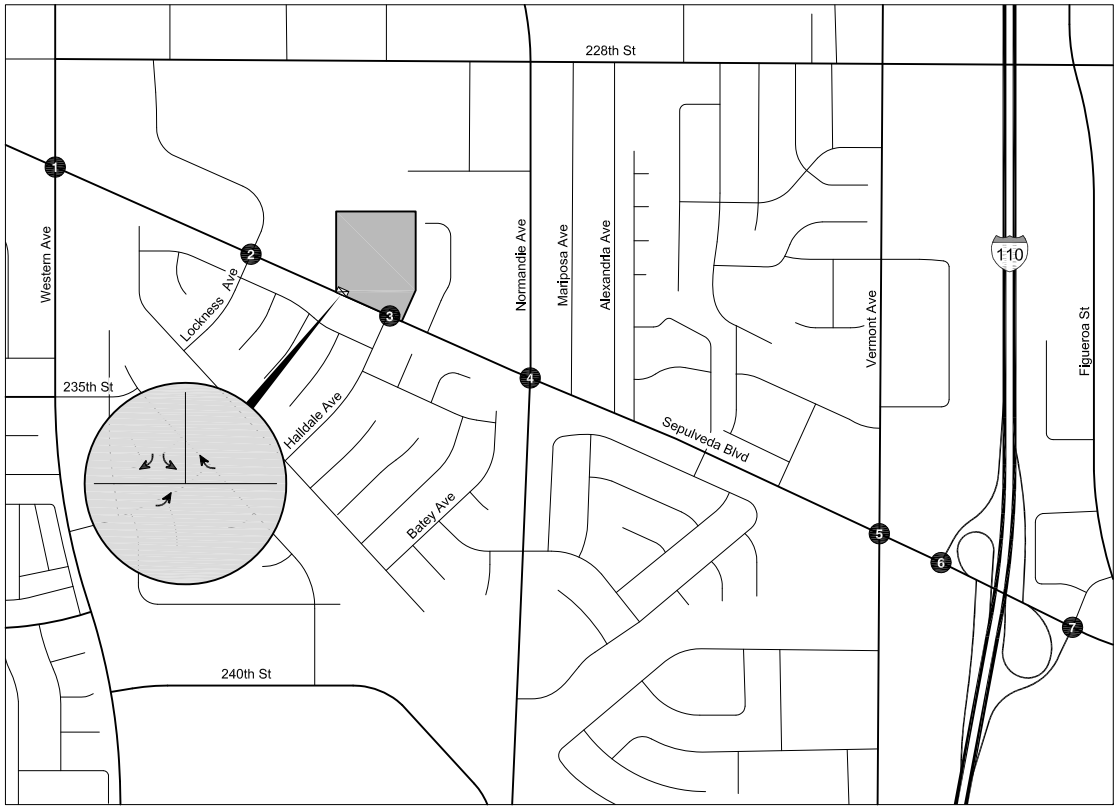
- 45% to/from the north
- 5% to/from the east
- 40% to/from the south
- 10% to/from the west

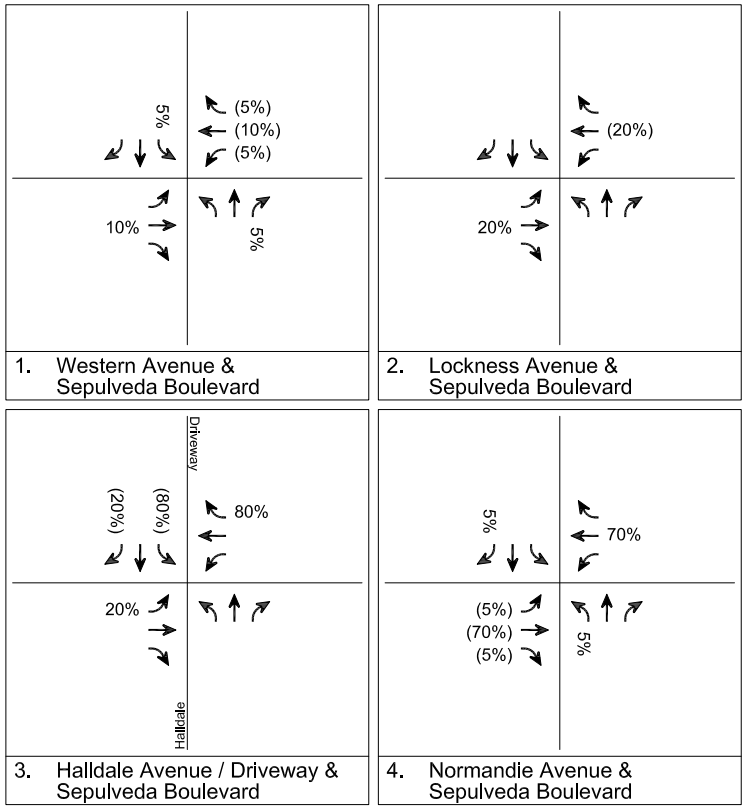
The regional pattern is generally as follows for trucks:

- 40% to/from the north
- 0% to/from the east
- 55% to/from the south
- 5% to/from the west

PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 3 and the trip distribution pattern shown in Figures 11A and 11B were used to assign the Project-generated traffic through the Study Intersections. Figure 12 illustrates the net Project-only traffic volumes for the Project at the Study Intersections and Project driveways during typical weekday morning and afternoon peak hours.

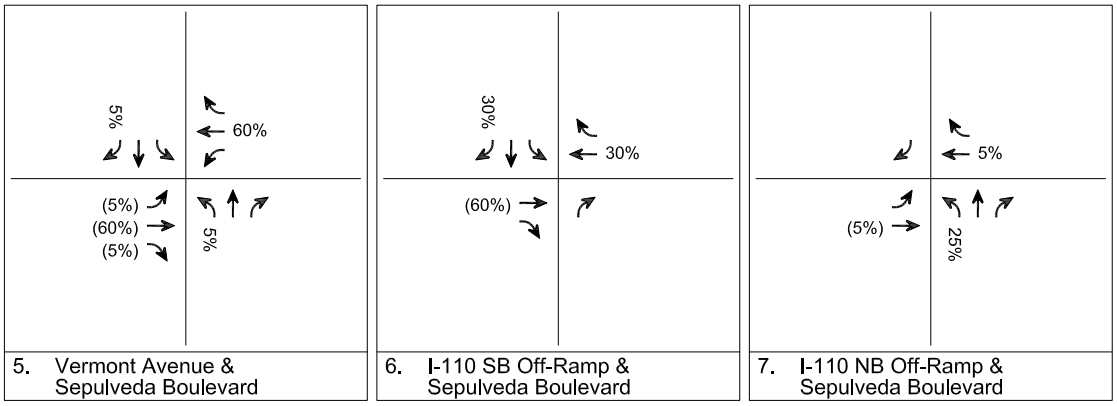




LEGEND

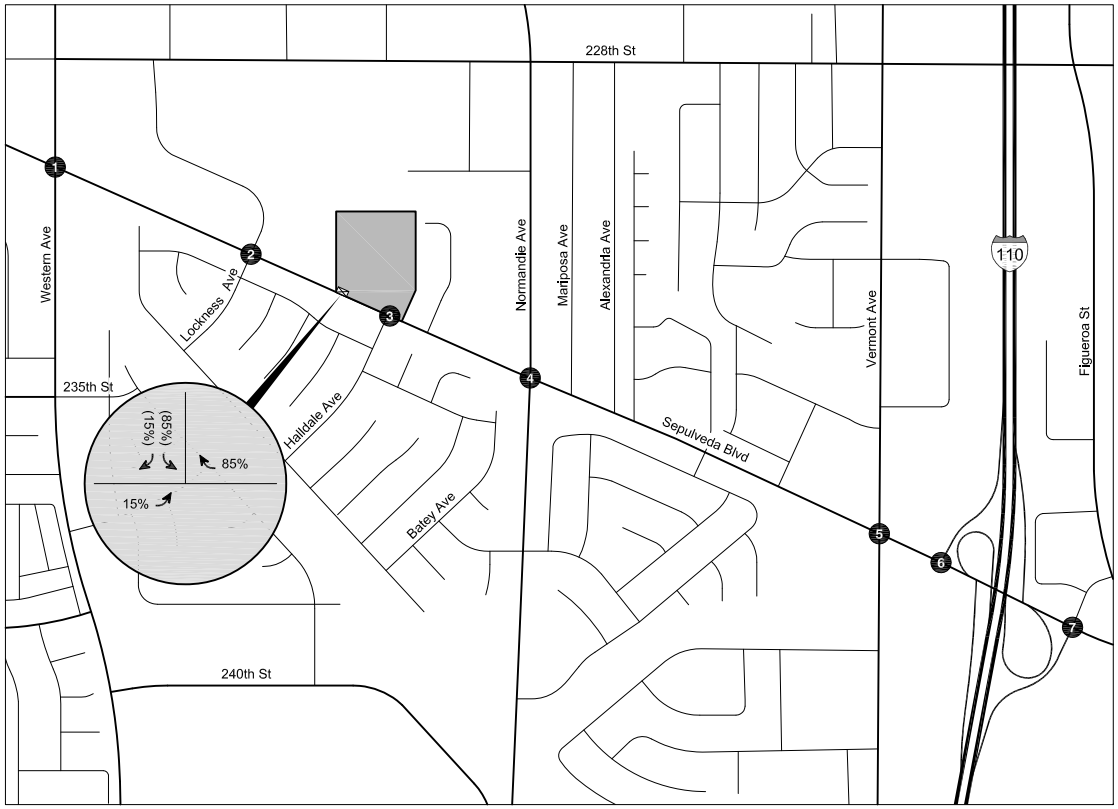
- Project Site
- Project Driveway
- # Analyzed Intersection
- %(%) Inbound(Outbound) Trip Percentage

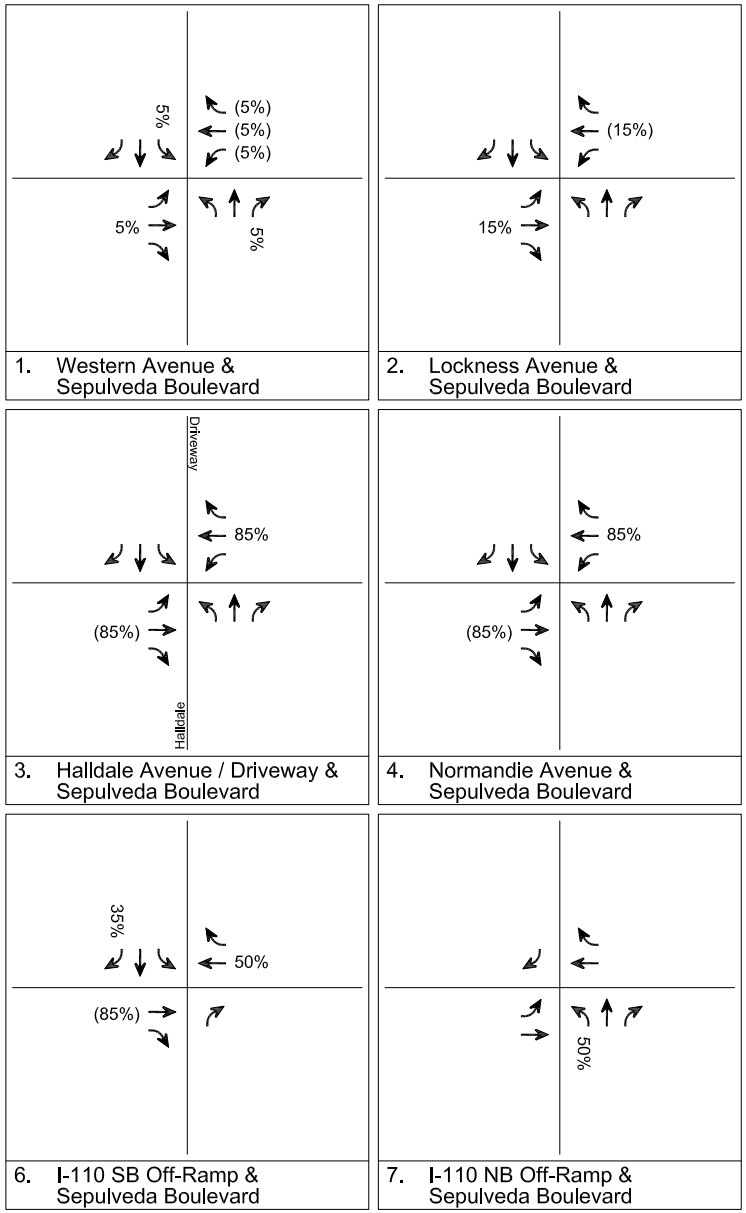
N
Not to Scale



PROJECT TRIP DISTRIBUTION
CARS

FIGURE
11A





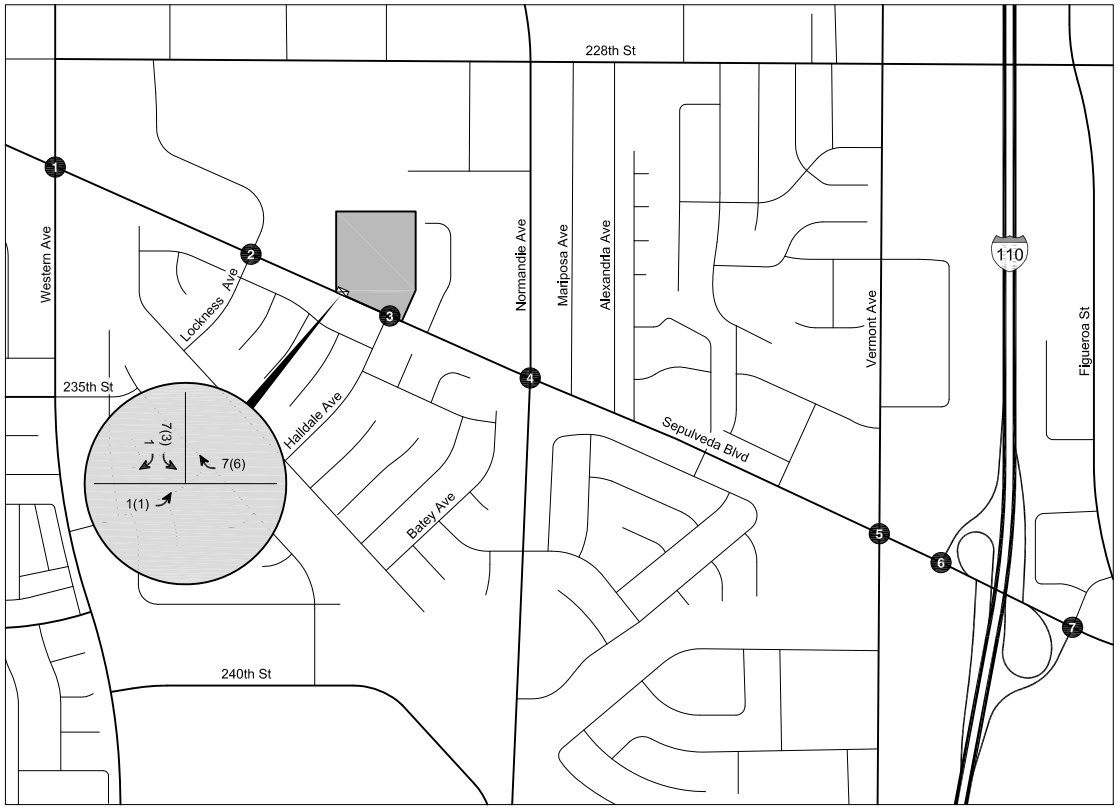
LEGEND

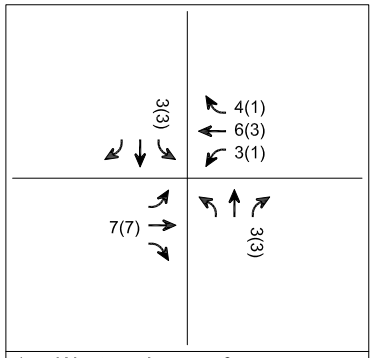
- Project Site
- Project Driveway
- # Analyzed Intersection
- %(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

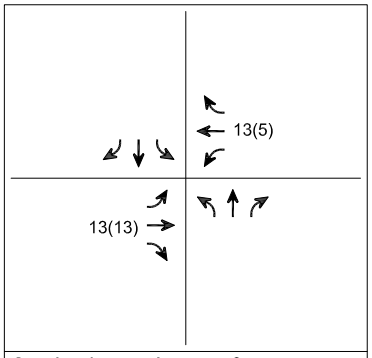
PROJECT TRIP DISTRIBUTION
TRUCKS

FIGURE
11B

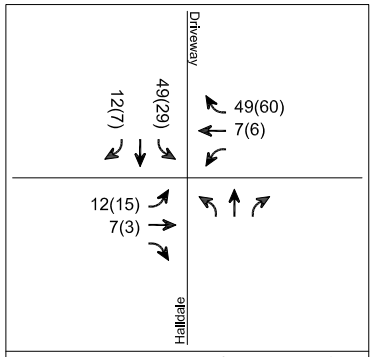




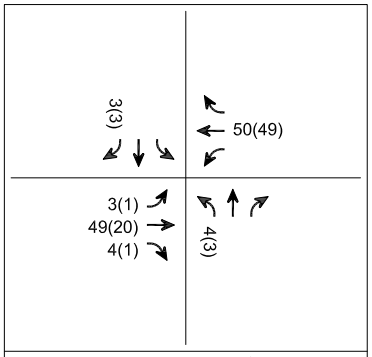
1. Western Avenue & Sepulveda Boulevard



2. Lockness Avenue & Sepulveda Boulevard



3. Halldale Avenue / Driveway & Sepulveda Boulevard

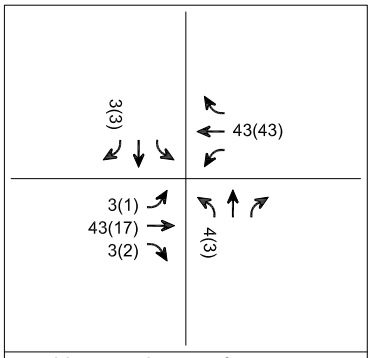


4. Normandie Avenue & Sepulveda Boulevard

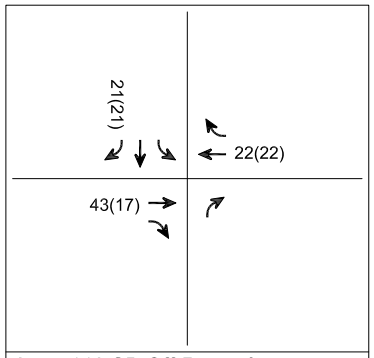
LEGEND

- Project Site
- Project Driveway
- # Analyzed Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes

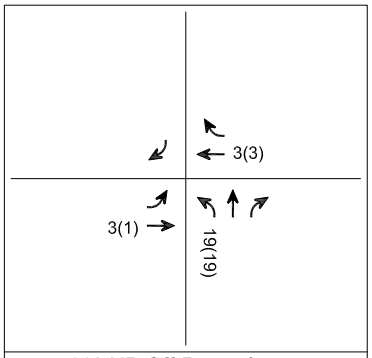
N
Not to Scale



5. Vermont Avenue & Sepulveda Boulevard



6. I-110 SB Off-Ramp & Sepulveda Boulevard



7. I-110 NB Off-Ramp & Sepulveda Boulevard

PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12

TABLE 3
TRIP GENERATION ESTIMATE
BRIDGE POINT SOUTH BAY VII - 1351-1361 SEPULVEDA BOULEVARD

Land Use	ITE Land Use	Trip Rate	Daily [a]	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Trip Generation Rates									
High Cube Parcel Hub Warehouse [b,c]	156	per ksf							
Light Vehicles			4.63	50%	50%	0.70	68%	32%	0.64
Trucks			0.58	50%	50%	0.09	68%	32%	0.06
Multipurpose Recreational Facility	[d]	per AC	60	-	-	-	55%	45%	3.58
Proposed Project									
Bridge Point South Bay VII Warehouse	156	174.211 ksf							
Light Vehicles			807	61	61	122	75	36	111
Trucks			101	8	8	16	7	3	10
Subtotal Proposed			**908**	**69**	**69**	**138**	**82**	**39**	**121**
Existing Uses to be Removed									
Mulligan Family Fun Center (Mini Golf) [e]	435	(7.600) AC	(456)	-	-	-	(15)	(12)	(27)
ESTIMATED - TOTAL NET NEW PROJECT TRIPS			**452**	**69**	**69**	**138**	**67**	**27**	**94**

Notes:

ksf: 1,000 square feet AC: acre

Trip generation rates from *Trip Generation Manual, 10th Edition*, Institute of Transportation Engineers, 2017, except where noted.

[a] The daily trip estimates are for informational purposes only; the Transportation Assessment utilizes the daily trip estimate as calculated by the LADOT VMT Calculator

[b] 'High cube' is a descriptor for this trip generation rate, however the project is not designed to operate as a high cube facility. While the project is designed to operate similar to a standard warehouse (ITE 150); the tenant may operate as either a standard or last-mile delivery warehouse. To provide a conservative analysis, this analysis assumes the higher trip generation rate of a last mile type delivery use (ITE 156 - High Cube Parcel Hub Warehouse) for each vehicle type.

[c] The combined light vehicle and truck trip rates, as presented by ITE 156, results in an overall fleet mix that is approximately 88% light vehicles and 11% trucks on a daily basis; this fleet mix varies from 9% to 11% during the morning and afternoon peak hours.

[d] The ITE 435 Multipurpose Recreational Facility trip rate is utilized for the afternoon peak hour. The daily rate is based on the SANDAG rate for "Multi-purpose Recreation"; the proportional relationship of the ITE and SANDAG rates for the afternoon peak hour was applied to the SANDAG daily rate as an estimate for daily trips.

[e] The existing use (Mulligan Family Fun Center) was in continuous operation until February 2020 and therefore, an existing credit is taken for this use. A portion of the site includes a concrete batch plant; as it has not been recently operational, no existing credit is taken for this use.

Chapter 4
CEQA Analysis of Transportation Impacts

This chapter presents an analysis of potential CEQA-related transportation impacts. The analysis also discusses the consistency of the Project with adopted City plans and policies and the improvements, if necessary, associated with the results of a VMT analysis compliant with State of California requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743).

METHODOLOGY

SB 743 required the Governor's Office of Planning and Research to change the CEQA Guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis shifted from vehicular delay (level of service [LOS]) to VMT, with the intent of reducing greenhouse gas emissions (GHG), creating multimodal networks, and promoting mixed-use developments.

LADOT's TAG defines and provides the required CEQA methodology of analyzing a project's transportation impacts in accordance with SB 743. Per the TAG, the CEQA transportation analysis contains the following thresholds for identifying significant impacts:

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial VMT
- Threshold T-2.2: Substantially Inducing Additional Automobile Travel
- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

These thresholds were reviewed and analyzed, as detailed in the following Sections 4A-4D.

In addition, Section 4E provides a review of California Department of Transportation (Caltrans) facilities in accordance with *Interim Guidance for Freeway Safety Analysis* (LADOT, May 2020)

(City Freeway Guidance), which identifies City requirements for a CEQA safety analysis of Caltrans facilities.

Section 4A: Threshold T-1

Conflicting with Plans, Programs, Ordinances, or Policies Analysis

Threshold T-1 states that a project would result in an impact if it conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

Table 2.1-1 of the TAG identifies the City plans, policies, programs, ordinances, and standards relevant in determining project consistency. Attachment D of the TAG, *Plans, Policies, and Programs Consistency Worksheet,* provides a structured approach to evaluate whether a project conflicts with the City plans, programs, ordinances, or policies and to streamline the review by highlighting the most relevant plans, policies, and programs when assessing potential impacts to the City transportation system. The *Plan, Policies, and Programs Consistency Worksheet* was completed for the Project and is provided in Appendix C.

As stated in Section 2.1.4 of the TAG, a project that generally conforms with and does not obstruct the City of Los Angeles development policies and standards will generally be considered to be consistent. As discussed below, the Project is consistent and does not conflict with the City of Los Angeles plans, policies, programs, ordinances, and standards listed in Table 2.1-1 of the TAG; therefore, the Project would not result in a significant impact under Threshold T-1. Detailed discussion of the plans, programs, ordinances, or policies related is provided below.

Mobility Plan

The Mobility Plan combines “complete street” principles with the following five goals that define the City mobility priorities:

1. Safety First: Design and operate streets in a way that enables safe access for all users, regardless of age, ability, or transportation mode of choice.

2. World Class Infrastructure: A well-maintained and connected network of streets, paths, bikeways, trails, and more provides Angelenos with the optimum variety of mode choices.

3. Access for All Angelenos: A fair and equitable system must be accessible to all and must pay particularly close attention to the most vulnerable users.

4. Collaboration, Communication, and Informed Choices: The impact of new technologies on our day-to-day mobility demands will continue to become increasingly important to the future. The amount of information made available by new technologies must be managed responsibly in the future.

5. Clean Environments and Healthy Communities: Active transportation modes such as bicycling and walking can significantly improve personal fitness and create new opportunities for social interaction, while lessening impacts on the environment.

A detailed analysis of the Project's consistency with the Mobility Plan is provided in Table 4. As detailed in Chapter 2, the Mobility Plan identifies key corridors within the Study Area as components of various "mobility-enhanced networks." Though no new specific improvements have been identified and there is no schedule for implementation, the mobility-enhanced networks represent a focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The Project would be designed with the mobility-enhanced networks as a top priority, as described below.

With the development of the Project, pedestrian accessibility would be improved by widening the sidewalks and including numerous shade trees along the Sepulveda Boulevard Project frontage, enhancing the pedestrian experience, fostering pedestrian activity, and meeting the goals and long-term needs of the Mobility Plan.

Vehicular access to the Project will be provided via two full access driveways on Sepulveda Boulevard that are generally in the same location as the two existing driveways. The eastern driveway is for employees and visitors to the Project and the western driveaway is for trucks. Neither of the driveways create a new conflict point between pedestrians, bicyclists, and vehicles as both driveways would reconfigure existing curb cuts in accordance with LADOT standards. Both driveways would be controlled by stop signs facing the exiting traffic to provide safer intersections between vehicles and pedestrians/bicyclists.

As detailed in Section 5G, the Project would provide sufficient off-street parking to satisfy vehicular parking requirements for the Project.

The Project would also enhance pedestrian access along the Project frontage by providing improvements to the sidewalks and landscaping. The Project proposes to make a varying three to five-foot dedication along Sepulveda Boulevard to install a wider sidewalk that meets Mobility Plan standards. In addition, the Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure and will ensure driveways are constructed to provide maximum visibility between drivers, cyclists, and pedestrians. Secured bicycle parking facilities consistent with Los Angeles Municipal Code (LAMC) requirements would also be provided within the Project Site. Landscaping would improve the pedestrian experience along Sepulveda Boulevard through the planting of more than a dozen shade trees lining the Project's public street frontage. These measures would promote active transportation modes such as biking and walking, thereby reducing the Project VMT compared to the average for the area, as detailed in Section 4B.

Thus, the Project would be consistent with the goals of the Mobility Plan.

Plan for a Healthy Los Angeles

Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan (LADCP, March 2015) introduces guidelines to enhance the position of the City as a regional leader in health and equity, encourage healthy design and equitable access, and increase awareness of equity and environmental issues. The components of this plan focus on health and wellness through increased quality of life, economic development, equity and environmental justice, housing and community stability, mobility, and open space.

A detailed analysis of the Project's consistency with *Plan for a Healthy Los Angeles* is provided in Table 5. The Project prioritizes safety and access for all individuals utilizing the Project Site by complying with all ADA requirements and providing direct connections to pedestrian sidewalks and bicycle parking. Further, the Project supports healthy lifestyles by providing bicycle parking and enhancing the pedestrian environment by providing landscaping for a more comfortable walking environment.

Thus, the Project would be consistent with the goals of *Plan for a Healthy Los Angeles*.

Harbor Gateway Community Plan

As detailed in the Community Plan, the Project Site sits along Sepulveda Boulevard, a designated Boulevard II, between Lockness Avenue and Normandie Avenue. The Project Site is designated in the Community Plan for industrial use. The Community Plan lists various issues, opportunities, and policies to be considered for an industrial development. These policies include measures such as preserving industrial lands, concentrating industrial uses, and providing proper setbacks from the sidewalk.

The Project aligns with each of these goals and policies of the industrial land uses within the Community Plan by preserving an existing industrial site near other industrial uses and providing adequate space between the sidewalk and building for landscaping and parking.

A detailed analysis of the Project's compliance with the Community Plan is provided in Table 6.

LAMC Section 12.21.A.16

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments. However, new bicycle parking requirements have been developed by the City, and the Project would follow the new requirements, which require commercial projects to provide short-term bicycle parking.

The Project's proposed 19 short-term and 19 long-term bicycle spaces meet the LAMC requirements for on-site bicycle parking supply.

LAMC Section 12.26J

LAMC Section 12.26J, the TDM Ordinance (1993), establishes transportation demand management (TDM) requirements for non-residential projects in excess of 25,000 sf. The Project would incorporate bicycle parking, carpool/vanpool parking spaces, and other TDM measures required by the LAMC to encourage use of alternative transportation modes as part of the Project design. The Project would be consistent with all of the requirements set forth in the TDM Ordinance.

Vision Zero Action Plan / Vision Zero Corridor Plans

As noted previously, the primary goal of Vision Zero is to eliminate traffic deaths in the City by Year 2025 through a number of strategies, including modifying the design of streets to increase safety. Vision Zero implements projects that are designed to increase safety for the most vulnerable road users. The City has identified numerous streets as part of the HIN where City projects will be targeted. The City has also created an Action Plan identifying the types of improvements that will be implemented.

No streets within the Study Area were identified as part of the HIN.

Outside of the City, the County Department of Public Works identifies Normandie Avenue north of Sepulveda Boulevard and Sepulveda Boulevard east of Normandie Avenue as part of the Collision Concentration Corridor. No Vision Zero improvements have been made on these corridors within the Study Area as of November 2020.

Because the Project is not located in the HIN and does not propose modifications for streets designated in the HIN, no conflict with Vision Zero would occur.

Citywide Design Guidelines for Residential, Commercial, and Industrial Development

The Pedestrian-First Design approach of *Citywide Design Guidelines* (LADCP Urban Design Studio, October 2019) focuses on design strategies that "create human scale spaces in response to how people actually engage with their surroundings, by prioritizing active street frontages, clear paths of pedestrian travel, legible wayfinding, and enhanced connectivity. Pedestrian-First Design promotes healthy living, increases economic activity at the street level, enables social interaction, creates equitable and accessible public spaces, and improves public safety by putting eyes and feet on the street."

The Pedestrian-First Design guidelines are as follows:

- *Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all.*
- *Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.*
- *Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.*

An analysis of *Citywide Design Guidelines* is provided in Table 7.

There are two existing driveways on Sepulveda Boulevard and the Project would not add new curb cuts for driveways. The Project Site would modify two existing driveways along Sepulveda Boulevard, a designated Boulevard II in the Mobility Plan. Thus, no new conflict point between pedestrians, bicyclists, and vehicles would be created. The driveways would be designed to be consistent with City guidelines.

The Project promotes pedestrian-first accommodations through street landscaping, high visibility connections, widening the sidewalk adjacent to the Project Site. No transportation elements of the Project are in conflict with *Citywide Design Guidelines*.

CUMULATIVE ANALYSIS

The Project is consistent with the City plans and policies listed in Table 2.1-1 of the TAG along with the described documents above; therefore, the Project would not result in a significant impact under Threshold T-1.

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis must include consideration of any Related Projects within 0.50 miles of the Project Site and any transportation system improvements in the vicinity.

As discussed in Chapter 2, no Related Projects were identified within 0.50 miles of the Project Site nor within 0.25 miles of the farthest outlying intersection. Thus, the Project would not result in a cumulative impact that would preclude the City from serving the transportation needs as defined by the City adopted programs, plans, ordinances, or policies.

TABLE 4
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Safety First	
Policy 1.1 Roadway User Vulnerability Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.	**Consistent.** The Project design includes pedestrian enhancements along the perimeter of the Project Site, which include pedestrian walkways and a sidewalk dedication on Sepulveda Boulevard. Separate pedestrian and bicycle access to the Project Site would be provided via entrances along Sepulveda Boulevard. All right-of-way, roadway, and dedication widths would be designed to meet the goals and serve the long-term needs of the Mobility Plan. Further, the Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure. Both vehicular access points are existing driveways which would be reconstructed with completion of the Project. All driveway designs would be compliant with LADOT guidelines.
Chapter 2 - World Class Infrastructure	
Policy 2.2 Complete Streets Design Guide Establish the Complete Streets Design Guide as the City's document to guide the operations and design of streets and other public rights-of-way.	**Consistent.** The Project would conform to all design element requirements which may affect public rights-of-way, including proper driveway alignment, adequate sidewalk widths, improved lighting elements, and landscaping design which does not hinder sight distance, mobility, or accessibility.
Policy 2.3 Pedestrian Infrastructure Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.	**Consistent.** The Project would improve pedestrian accessibility within and around the Project Site by providing new lanscaping, walkways, and a sidewalk dedication. No additional curb cuts are proposed; the existing driveways will be realigned and provide the only vehicular access to the Project Site. Each driveway would all be designed to provide safe access for pedestrains.
Policy 2.4 Neighborhood Enhanced Network Provide a slow speed network of locally serving streets.	**Consistent.** President Avenue and 235th Street are part of the Neighborhood Enhanced Network. The Project does not propose any modifications to Western Avenue, thus no potential conficts with any future Mobility Plan improvements would occur.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 4 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy 2.6 Bicycle Networks Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. (includes scooters, skateboards, rollerblades, etc.)	**Consistent.** The Mobility Plan designated Western Avenue as part of the Bicycle Enhanced Network. The Project does not propose any modifications to Western Avenue, thus no potential conficts with any future Mobility Plan improvements would occur. The Project provides infrastructure and services to encourage bicycling for employees and visitors to the Project Site. The Project will meet the LAMC required on-site bicycle space supply and provide bike showers and lockers.
Policy 2.9 Multiple Networks Consider the role of each mode enhanced network when designing a street that included multiple modes.	**Consistent. T**he Study Area includes a mix of enhanced networks identified as part of the Mobility Plan. The Project would also improve the adjacent pedestrian facilities to enhance the pedestrian experience as well as to provide safe access to the nearby transit stops.
Policy 2.10 Loading Areas Facilitate the provision of adequate on and off-street loading areas.	**Consistent.** The Project provides truck loading and unloading on-site which is accessed via a separate driveway on Sepulveda Boulevard. The loading zone would be designed to meet the Project Site loading needs without disrupting operations within the public right-of-way.
Policy 2.17 Street Widenings Carefully consider the overall implications (costs, character, safety, travel, infrastructure, environment) of widening a street before requiring the widening, even when the existing right of way does not include a curb and gutter or the resulting roadway would be less than the standard dimension.	**Consistent.** The Project does not propose modifications to widen streets beyond their required Mobility Plan classifications.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 4 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 3 - Access for All Angelenos	
Policy 3.1 Access for All Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes – including goods movement – as integral components of the City's transportation system.	**Consistent.** The Project is committed to encouraging multi-modal transportation alternatives and access for all travel modes to and from the Project Site. The Project provides adequate space on-site for passenger loading on-site via the main driveway on Sepulveda Boulevard and Halldale Avenue, as well as infrastructure (short- and long-term bicycle parking) to encourage walking and bicycling. The Project encourages transit usage by developing industrial uses within walking distance of multiple bus stops. Finally, the Project would support employees and visitors who choose to travel by automobile through multiple access points on Sepulveda Boulevard, on-site passenger loading and commercial/truck loading, and adequate parking supply to serve demand.
Policy 3.2 People with Disabilities Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.	**Consistent.** The Project's vehicular and pedestrian entrances would be designed in accordance with LADOT standards and would comply with Americans with Disabilities Act (ADA) requirements. The Project design would also be in compliance with all ADA requirements and would provide direct connections to pedestrian amenities at adjacent intersections.
Policy 3.3 Land Use Access and Mix Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	**Consistent.** The Project's large amount of industrial located adjacent to nearby residential and commerical uses will encourage some trips made by alternative modes of transprotation such as walking, bus, or rideshare. Additionally, the Project includes several project design features to provide space for bicycle parking and adequate pick-up/drop-off space.
Policy 3.4 Transit Services Provide all residents, workers, and visitors with affordable, efficient, convenient, and attractive transit services.	**Consistent.** The Project is located adjacent to a Torrance Transit Line 7 bus stop and within walking distance of the GTrans Line 2 bus stop at Normandie/Sepulveda, providing employees and visitors to the Project with public transit options.
Policy 3.8 Bicycle Parking Provide bicyclists with convenient, secure, and well-maintained bicycle parking facilities.	**Consistent.** The Project provides infrastructure and services to encourage bicycling for employees and visitors to the Project Site. The Project will meet the required on-site bicycle space supply of 19 short-term and 19 long-term spaces.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 4 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 4 - Collaboration, Communication, & Informed Choices	
Policy 4.8 Transportation Demand Management Strategies Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	**Consistent.** The Project includes bicycle parking per the LAMC as a TDM design feature to reduce the number of single occupancy vehicle trips to the Project Site.
Policy 4.13 Parking and Land Use Management Balance on-street and off-street parking supply with other transportation and land use objectives.	**Consistent.** The Project would provide sufficient off-street parking to accommodate Project parking requirements and on-street parking adjacent to the Project Site would continue to be prohibited along Sepulveda Boulevard. While parking is provided above the minimum requirement, warehouse-type land uses are not susceptible to workplace parking pricing strategies as they also provide transient parking for vendors and deliveries. Those areas on-site beyond the building envelope, that are paved and striped beyond the minimum parking requirement, are also anticipated to provide operational flexibility relative to the staging/storing of delivery vehicles by containing all staging activity on-site.
Chapter 5 - Clean Environments & Healthy Communities	
Policy 5.1 Sustainable Transportation Encourage the development of a sustainable transportation system that promotes environmental and public health.	**Consistent.** The Project would provide secured bicycle parking facilities and improved pedestrian facilities adjacent to the Project Site. This would promote active transportation modes such as biking and walking. Additionally, the Project is located within walking distance of two bus stops, providing employees and visitors to the Project with public transportation alternatives.
Policy 5.2 Vehicle Miles Traveled (VMT) Support ways to reduce vehicle miles traveled (VMT) per capita.	**Consistent.** The Project is estimated to generate lower VMT per capita for employees than the average for the area, as demonstrated in Section 4B. Additionally, the Project includes bicycle parking per the LAMC as a TDM design feature to reduce the number of single occupancy vehicle trips to the Project Site.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in *Mobility Plan 2035: An Element of the General Plan* (Los Angeles Department of City Planning, January 2016).

TABLE 5
PROJECT CONSISTENCY WITH PLAN FOR A HEALTHY LOS ANGELES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Los Angeles, a Leader in Health and Equity	
Policy 1.5 Plan for Health Improve Angelenos' health and well-being by incorporating a health perspective into land use, design, policy, and zoning decisions through existing tools, practices, and programs.	**Consistent.** The Project would enhance pedestrian access within and around the Project Site through a wider and landscaped sidewalk on Sepulveda Boulevard. Further, the Project provides infrastructure and services to encourage bicycling for employees and visitors to the Project Site. As such, it would encourage the use of active travel modes and thereby promote healthy living.
Policy 1.7 Displacement and Health Reduce the harmful health impacts of displacement on individuals, families and communities by pursuing strategies to create opportunities for existing residents to benefit from local revitalization efforts by: creating local employment and economic opportunities for low-income residents and local small businesses; expanding and preserving existing housing opportunities available to low-income residents; preserving cultural and social resources; and creating and implementing tools to evaluate and mitigate the potential displacement caused by large-scale investment and development.	**Consistent.** The Project provides employment opportunities within close proximity to many residential uses. The Project does not displace any existing housing or jobs; rather, it converts an existing family fun center which closed in February 2020 into a warehouse in an industrial area of the Harbor Gateway community.
Chapter 5 - An Environment Where Life Thrives	
Policy 5.7 Land Use Planning for Public Health and GHG Emission Reduction Promote land use policies that reduce per capita greenhouse gas emissions, result in improved air quality and decreased air pollution, especially for children, seniors and others susceptible to respiratory diseases.	**Consistent.** The Project is estimated to generate lower VMT per capita for employees than the average for the area, as demonstrated in Section 4B. Additionally, the Project includes bicycle parking per the LAMC as a TDM design feature to reduce the number of single occupancy vehicle trips to the Project Site. VMT directly contributes to GHG emissions, so a reduced VMT per capita also reduces GHG per capita.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan* (Los Angeles Department of City Planning, March 2015).

TABLE 6
PROJECT CONSISTENCY WITH HARBOR GATEWAY COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Industrial	
Off-street parking should be provided consistent with the Municipal Code as the minimum. Off-street parking areas shall be located at the peripheries of industrial sites to serve as buffers and shall be separated from adjacent private and public uses by at least a wall and/or landscaped setback sufficient to screen the industrial operation from view.	**Consistent.** The Project would provide adequate off-street vehicular parking consistent with the LAMC. The Project would be required to provide 70 parking spaces and proposes to provide 160. The parking would be located in a way which acts as a buffer between adjacent private and public uses and landscaping between the parking and sidewalk would also be provided.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in *Harbor Gateway Community Plan* (Los Angeles Department of City Planning, 1996).

TABLE 7
PROJECT CONSISTENCY WITH CITYWIDE DESIGN GUIDELINES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Pedestrian-First Design	
Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all Design projects to be safe and accesible and contribute to a better public right-of-way for people of all ages, genders, and abilities, especially the most vulnerable - children, seniors, and people with disabilities. **Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience** Design to avoid pedestrian and vehiular conflicts and to create an inviting and comfortable public right-of-way. A pleasant and welcoming public realm reinforces walkability and improves the quality of life for users. **Guideline 3: Design projects to actively engage with streets and public space and maintain human scale** New projects should be designed to contribute to a vibrant and attractive public realm that promotes a sense of civic pride. Better connections within the built environment contribute to a livable and accessible city and a healthier public realm.	**Consistent.** The Project design includes accessible sidewalks, pedestrian amenities, and well-designed vehicular access driveways in accordance with the City's design considerations. The Project design also includes a sidewalk dedication along Sepulveda Boulevard to install a wider pedestrian walkways with landscaping in accordance with the City's Living Streets design considerations. Thus, canopy trees and other landscaping elements would be incorporated to provide adequate shade and habitat to provide a more comfortable mobility environment for pedestrians.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in the Citywide Design Guidelines (Los Angeles Department of City Planning, 2019).

Section 4B: Threshold T-2.1
Causing Substantial VMT Analysis

Threshold T-2.1 of the TAG analyzes whether a project causes substantial VMT and is generally applied to land use projects. Specifically, Threshold T-2.1 inquires whether a project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1), which states that (for land use projects) "vehicle miles travelled exceeding an applicable threshold of significance may indicate a significant impact." This subdivision also states that a lead agency has discretion to choose the most appropriate method to evaluate a project's VMT.

VMT SCREENING CRITERIA

Per Section 2.2.2 of the TAG, a "no impact" determination can be made for a project if either of the following screening criteria are not met for Threshold T-2:

- *T-2.1-1: Would the land use project generate a net increase of 250 or more daily vehicle trips?*
- *T-2.1-2: Would the project generate a net increase in daily VMT?*

VMT Screening

The existing land use (multipurpose recreational facility) was not available as a selection in the City's VMT Calculator Version 1.3 (July 2020) (VMT Calculator), as detailed in *City of Los Angeles VMT Calculator Documentation* (LADOT and LADCP, May 2020); instead, the custom land use input was utilized to generate the existing credit for purposes of the VMT screening. The daily trip generation of the existing use was estimated to be 456 trips[9]. Additional inputs for the custom

[9] The daily trip generation estimate is based on the SANDAG daily trip rate for a Multi-Purpose Recreation facility; *Trip Generation Manual, 10th Edition* does not provide a daily rate for ITE Land Use Code 435 (Multi-Purpose Recreational Facility). The 456 daily trip estimate is based on the 7.6 acres of the existing facility.

land use include the selection as a retail land use with 30 daily employees[10] and the application of the following trip production/attraction characteristics[11]:

Trip Productions	Trip Attractions
Home Based Work – 0%	Home Based Work – 4%
Home Based Other – 0%	Home Based Other – 76%
Non-Home Based – 10%	Non-Home Based – 10%

As noted in footnote [c] of Table 8, the Project is anticipated to generate a net increase of 704 daily trips, which exceeds the 250 net daily trip screening threshold. Therefore, further VMT analysis is required.

VMT IMPACT CRITERIA

Per Section 2.2.3 of the TAG, a development project will have a potential impact if the project meets the following impact criteria:

- *For residential projects, the project would generate household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which the project is located. (See Table 2.2-1)*
- *For office projects, the project would generate work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located. (See Table 2.2-1)*
- *For regional serving projects including retail projects, entertainment projects, and/or event centers, the project would result in a net increase in VMT.*
- *For other land use types, measure VMT impacts for the work trip element using the criteria for office projects above. (See Table 2.2-1)*

As the Project is not a residential, office, or regional serving project such as a retail, entertainment, or event center, the Project's VMT impacts for the work trip element were assessed using the criteria for office projects (i.e., whether the Project would generate work VMT per employee

[10] Information provided by the Mulligan Family Fun Center operator estimated an average of 30 employees per typical workday.

[11] The VMT Calculator does not provide trip production/attraction characteristics for a Multi-Purpose Recreational Facility land use. For the purposes of this analysis, the custom land use utilizes the Trip Purpose Assumptions identified for the Movie Theater (Theater with Matinee) land use in *City of Los Angeles VMT Calculator Documentation* a proxy.

exceeding 15% below the existing average work VMT per employee for the APC in which the project is located).

As referenced in the impact thresholds above, Table 2.2-1 of the TAG details the following impact criteria for each Area Planning Commission for each of daily household VMT per capita and daily work VMT per employee:

Table 2.2-1: VMT Impact Criteria (15% Below APC Average)

APC	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East LA	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South LA	6.0	11.6
South Valley	9.4	11.6
West LA	7.4	11.1

The Project is located in the Harbor APC; therefore, the Daily Work VMT Impact Threshold of 12.3 VMT per employee applies to the Project.

VMT METHODOLOGY

Vehicle trips and VMT were calculated using the City's VMT Calculator, which LADOT developed to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits, which are based on the following types of one-way trips:

- Home-Based Work Production: trips originating from a residential use traveling to a workplace destination
- Home-Based Other Production: trips to a non-workplace destination (e.g., retail, restaurant, etc.) originating from a residential use
- Home-Based Work Attraction: trips arriving to a workplace destination originating from a residential use

As detailed in *City of Los Angeles VMT Calculator Documentation*, the household VMT per capita threshold applies to Home-Based Work Production and Home-Based Other Production trips, and the work VMT per employee threshold applies to Home-Based Work Attraction trips, as the location and characteristics of residences and workplaces are often the main drivers of VMT, as detailed in Appendix 1 of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Governor's Office of Planning and Research, December 2018). As noted in the TAG, small-scale commercial components less than 50,000 sf of larger mixed-use development projects are not considered for the purposes of identifying significant work VMT impacts, as those trips are assumed to be local serving and would have a negligible effect on VMT.

Other types of trips generated in the VMT Calculator include Non-Home-Based Other Production (trips to a non-residential destination originating from a non-residential use), Home-Based Other Attraction (trips to a non-workplace destination originating from a residential use), and Non-Home-Based Other Attraction (trips to a non-residential destination originating from a non-residential use). These trip types are not factored into the household VMT per capita and work VMT per employee thresholds as those trips are typically localized and are assumed to have a negligible effect on the VMT impact assessment. However, those trips are factored into the calculation of total project VMT for screening purposes when determining if VMT analysis would be required.

Travel Behavior Zone (TBZ)

The City developed TBZ categories to determine the magnitude of VMT and vehicle trip reductions that could be achieved through TDM strategies. As detailed in *City of Los Angeles VMT Calculator Documentation*, the development of the TBZs considered the population density, land use density, intersection density, and proximity to transit of each census tract in the City and are categorized as follows:

1. *Suburban (Zone 1): Very low-density primarily centered around single-family homes and minimally connected street network*
2. *Suburban Center (Zone 2): Low-density developments with a mix of residential and commercial uses with larger blocks and lower intersection density*
3. *Compact Infill (Zone 3): Higher density neighborhoods that include multi-story buildings and well-connected streets*

4. *Urban (Zone 4): High-density neighborhoods characterized by multi-story buildings with a dense road network*

The VMT Calculator determines a project's TBZ based on the latitude and longitude of a project address. The Project is located in the Suburban (Zone 1) TBZ.

Mixed-Use Development Methodology

As detailed in *City of Los Angeles VMT Calculator Documentation*, the VMT Calculator accounts for the interaction of land uses within a mixed-use development and considers the following sociodemographic, land use, and built environment factors for a project area:

- A project's jobs/housing balance
- Land use density of a project
- Transportation network connectivity
- Availability of and proximity to transit
- Proximity to retail and other destinations
- Vehicle ownership rates
- Household size

Trip Lengths

The VMT Calculator determines a project's VMT based on trip length information from the City's Demand Forecasting Model, which considers the traffic analysis zone where a project is located to determine the trip length and trip type, which factor into the calculation of a project's VMT.

Population and Employment Assumptions

As previously stated, the VMT thresholds identified in the TAG are based on household VMT per capita and work VMT per employee. Thus, the VMT Calculator contains population assumptions developed based on census data for the City and employment assumptions derived from multiple

data sources, including *2012 Developer Fee Justification Study* (Los Angeles Unified School District, 2012), *Trip Generation Manual, 9th Edition* (ITE, 2012), the San Diego Association of Governments Activity Based Model, the United States Department of Energy, and other modeling resources. A summary of population and employment assumptions for various land uses is provided in Table 1 of *City of Los Angeles VMT Calculator Documentation.* These assumptions are already included in the City's VMT Calculator and have not been modified with respect to the Project's VMT calculation.

TDM Measures

Additionally, the VMT Calculator measures the reduction in VMT resulting from a project's incorporation of TDM strategies as project design features or mitigation measures. The following seven categories of TDM strategies are included in the VMT Calculator:

1. Parking
2. Transit
3. Education and Encouragement
4. Commute Trip Reductions
5. Shared Mobility
6. Bicycle Infrastructure
7. Neighborhood Enhancement

TDM strategies within each of these categories have been empirically demonstrated to reduce trip-making or mode choice in such a way as to reduce VMT, as documented in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010). The TDM measures above are identified for informational purposes and as potential inputs into the VMT Calculator that estimate possible VMT reductions; for the purposes of this analysis, bicycle parking as part of the Bicycle Infrastructure measure was applied as part of the Project's VMT calculation.

PROJECT VMT ANALYSIS

The VMT Calculator was used to evaluate Project VMT for comparison to the VMT impact criteria. Based on guidance from the City, the VMT Calculator was modeled for the Project's land use and density as the primary input.

The VMT Calculator identified the following for the Project based on its location/address:

- APC: Harbor
    - Household VMT Impact Threshold: 9.2 per capita
    - Work VMT Impact Threshold: 12.3 per employee
    - TBZ: Suburban (Zone 1) Maximum Allowable VMT Reduction: 15%

The Household VMT impact threshold was not applied to this Project as no residential uses are proposed.

The VMT Calculator identifies three potential types of industrial uses for analysis: light-industrial, manufacturing, and warehouse/self-storage. The Project does not propose any manufacturing components, thus eliminating this use from consideration. Since light-industrial generates daily trips and employees at a higher rate than the warehouse/self-storage uses, the VMT analysis utilized the light-industrial use as a proxy for the Project's potential operation as a last-mile delivery warehouse.

Should the tenant operate the facility as a standard warehouse instead of a last-mile facility, fewer daily trips are anticipated to occur, and the Project would not meet the screening criteria for VMT analysis.[12] As such, the light-industrial rate provides the most conservative analysis for the Project.

VMT analysis results based on the VMT Calculator are summarized in Table 8. The detailed output from the VMT Calculator is provided in Appendix D.

[12] The VMT Calculator estimates that a same size warehouse/self-storage use generates approximately 393 daily trips; accounting for the existing use, a net decrease in daily trips is anticipated and would not meet the 250 daily trip screening threshold.

Project VMT

As shown in Table 8 and Appendix D, the VMT Calculator estimates that the Project would generate 1,999 daily work VMT and 174 employees. Thus, the Project would generate an average work VMT per employee of 11.5. This would not exceed the Harbor APC work VMT impact threshold of 12.3 per employee and, therefore, the Project would not result in a significant VMT impact and no mitigation measures would be required.

The detailed output from the VMT Calculator is provided in Appendix D.

CUMULATIVE ANALYSIS

Cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of *Connect SoCal – 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments [SCAG], Adopted September 2020) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

As detailed in the TAG, for projects that do not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., household VMT per capita or work VMT per employee) in the project impact analysis, a less than significant impact conclusion is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and GHG goals of the RTP/SCS.

This Project would not result in a significant VMT impact, as described above. Therefore, the Project is not anticipated to result in a cumulative VMT impact under Threshold T-2.1, and no further evaluation or mitigation measures would be required.

TABLE 8
VMT ANALYSIS SUMMARY

Project Information	
Land Use	**Size**
Industriual | Light Industrial	174,211
Project Analysis *[a]*	
Project Area Planning Commission	Harbor
Travel Behavior Zone [b]	Suburban (Zone 1)
Maximum Allowable VMT Reduciton	15%
VMT Analysis	
Daily Vehicle Trips [c]	1,088
Daily VMT	7,401
Daily Household VMT	[d]
Household VMT per Capita	[d]
Impact Threshold	9.2
Significant Impact	[d]
Daily Work VMT	1,999
Work VMT per Employee [e]	11.5
Impact Threshold	12.3
Significant Impact	NO

Notes:

[a] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.3* (v141, July 2020).

[b] A "Suburban (Zone 1)" TBZ is characterized in *City of Los Angeles VMT Calculator Documentation* (LADOT and DCP, May 2020) as very low-density development primarily centered around single-family homes and minimally connected street network.

[c] Total daily Project trips as estimated by the VMT Calculator. For screening purposes only, the VMT Calculator estimated 704 net daily Project trips when including credit for existing uses.

[d] Household VMT not applicable to the Project; no residential uses are proposed.

[e] Based on home-based work attraction trips only (see Appendix D, Report 4).

Section 4C: Threshold T-2.2
Substantially Inducing Additional Automobile Travel Analysis

The intent of Threshold T-2.2 is to assess whether a transportation project would induce substantial VMT by increasing vehicular capacity on the roadway network, such as the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges.

The Project is not a transportation project that would induce automobile travel. Therefore, the Project would not result in a significant impact under Threshold T-2.2 and no further evaluation is required.

Section 4D: Threshold T-3

Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use Analysis

Threshold T-3 requires that a project undergo further evaluation if it proposes new driveways or new vehicle access points to the property from the public ROW or modifications along the public ROW (i.e., street dedications). Project access plans were reviewed to determine if the Project would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts, with consideration to the following factors: (1) the relative amount of pedestrian activity at Project access points; (2) design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists; (3) the type of bicycle facilities the project driveway(s) crosses and the relative level of utilization; (4) the physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping or other barriers that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts; (5) the Project location, or Project-related changes to the public ROW, relative to proximity to the HIN or a Safe Routes to School program area; (6) and any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard.

DRIVEWAY DESIGN FEATURES

Vehicular access to the Project Site would be provided via two full access driveways along Sepulveda Boulevard. The eastern entrance would serve employees and visitors and provide emergency access, while the western entrance would serve trucks. Pedestrian and bicycle access to the Project would also be provided along Sepulveda Boulevard.

The Mobility Plan designates Sepulveda Boulevard as Boulevard II, which requires a standard half-ROW width of 55 feet. Currently, Sepulveda Boulevard has a half-ROW width of 50 to 52 feet adjacent to the Project Site, which does not meet the Mobility Plan standards. The Project proposes to provide a varying dedication of three to five feet to meet the standard half-ROW width of 55 feet.

The section of Sepulveda Boulevard along which the Project's driveways are located currently provides six travel lanes, three in each direction, divided by a two-way left-turn median allowing vehicle turn movements into the Project and other adjacent developments. The existing site provides two full access driveways on Sepulveda Boulevard and the Project does not include any new driveways. Thus. the Project would not be creating new traffic conflicts with pedestrians, bicyclists, or motorists. No existing or planned bicycle facilities are currently provided along Sepulveda Boulevard and none are identified in the Mobility Plan. No horizontal or vertical curvatures exist along this section of roadway that would create sight distance issues for Project traffic utilizing the proposed driveways.

On-street parking is prohibited adjacent to the Project Site. No unusual or new obstacles are presented in the Project design that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians. Further, the Project would redesign both existing driveways to meet LADOT design standards with a shift of the eastern driveway location for improved alignment with the existing stop-controlled intersection at Halldale Avenue & Sepulveda Boulevard (functioning as the fourth leg of the intersection), and a shift of the western driveway for additional separation from an existing adjacent driveway to the west. Thus, the Project would minimize conflict points to the greatest extent possible while also providing standard driveway widths for truck and automobile access.

All driveways will be subject to review by LADOT.

Pedestrian and Bicycle Activity

As described above, the Project proposes to reconstruct two existing driveways on Sepulveda Boulevard, a designated Boulevard II in the Mobility Plan that is not identified as part of the Pedestrian Enhanced Districts, BLN or BEN. The Project would shift the eastern driveway to align as a fourth leg to the intersection of Halldale Avenue & Sepulveda Boulevard, thus providing safer access for bicyclist and pedestrians to access the Project Site. The existing western driveway would serve as the truck driveway and would be designed to maximize sight distance for drivers to see other roadway and sidewalk users.

Review of the traffic count data from November 2015 shows that pedestrian and bicycle users traversing the driveways along Sepulveda Boulevard are fewer than 15 per hour (less than one per minute). Based on the trip generation estimates detailed in Table 3, the Project would generate fewer than one vehicle per minute at either of the Project driveways, providing adequate gaps in traffic for pedestrians and bicyclists to safely cross. Thus, the conflicts between vehicles and pedestrians/bicyclists are minimal and not increased by the presence of Project traffic at the driveways.

The Project driveways would be designed to remain clear of hardscapes, vegetation, or signage that would impede sight lines. Sidewalk treatments across the driveways would be incorporated for increased safety and visibility.

Physical Terrain

The Project Site is located on a flat parcel with little to no change in vertical elevation. Therefore, no line of sight issues would be caused by changes in elevation and drivers would be able to safely identify approaching vehicles, pedestrians, and bicycles at the Project driveways. Driveways are designed to intersect the public ROW at as close to a right angle as possible with adequate building setback to allow pedestrians and bicyclists to observe vehicles within the driveways.

The Project would provide open space, landscaped elements, and street trees for shade along the Project perimeter and within the Project Site to create a walkable pedestrian environment. Sidewalks are provided along Sepulveda Boulevard fronting the Project Site.

Project Location

The Project Site is not located adjacent to a street identified as part of the HIN. Additionally, the Safe Routes to School map does not identify any infrastructure improvement projects within the Study Area.

The proposed driveways along Sepulveda Boulevard would require modifications to the existing curb cuts within the public ROW. The Project would provide a varying dedication three to five feet wide to meet the Boulevard II half-ROW width requirements set forth in the Mobility Plan. The Project would not preclude any future roadway improvements proposed in the Mobility Plan.

Incompatible Uses

The warehouse would be compatible with the surrounding industrial, commercial, and residential land uses and the Project would enhance the experience for pedestrians, cyclists, and transit users with sidewalk improvements, new landscaping including shade trees, bicycle parking for Project employees, and pedestrian connectivity to transit for Project employees. Furthermore, the Project would not change the character of the industrial corridor and no elements of the Project's uses or design would be considered incompatible.

Summary

Based on the site plan review, the Project does not present any geometric design features that would substantially increase hazards related to traffic movement, mobility, or pedestrian accessibility and, thus, Project impacts are considered less than significant.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with Related Projects with access points along the same block to determine if there may be a cumulatively significant impact. There are currently no identified Related Projects proposed with access points along the same block as the Project. Therefore, the Project would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

Section 4E
Caltrans Analysis

The City Freeway Guidance identifies City requirements for a CEQA safety analysis of Caltrans facilities as part of a transportation assessment.

ANALYSIS METHODOLOGY

The City Freeway Guidance relates to the identification of potential safety impacts at freeway off-ramps as a result of increased traffic from development projects. It provides a methodology and significance criteria for assessing whether additional vehicle queueing at off-ramps could result in a safety impact due to speed differentials between the mainline freeway lanes and the queued vehicles at the off-ramp.

Based on the City Freeway Guidance, a transportation assessment for a development project must include a safety analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project would result in a significant impact at such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes.[13]
2. A project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.
3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

Should a significant impact be identified, mitigation measures to be considered include TDM measures to reduce a project's trip generation, investments in active transportation or transit system infrastructure to reduce a project's trip generation, changes to the traffic signal timing or

[13] If an auxiliary lane is provided on the freeway, then half the length of the auxiliary lane is added to the ramp storage length.

lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

PROJECT ANALYSIS

Based on the Project's trip generation estimates and trip assignments, which are detailed in Chapter 3 and Figure 12, the Project would add 21 morning and afternoon peak hour trips to the Southbound I-110 off-ramp at Sepulveda Boulevard and 19 morning and afternoon peak hour trips to the Northbound I-110 off-ramp at Sepulveda Boulevard.

Therefore, the Project would not add 25 or more peak hour trips to any freeway off-ramp and no further freeway off-ramp queuing analysis is required. Furthermore, the Project would not result in a significant safety impact and no corrective measures at any freeway off-ramps would be required.

Chapter 5
Non-CEQA Transportation Analysis

This chapter summarizes the non-CEQA transportation analysis of the Project. It includes Project traffic, the expected access, safety, and circulation operations of the Project, and the nearby pedestrian, bicycle, and transit facilities. This chapter also evaluates the Project's operational conditions, parking supply and requirements, and potential effects due to Project construction.

Per Section 3.1 of the TAG, any deficiencies identified based on the non-CEQA transportation analysis is "not intended to be interpreted as thresholds of significance, or significance criteria for purposes of CEQA review unless otherwise specifically identified in Section 2." Section 3 of the TAG identifies the following four non-CEQA transportation analyses for reviewing potential transportation deficiencies that may result from a development project:

- Pedestrian, Bicycle, and Transit Access Assessment
- Project Access, Safety, and Circulation Evaluation
- Residential Street Cut-Through Analysis
- Project Construction

The four non-CEQA transportation analyses are reviewed in detail in Sections 5A-5D. In addition, a review of the proposed bicycle parking and the LAMC bicycle parking requirement for the Project is provided in Section 5E.

OPERATIONAL ANALYSIS METHODOLOGY

Intersection operations were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. A total of seven intersections in the vicinity of the Project Site were selected for detailed transportation analysis and are shown in Figure 3.

The following traffic conditions were developed and analyzed as part of this study:

- Existing with Project Conditions (Year 2020): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were built under existing conditions.

- Future with Project Conditions (Year 2022): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions in the Year 2022.

Operational Evaluation

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology, which was implemented using Synchro software and signal timing worksheets from the agency of jurisdiction to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections while the HCM unsignalized methodology calculates the control delay, in seconds, for individual approaches of an intersection. Table 9 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length, in vehicle lengths, for each approach lane. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

LOS worksheets and a queuing summary table for each scenario are provided in Appendix E.

TABLE 9
INTERSECTION LEVEL OF SERVICE

Level of Service	Description	Delay [a]	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10	≤ 10
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20	> 10 and ≤ 15
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35	> 15 and ≤ 25
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	> 35 and ≤ 55	> 25 and ≤ 35
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80	> 35 and ≤ 50
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80	> 50

Notes
Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).
[a] Measured in seconds.

Section 5A

Pedestrian, Bicycle, and Transit Assessment

The TAG indicates that the pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. The deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

Factors to consider when assessing a project's potential effect on pedestrian, bicycle, and transit facilities, include the following:

- Would the project directly or indirectly result in a permanent removal or modification that would lead to the degradation of pedestrian, bicycle, or transit facilities?
- Would a project intensify use of existing pedestrian, bicycle, or transit facilities?

PROJECT MODIFICATIONS

As previously described, vehicular access to the Project will be provided via two full access driveways on Sepulveda Boulevard that are generally in the same location as the two existing driveways. The eastern driveway is for employees and visitors to the Project while the western driveaway is for trucks. Neither of the driveways create a new conflict point between pedestrians, bicyclists, and vehicles as both driveways would reconfigure existing curb cuts in accordance with LADOT standards.

All loading/unloading for passengers and trucks is accommodated on-site, thus minimizing the impact to pedestrians, bicycles, and vehicles on Sepulveda Boulevard.

The Project would provide a varying three to five-foot dedication to widen the sidewalk adjacent to the Project Site. The adjacent sidewalk facilities would meet ADA requirements for slopes and

passable spaces, including ADA compliance at driveways. The Project would not remove or cause degradation of existing sidewalks, crosswalks, pedestrian refuge areas or curb extensions, nor would the Project narrow existing sidewalks, paths, crossings, or access points. The Project would not result in the deterioration of any existing bicycle facilities as no facilities are provided on Sepulveda Boulevard. Nor would the Project result in the deterioration of any existing transit facilities. The existing Torrance Transit bus stop along the Sepulveda Boulevard frontage would be retained.

INTENSIFICATION OF USE

The replacement of an existing recreational facility with a warehouse facility would not intensify pedestrian, bicycle, and transit usage to a degree that would cause degradation of existing facilities or increase demand beyond the adequacy of existing facilities. The existing Torrance Transit bus stop along the Sepulveda Boulevard frontage would be retained and utilization would be facilitated through a direct pedestrian connection to the Project's building entrance. Further, the pedestrian experience would be enhanced through the design of wider sidewalks, ornamental and shaded trees and landscaping along Sepulveda Boulevard, and on-site bicycle parking. The Project considers safety through well-designed, limited access points on an Avenue or Boulevard and wider public sidewalks with direct connections to the building's entrance.

Pedestrian Facilities

Pedestrian activity around the Project Site would not degrade existing facilities. Rather, the Project would construct upgraded, compliant sidewalks for ease of travel with access internal to the site from Sepulveda Boulevard. Sidewalk widths established by the Mobility Plan are wide to accommodate more demand, particularly in urban environments. With the existing signals at Lockness Avenue & Sepulveda Boulevard and Normandie Avenue & Sepulveda Boulevard, pedestrians can safely maneuver without requiring illegal crossings. Additionally, the Project is proposing to improve the sidewalk network by providing a varying three to five-foot dedication on the southern boundary of the Project Site.

Bicycle Facilities

Existing bicycle facilities are provided on Normandie Avenue and Vermont Avenue within the Study Area. Bicyclists will be accommodated on-site through short- and long-term bicycle parking facilities accessible from public streets and sidewalks and the Project would not degrade existing facilities. Sepulveda Boulevard, adjacent to the Project Site, is not identified as part of the BEN or BLN; however, the Project would not preclude the City from implementing measures to provide bicycle facilities on this corridor.

Transit Facilities

The Project Site and the Study Area are served by multiple bus lines, as detailed in Table 2.

As shown in Table 3, the Project would generate 122 light vehicle (non-truck) trips in the morning peak hour and 111 light vehicle trips in the afternoon peak hour. While no credit for existing transit usage was taken, this analysis conservatively assumes 10% of these trips might occur via transit. Based on the average vehicle occupancy factor of 1.55 for all trip purposes in the County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (SCAG, March 2016), the total Project vehicle-transit trips correspond to 19 person-transit trips in the morning peak hour and 18 person-transit trips in the afternoon peak hour.

While no residual transit capacity data for bus lines within 0.25 miles walking distance of the Project Site are available, it is not anticipated that the additional 19 trips during the morning peak hour and 18 trips during the afternoon peak hour would cause significant capacity issues on either transit line.

Section 5B

Project Access, Safety, and Circulation Assessment

This section summarizes the site access, safety, and circulation of the Project Site. It includes an evaluation of the expected access and circulation operations of the Project.

VEHICLES

The proposed circulation plan for the Project includes two access points. The full-access driveway for Project employees and visitors would be provided along the eastern boundary of the Project Site via a realigned existing driveway on Sepulveda Boulevard. A second realigned driveway providing full-access for trucks on Sepulveda Boulevard would be provided along the western boundary of the Project Site.

All driveways would be constructed to meet the applicable City standards.

The Project does not propose to utilize public curb-side passenger or freight pick-up / drop-off, as all loading can be accommodated on-site without the need for public curb-side management.

PEDESTRIANS AND BICYCLES

Pedestrian access to the Project would be provided along Sepulveda Boulevard, and direct pedestrian connections would be constructed from the building entrances to a widened public sidewalk. All roadways and driveways are designed to intersect at right angles to improve sight distance and minimize other potential impediments to driver and pedestrian visibility.

Visitors and employees arriving by bicycle would have the same access opportunities as pedestrians. To further facilitate bicycle use, short-term and long-term bicycle parking spaces

would be provided, consistent with LAMC Section 12.21 A16. None of the Project's planned infrastructure will reduce safety for vulnerable roadway users.

LOS ANALYSIS

The intersection analysis was conducted based on the HCM methodologies to identify delay and LOS at each of the Study Intersections with development of the Project. Detailed LOS calculation worksheets are provided in Appendix E.

Existing with Project Conditions

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes, described in Chapter 3 and shown in Figure 12, were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 8. The resulting volumes are illustrated in Figure 13 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 10 summarizes the weekday morning and afternoon peak hour LOS results for each of the Study Intersections under Existing and Existing with Project Conditions. As shown in Table 10, three of the seven Study Intersections would operate at LOS D or better during both the morning and afternoon peak hours under Existing and Existing with Project Conditions. The remaining four intersections would operate at LOS E or F during at least one of the peak periods under Existing or Existing with Project Conditions.

Future with Project Conditions

All future cumulative traffic growth (i.e., ambient traffic growth) and transportation infrastructure improvements described in Chapter 2 were incorporated into this analysis.

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes, described in Chapter 3 and shown in Figure 12, were added to the Future without Project (Year 2022) morning and afternoon peak hour traffic volumes shown in Figure 9. The resulting volumes are

illustrated in Figure 14 and represent Future with Project Conditions after occupancy of the Project in Year 2022.

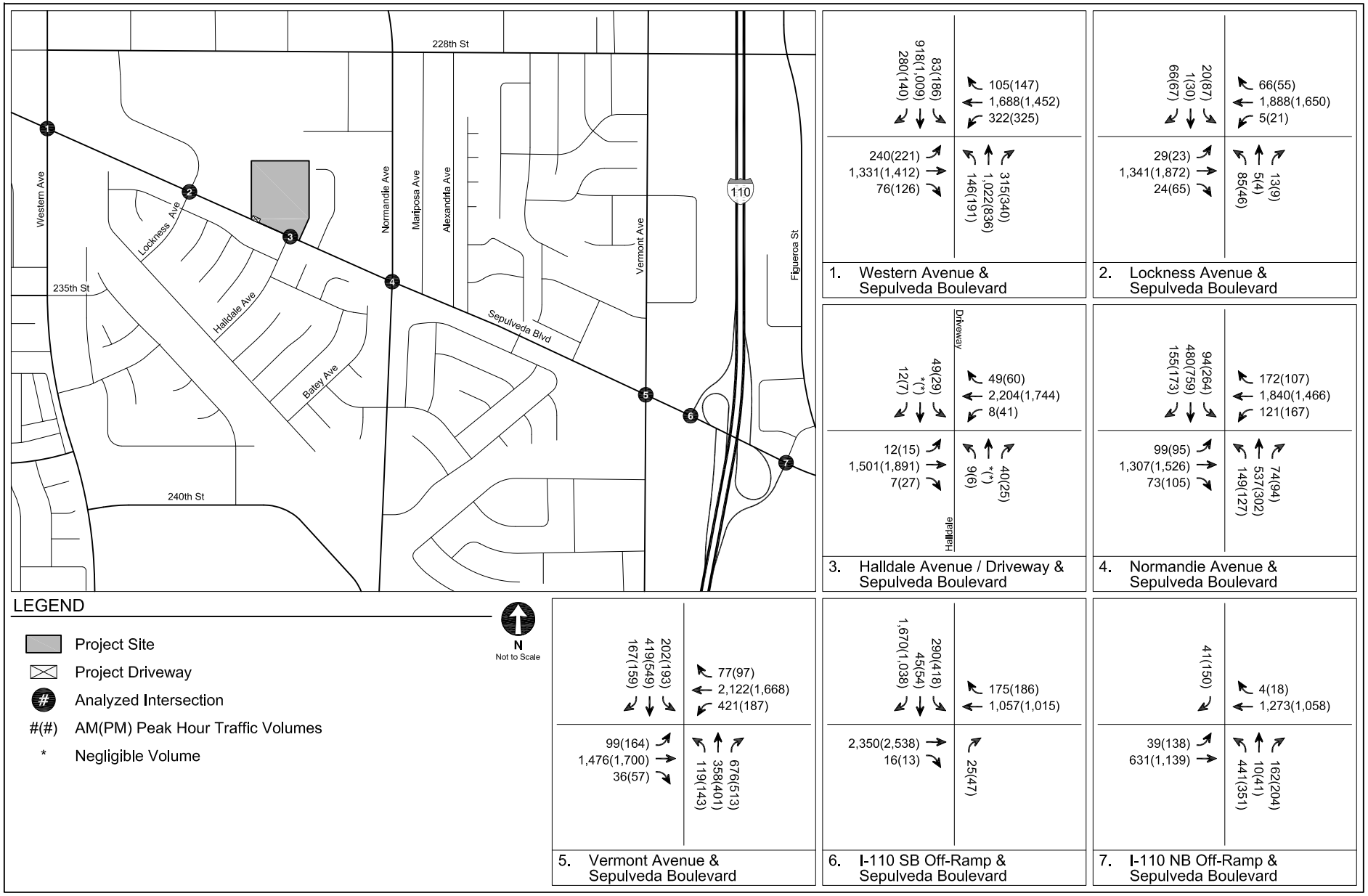
Intersection LOS. Table 11 summarizes the results of the Future without Project (Year 2022) and Future with Project Conditions during the weekday morning and afternoon peak hours for the Study Intersections. As shown in Table 11, three of the seven Study Intersections would operate at LOS D or better during both the morning and afternoon peak hours under Future without Project and Future with Project Conditions. The remaining four intersections would operate at LOS E or F during at least one of the peak periods under Future or Future with Project Conditions.

INTERSECTION QUEUING ANALYSIS

The Study Intersections were also analyzed to determine whether the lengths of intersection turning lanes could accommodate vehicle queue lengths.

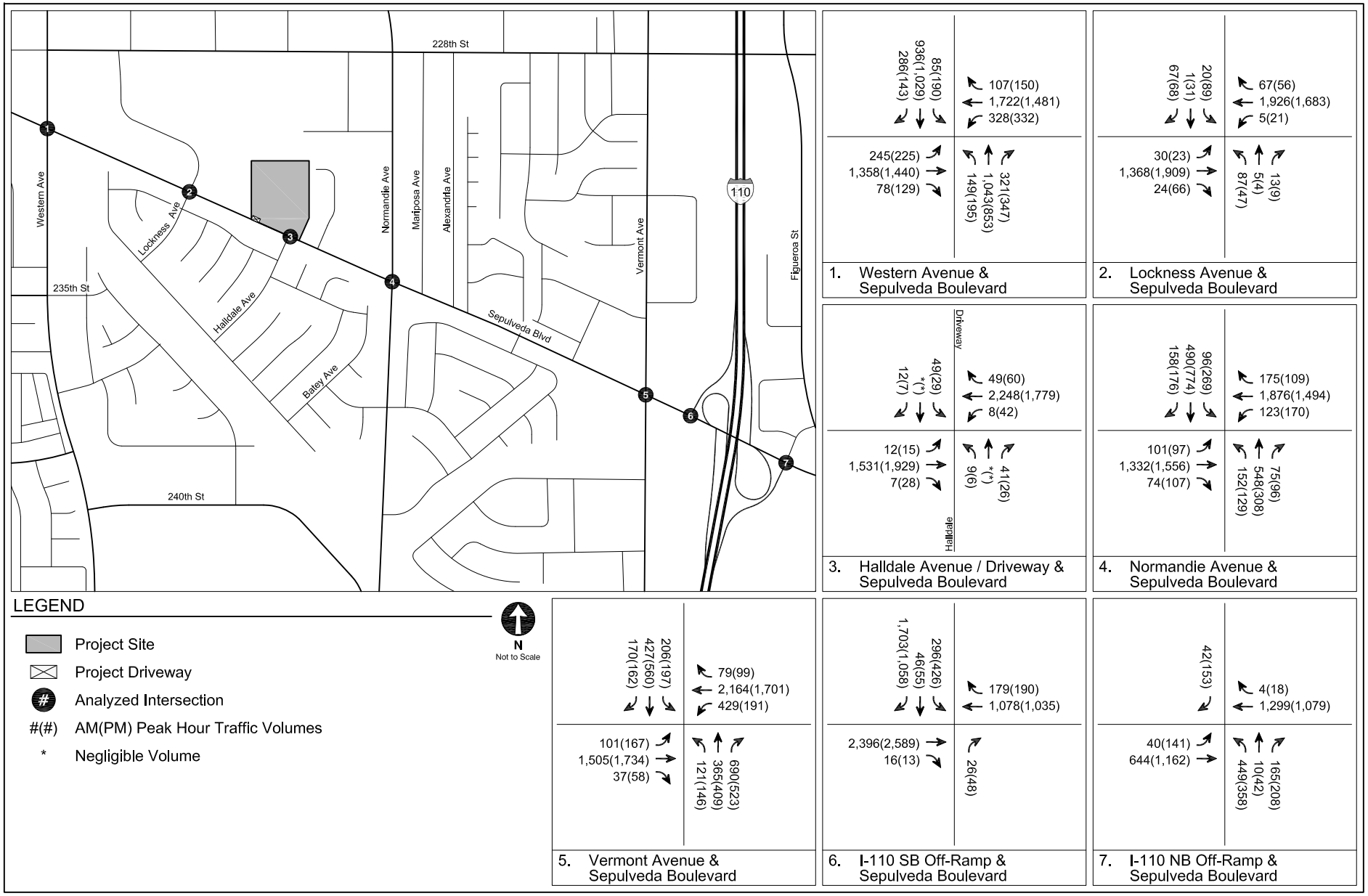
The queue lengths were estimated using Synchro software, which reports the 95th percentile queue, in vehicle lengths, for each approach lane. Vehicle lengths can be converted into estimated distance by multiplying the vehicle length by 25 feet. The reported queues were calculated using the HCM signalized intersection methodology.

Detailed queuing analysis worksheets are provided in Appendix E.



EXISTING WITH PROJECT CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 13



FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 14

TABLE 10
EXISTING WITH PROJECT CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Exisiting		Existing with Project	
			Delay	LOS	Delay	LOS
1.	Western Avenue & Sepulveda Boulevard	AM	89.0	F	90.3	F
		PM	91.7	F	91.9	F
2.	Lockness Avenue & Sepulveda Boulevard	AM	4.0	A	4.0	A
		PM	3.7	A	3.7	A
3.	Halldale Avenue & Sepulveda Boulevard [a]	AM	31.2	D	115.8	F
		PM	49.3	E	*	F
4.	Normandie Avenue & Sepulveda Boulevard	AM	35.4	D	39.0	D
		PM	47.6	D	47.9	D
5.	Vermont Avenue & Sepulveda Boulevard	AM	103.3	F	109.5	F
		PM	57.7	E	61.6	E
6.	I-110 SB Off-Ramp & Sepulveda Boulevard	AM	80.0	E	85.9	F
		PM	27.3	C	29.4	C
7.	I-110 NB Off-Ramp & Sepulveda Boulevard	AM	21.7	C	22.7	C
		PM	20.0	B	24.9	C

Notes

Delay is measured in seconds per vehicle, where "*" represents value exceeding the maximum delay.
LOS = Level of service
Results per Synchro 10 (HCM 6th Edition Methodology)
[a] Stop-controlled intersection; minor street approach.

TABLE 11
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future without Project		Future with Project	
			Delay	LOS	Delay	LOS
1.	Western Avenue & Sepulveda Boulevard	AM	94.7	F	96.1	F
		PM	97.3	F	98.3	F
2.	Lockness Avenue & Sepulveda Boulevard	AM	4.1	A	4.1	A
		PM	3.7	A	3.7	A
3.	Halldale Avenue & Sepulveda Boulevard [a]	AM	32.6	D	137.6	F
		PM	52.2	F	*	F
4.	Normandie Avenue & Sepulveda Boulevard	AM	39.3	D	42.5	D
		PM	48.5	D	49.1	D
5.	Vermont Avenue & Sepulveda Boulevard	AM	103.8	F	117.2	F
		PM	62.4	E	62.0	E
6.	I-110 SB Off-Ramp & Sepulveda Boulevard	AM	87.4	F	93.3	F
		PM	29.8	C	31.2	C
7.	I-110 NB Off-Ramp & Sepulveda Boulevard	AM	22.4	C	23.5	C
		PM	20.6	C	21.8	C

Notes

Delay is measured in seconds per vehicle, where "*" represents value exceeding the maximum delay.
LOS = Level of service
Results per Synchro 10 (HCM 6th Edition Methodology)
[a] Stop-controlled intersection; minor street approach.

Section 5C
Residential Street Cut-Through Analysis

This section summarizes the residential street cut-through analysis conducted to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the Mobility Plan, that can be identified as cut-through trips generated by the Project and that can adversely affect the character and function of those streets.

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets. The Project driveways are located along Sepulveda Boulevard. None of the driveways are located within a neighborhood setting, nor is there a parallel Local Street route that would make traveling to the Project Site more advantageous, so it is not anticipated that neighborhood intrusion would occur.

Additionally, the Project is not adding significant additional traffic to the Local Streets, as illustrated in Figure 12. As such, residential Local Streets within the City would not be affected by Project traffic, and a residential street cut-through analysis would not be required.

Section 5D
Construction Impact Analysis

This section summarizes the construction schedule and construction activities associated with the Project. The construction analysis relates to the temporary issues that may result from the construction activities associated with the Project and was performed in accordance with Section 3.4 of the TAG.

CONSTRUCTION EVALUATION CRITERIA

Section 3.4.3 of the TAG identifies three types of in-street construction issues that require further analysis to assess the effects of a project's construction on the existing pedestrian, bicycle, transit, or vehicle circulation and accessibility to adjoining areas. The three types of issues and related populations are:

1. Temporary transportation constraints – potential issues on the transportation system
2. Temporary loss of access – potential issues on visitors entering and leaving sites
3. Temporary loss of bus stops or rerouting of bus lines – potential issues on bus travelers

The factors involve the likelihood and extent to which an issue might occur, the potential inconvenience caused to users of the transportation system, and consideration for public safety. Construction activities could potentially interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility to adjoining areas. As detailed in Section 3.4.4 of the TAG, the proposed construction plans should be reviewed to determine whether construction activities would require any of the following actions:

- Street, sidewalk, or lane closures
- Blocking of existing vehicle, bicycle, or pedestrian access along a street or to parcels fronting the street
- Modification of access to transit stations, stops, or facilities during revenue hours

- Closure or movement of an existing bus stop or rerouting of an existing bus line
- Creation of transportation hazards

PROPOSED CONSTRUCTION SCHEDULE

Construction of the Project is anticipated to occur over a period of approximately 13 months, with completion in 2022. The construction period would include sub-phases of site demolition, oil well abandonment, grading, and building construction; the proposed construction schedule also includes assumptions related to the number of worker, vendor, and haul truck trips. Peak haul truck activity would typically occur during grading; however, the Project proposes to balance the site, meaning no haul trucks for import/export would be required for construction. Thus, demolition is the peak haul truck activity phase, and the peak worker activity occurs during building construction. These two sub-phases of construction were studied in greater detail.

DEMOLITION PHASE

The peak period of truck activity during construction of the Project would occur during demolition of the Project Site.

With the implementation of the Construction Management Plan, which is described in more detail below, it is anticipated that nearly all haul truck activity as well as worker activity will occur outside of the morning and afternoon peak hours.

Haul trucks would travel on approved truck routes designated within the City. Given the Project Site's proximity to I-110, haul truck traffic would take the most direct route to the appropriate freeway ramps. The haul route will be reviewed and approved by the City during evaluation and permitting of the Construction Management Plan.

Based on demolition projections this period would require up to 30 haul trucks per day (roundtrips). Thus, up to 60 daily one-way haul truck trips (30 inbound, 30 outbound) are forecast to occur during the excavation and grading period.

Transportation Research Circular No. 212, Interim Materials on Highway Capacity (Transportation Research Board, 1980) defines passenger car equivalency (PCE) for a vehicle as the number of through moving passenger cars to which it is equivalent based on the vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 12-25 of the HCM suggest a PCE of 2.0 for trucks on level terrain. Assuming a PCE factor of 2.0, the 60 truck trips would be equivalent to 120 daily one-way PCE trips, (60 inbound, 60 outbound).

In addition, a maximum of 15 construction worker trips and six vendor trips are assumed at the Project Site during this phase. Therefore, a total of 21 vehicle roundtrips to and from the Project Site on a daily basis.

With implementation of the Construction Management Plan, these trips are anticipated to primarily occur outside the peak hours. Therefore, no peak hour construction traffic impacts at intersections are expected during the excavation and grading phase of construction.

BUILDING CONSTRUCTION PHASE

The traffic issues associated with construction workers depends on the magnitude of workers employed during various phases of construction, as well as the travel mode and travel time of the workers. In general, the hours of construction typically require workers to be on-site before the weekday morning commuter peak period and allow them to leave before or after the afternoon commuter peak period (i.e., arrive at the site prior to 7:00 AM and depart before 4:00 PM or after 6:00 PM). Therefore, most, if not all, construction worker trips would occur outside of the typical weekday commuter peak periods.

According to construction projections prepared for the Project, the subphase of building construction would employ the most construction workers, with a maximum of 105 worker trips and 41 vendor trips per day. This would result in 146 daily vehicle round trips to and from the Project Site during this phase. However, this traffic would occur outside the typical peak hour traffic periods and thus minimize the impact to nearby intersections.

During construction, worker parking would be provided on-site without the need to utilize off-site parking. In the event that off-site parking becomes necessary, restrictions against workers parking

in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan, described in further detail below.

Deliveries are also anticipated throughout the day during the building construction phase, which would occur outside of the morning and afternoon peak hours with implementation of the Construction Management Plan. All staging and deliveries would occur on-site.

POTENTIAL IMPACTS WITH ACCESS, TRANSIT, AND CIRCULATION

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) would be incorporated into the Construction Management Plan. The construction-related issues associated with access and transit are anticipated to be minimal, and the implementation of the Construction Management Plan described below would further reduce those issues.

Access

Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences may encroach into the public ROW (e.g., sidewalks and roadways) adjacent to the Project Site on Sepulveda Boulevard. Temporary traffic controls would be provided to direct traffic around any closures, as required in the Construction Management Plan. All three westbound travel lanes would be maintained on Sepulveda Boulevard for most of the 13-month construction period. However, one westbound lane would need to be closed to traffic for a 20-day period for construction of an underground utility connection. Traffic control measures would allow the two-way left-turn lane to be used temporarily as a through travel lane, if necessary, so the capacity of Sepulveda Boulevard would not be significantly reduced during this time period. These measures would also account for maintaining access to neighboring parcels. No other streets would be impeded.

The use of the public ROW along Sepulveda Boulevard may require temporary re-routing of pedestrian and bicycle traffic, as the sidewalk fronting the Project Site would be closed during a portion of the construction activities. The CMP would include measures to ensure pedestrian and bicycle safety along the affected sidewalks and temporary walkways (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering).

Transit

The Project would temporarily close or relocate a Torrance Transit bus stop located adjacent to the Project Site during construction activities. This would affect the westbound Route 7 stop at Sepulveda Boulevard & Halldale Avenue. Further coordination with Torrance Transit would be conducted to determine the best approach to minimize the disruption to transit service and transit users during the construction period. Construction would not impact Metro property or equipment; Metro would be notified should the Project construction ultimately be altered to affect any Metro facilities.

Parking

Parking is not allowed on Sepulveda Boulevard in front of the Project Site, so construction would not result in a temporary loss of on-street parking spaces.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan, would be prepared and submitted to the City for review and approval, prior to commencing construction. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Advance, bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation

- Prohibition of construction worker or equipment parking on adjacent streets

- Temporary pedestrian, bicycle, and vehicular traffic controls during all construction activities adjacent to the Project Site, to ensure traffic safety on public ROW

- Implementation of safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers, as appropriate

- Temporary traffic control (e.g., flag persons) during all construction activities adjacent to public ROW to improve traffic flow on public roadways

- Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours to the extent feasible

- Potential sequencing of construction activity for the Project to reduce the amount of construction-related traffic on arterial streets

- Containment of construction activity within the Project Site boundaries

Section 5E
Parking

This section provides an analysis of the proposed parking and the potential parking impacts of the Project.

PARKING SUPPLY

All Project parking would be provided on-site. The Project would provide a total of 160 automobile spaces and 38 bicycle spaces at surface level. Primary access would be provided via two driveways on Sepulveda Boulevard.

VEHICLE PARKING

For the purpose of analyzing the LAMC parking requirement, the Project is considered to have 9,644 sf of office space and 164,567 sf of warehouse space. Per LAMC Section 12.21 A.4(c), the vehicular parking requirements are:

- Office
    - One space per 500 sf

- Warehouse
    - One space per 500 sf for the first 10,000 sf
    - One space per 5,000 sf in excess of the first 10,000 sf

Utilizing the parking ratios detailed above, the Project would require a total of 70 spaces for the industrial development. As shown in Table 12, the LAMC vehicle parking requirement would be satisfied by the Project's proposed 160-space parking supply.[14]

BICYCLE PARKING

LAMC Section 12.21.A.16 details the parking requirements for new developments. However, new bicycle parking requirements have been developed by the City and the Project would follow the new requirements set out in Ordinance No. 185480. The updated LAMC bicycle parking requirement of the Project is based on the following rates:

- Warehouse
  - Short-Term: 1.0 space per 10,000 sf (Minimum 2)
  - Long-Term: 1.0 space per 10,000 sf (Minimum 2)

- Office
  - Short-Term: 1.0 space per 10,000 sf (Minimum 2)
  - Long-Term: 1.0 space per 5,000 sf (Minimum 2)

Per the updated LAMC, the Project's proposed 9,644 sf of office space and 164,567 sf of warehouse space would require a total of 19 short-term and 19 long-term bicycle parking spaces. As shown in Table 13, the Project's proposed 38 bicycle parking spaces would meet the LAMC requirements.

[14] While the parking supply exceeds the minimum requirement, the remainder of the on-site parking supply is also anticipated to support the transient use by vendors and deliveries as well as to provide operational flexibility for the staging/storing of delivery vehicles.

TABLE 12
VEHICLE PARKING CODE REQUIREMENTS

Land Use	Size	LAMC Requirement [a]	Parking Required
Warehouse	164,567 sf		
	10,000	1.0 spaces per 500 sf	20 spaces
	154,567	1.0 space per 5000 sf	31 spaces
Office [b]	9,644 sf	1.0 space / 500 sf	19 spaces
		Total Parking Required	**70 spaces**

Notes
sf: square feet
[a] Required parking spaces per LAMC Section 12.22.A.4(a).
[b] The office component of the proposed warehouse was separated for the purposes of the LAMC vehicle parking calculation.

TABLE 13
BICYCLE PARKING CODE REQUIREMENTS

Land Use	Size	Short-Term				Long-Term			
		Rate [a]			Requirement	Rate [a]			Requirement
Warehouse	164,567 sf	1.0 sp	/	10,000 sf	17 sp	1.0 sp	/	10,000 sf	17 sp
Office [b]	9,644 sf	1.0 sp	/	10,000 sf	2 sp	1.0 sp	/	5,000 sf	2 sp
Total Bicycle Parking Requirements				Short-Term:	19 sp			Long-Term:	19 sp
Total Code Bicycle Parking Requirement									**38 sp**

Notes
sp: spaces
sf: square feet
[a] Bicycle requirements as calculated by Section 12.21.A.16 of *Los Angeles Municipal Code (LAMC)* and proposed amendments per Case No. CPC-2016-4216-CA and Council File No. 12-1297-51.
[b] The office component of the proposed warehouse was separated for the purposes of the LAMC parking calculation.

Chapter 6

Summary and Conclusions

This study was undertaken to analyze the potential transportation impacts of the Project on regional VMT as well as the local street system. The following summarizes the results of this analysis:

- The Project is located at 1351-1361 Sepulveda Boulevard in the Harbor Gateway community of the City.
- The Project proposes the construction of approximately 174,211 sf of warehouse, with surface parking provided on-site.
- After application of appropriate trip reduction and existing use credits, the Project is estimated to generate 138 morning peak hour trips and 94 afternoon peak hour trips.
- The Project is anticipated to be complete in Year 2022.
- The Project is consistent with the City plans, programs, ordinances, and policies pertaining to transportation, and would not generate significant VMT impacts nor geometric design hazard impacts. Therefore, no mitigation measures would be required.
- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.
- The design of the two Project driveways would realign two existing driveways and would not introduce safety hazards for pedestrians, bicyclists, or motorists.
- The Project incorporates pedestrian and bicycle-friendly designs, such as a bicycle parking, a wider sidewalk adjacent to the Project Site, and street landscaping.
- All construction activities would occur outside of the commuter morning and afternoon peak hours to the extent feasible and would not result in significant traffic impacts. A Construction Management Plan would ensure that construction impacts are less than significant.
- The Project is in compliance with LAMC vehicle and bicycle parking requirements.

References

2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element, Los Angeles Department of City Planning, 2010.

2012 Developer Fee Justification Study, Los Angeles Unified School District, 2012.

CEQA Air Quality Handbook, South Coast Air Quality Management District, 1993.

City of Los Angeles VMT Calculator Version 1.3, Los Angeles Department of Transportation, July 2020.

City of Los Angeles VMT Calculator Documentation, Los Angeles Department of Transportation and Los Angeles Department of City Planning, May 2020.

Citywide Design Guidelines, Los Angeles City Planning Urban Design Studio, October 2019.

Connect SoCal – 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy, Southern California Association of Governments, Adopted September 2020.

County of Los Angeles Bicycle Master Plan, Alta Planning + Design and County of Los Angeles Public Works, March 2012.

Harbor Gateway Community Plan, Los Angeles Department of City Planning, 1996.

Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

Interim Guidance for Freeway Safety Analysis, Los Angeles Department of Transportation, May 2020.

Los Angeles County General Plan 2035, Los Angeles County Department of Regional Planning, Adopted October 6, 2015.

Los Angeles Municipal Code, City of Los Angeles.

Mobility Plan 2035, An Element of the General Plan, Los Angeles Department of City Planning, September 2016.

(Not So) Brief Guide of Vehicular Traffic Generation Rate for the San Diego Region, San Diego Association of Governments, April 2002.

Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan, Los Angeles Department of City Planning, March 2015.

References, cont.

Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, 2010.

SCAG Regional Travel Demand Model and 2012 Model Validation, Southern California Association of Governments, March 2016.

State of California Senate Bill 743, Steinberg, 2013.

Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, December 2018.

Transportation Assessment Guidelines, Los Angeles Department of Transportation, July 2020.

Transportation Research Circular No. 212, Interim Materials on Highway Capacity, Transportation Research Board, 1980.

Trip Generation Manual, 9th Edition, Institute of Transportation Engineers, 2012.

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

Vision Zero: A Plan for Safer Roadways 2020-2025, Los Angeles County Department of Public Works, November 2019.

Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025, City of Los Angeles, August 2015.

Appendix A

Memorandum of Understanding

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. Project Information

Project Name: Bridge Point South Bay VII (DIR-2020-5486-SPR & ENV-2020-5488-EAF)

Project Address: 1351-1361 Sepulveda Boulevard and APN 7347018085; Harbor Gateway 90501

Project Description: The Project would redevelop ~7.4 Ac Mulligan Family Fun Center site (closed Feb 2020; miniature golf course / family entertainment center) into a 174,211 sf warehouse (standard warehouse or last-mile delivery; conservatively analyzed as last-mile delivery use).

LADOT Project Case Number: HRB20-110181 Project Site Plan attached? *(Required)* ☑ Yes ☐ No

II. Transportation Demand Management (TDM) Measures

Provide any transportation demand management measures that are being considered where the eligibility needs to be verified in advance (e.g. bike share kiosks, unbundled parking, microstransit service, etc.). Note that LADOT staff will make the final determination if TDM measures eligibility for a particular project. Please confirm eligibility with the LADOT Planning and Bureau staff assigned to your project.

1 _____ 4 _____

2 _____ 5 _____

3 _____ 6 _____

Select any TDM measures that are currently being considered that may be eligible as a Project Design Feature[1]:

☐	Reduced Parking Supply[2]
☑	Bicycle Parking and Amenities
☐	Parking Cash Out

III. Trip Generation

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 10th Edition

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	**Yes**	**No**
Transit Usage	☐	☑
Existing Active or Previous Land Use (closed Feb 2020)	☑	☐
Internal Trip	☐	☑
Pass-By Trip	☐	☑
Transportation Demand Management (See above)	☐	☑

Trip generation table including a description of the existing and proposed land uses, rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☒ Yes ☐ No

	IN	OUT	TOTAL
AM Trips	69	69	138
PM Trips	68	27	95

NET Daily Vehicle Trips (DVT)
____ DVT (ITE __ ed.)
1,088 DVT (VMT Calculator ver. 1.3)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or state law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or a the City/s Transit Oriented ted Community Guidelines.

IV. Study Area and Assumptions

Project Buildout Year: 2022 Ambient Growth Rate: 1 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ☑ Yes ☐ No

STUDY INTERSECTIONS and/or STREET SEGMENTS *(May be subject to LADOT revision after access, safety and circulation evaluation)*

1 See Table 1 4 _____
2 _____ 5 _____
3 _____ 6 _____

Is this Project located on a street within the High Injury Network? ☐ Yes ☑ No

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 total DVT? ☑ Yes ☐ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☑ Yes ☐ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☑ No

If questions a., b., or c. is Yes then complete **Attachment C.1: Access Assessment Criteria**.

VI. SITE PLAN and map of Study Area

Does the attached site plan or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☑	☐	☐
Project Vehicle Peak Hour trips at each study intersection	☑	☐	☐
Project Vehicle Peak Hour trips at each project access point	☑	☐	☐
Project driveways (show widths and directions or lane assignment)	☑	☐	☐
Pedestrian access points and any pedestrian paths	☑	☐	☐
Pedestrian loading zones	☐	☐	☑
Delivery loading zone or area	☑	☐	☐
Bicycle parking onsite	☑	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☐	☑

VII. Contact Information

	CONSULTANT	DEVELOPER
Name:	Eugene Tang, Gibson Transportation Consulting, Inc.	Heather Crossner, Bridge 1355 Sepulveda, LLC
Address:	555 W 5th St, Ste 3375; Los Angeles CA 90013	11100 Santa Monica Bl, Ste 700; Los Angeles CA 90025
Phone Number:	213-683-0088	617-335-6684
E-Mail:	etang@gibsontrans.com	hcrossner@bridgedev.com

Approved by:	x Eugene Tang	14 Oct 20	x	10/30/20
	Consultant's Representative	Date	LADOT Representative	*Date

*MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

LADOT

Access Assessment Criteria

This Criteria acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: Bridge Point South Bay VII (DIR-2020-5486-SPR & ENV-2020-5488-EAF)

Project Address: 1351-1361 Sepulveda Boulevard and APN 7347018085; Harbor Gateway 90501

Project Description: The Project would redevelop ~7.4 Ac Mulligan Family Fun Center site (closed Feb 2020; miniature golf course / family entertainment center) into a 174,211 sf warehouse (standard warehouse or last-mile delivery; conservatively analyzed as last-mile delivery use).

LADOT Project Case Number: _____

II. PEDESTRIAN/ PERSON TRIP GENERATION

Source of Pedestrian/Person Trip Generation Rate(s)? ☑ VMT Calculator ☐ ITE 10th Edition ☐ Other:

	Land Use	Size/Unit	Daily Person Trips
Proposed	Warehouse (ancillary office)	174,211	135
	Total new trips:		135

Pedestrian/Person trip generation table including a description of the proposed land uses, trip credits, person trip assumptions, comparison studies used for reference, etc. attached? ☑ Yes ☐ No

III. PEDESTRIAN ATTRACTORS INVENTORY

Attach Pedestrian Map for the area (1,320 foot radius from edge of the project site) depicting:

- site pedestrian entrance(s)
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
  - Geographic Distribution: N 5 % S 5 % E 45 % W 45 %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and

other municipal bus stops)

- Key pedestrian destinations with hours of operation:
  - schools (school times)
  - government offices with a public counter or meeting room
  - senior citizen centers
  - recreation centers or playgrounds
  - public libraries
  - medical centers or clinics
  - child care facilities
  - post offices
  - places of worship
  - grocery stores
  - other facilities that attract pedestrian trips
- pedestrian walking routes to key destinations from project site

Note: Pedestrian Count Summary, Bicycle Count Summary, Manual Traffic Count Summary will need to be attached to the Transportation Assessment

IV. FACILITIES INVENTORY

Is a High Injury Network street located within 1,320 foot radius from the edge of the project site? ☐ Yes ☑ No

If yes, list streets and include distance from the project:

_____ at _____(feet)

_____ at _____(feet)

_____ at _____(feet)

_____ at _____(feet)

Attach Radius Map for the area (1,320 foot radius from edge of the project site) depicting the following existing and proposed facilities:

- transit stops
- bike facilities
- traffic control devices for controlled crossings
- uncontrolled crosswalks
- location of any missing, damaged or substandard sidewalks

For a reference of planned facilities, see the Transportation Assessment Support Map

Crossing Distances

Does the project property have frontage along an arterial street (designated as either an Avenue or Boulevard?)

☑ Yes ☐ No

If yes, provide the distance between the crossing control devices (e.g. signalized crosswalk, or controlled mid-block crossing) along any arterial within 1,320 feet of the property.

575 (feet) at Lockness Ave & Sepulveda Blvd _____(feet) at _____

1000 (feet) at Normandie Ave & Sepulveda Blvd _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

V. Project Construction

Will the project require any construction activity within the city right-of-way? ☑ Yes ☐ No

If yes, will the project require temporary closure of any of the following city facilities?

- sidewalk Yes, as noted.
- bike lane
- parking lane
- travel lane
- bus stop
- bicycle parking (racks or corrals)
- bike share or other micro-mobility station
- car share station
- parklet
- other: _____

Source: Herdman Architecture + Design. October, 2020.

PROJECT INFORMA
GROSS SITE AREA
N
MA
SETBACKS(
BUILDING AREA
FOO
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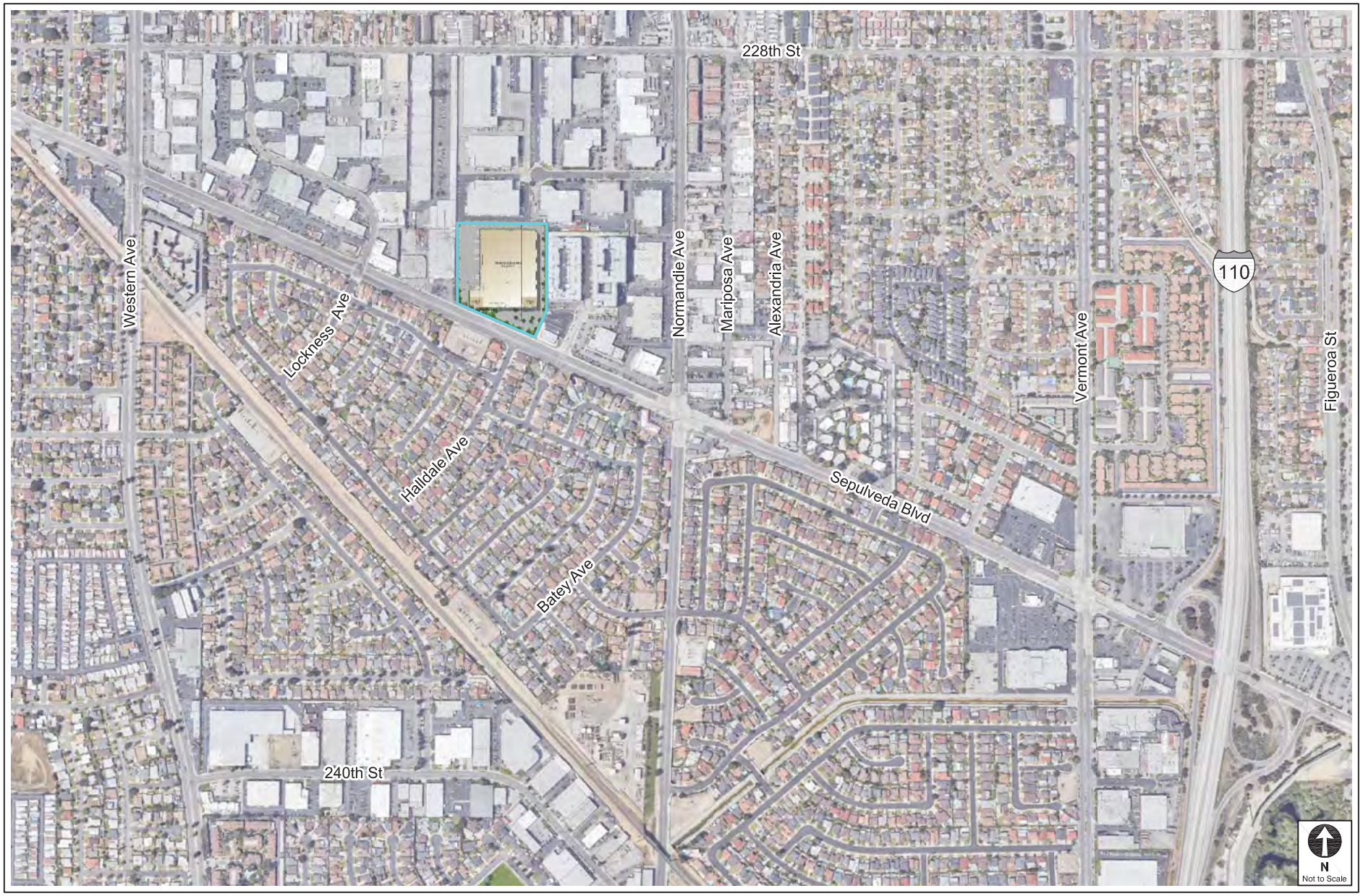
PARKING R
PARKING PRO

N
Not to Scale

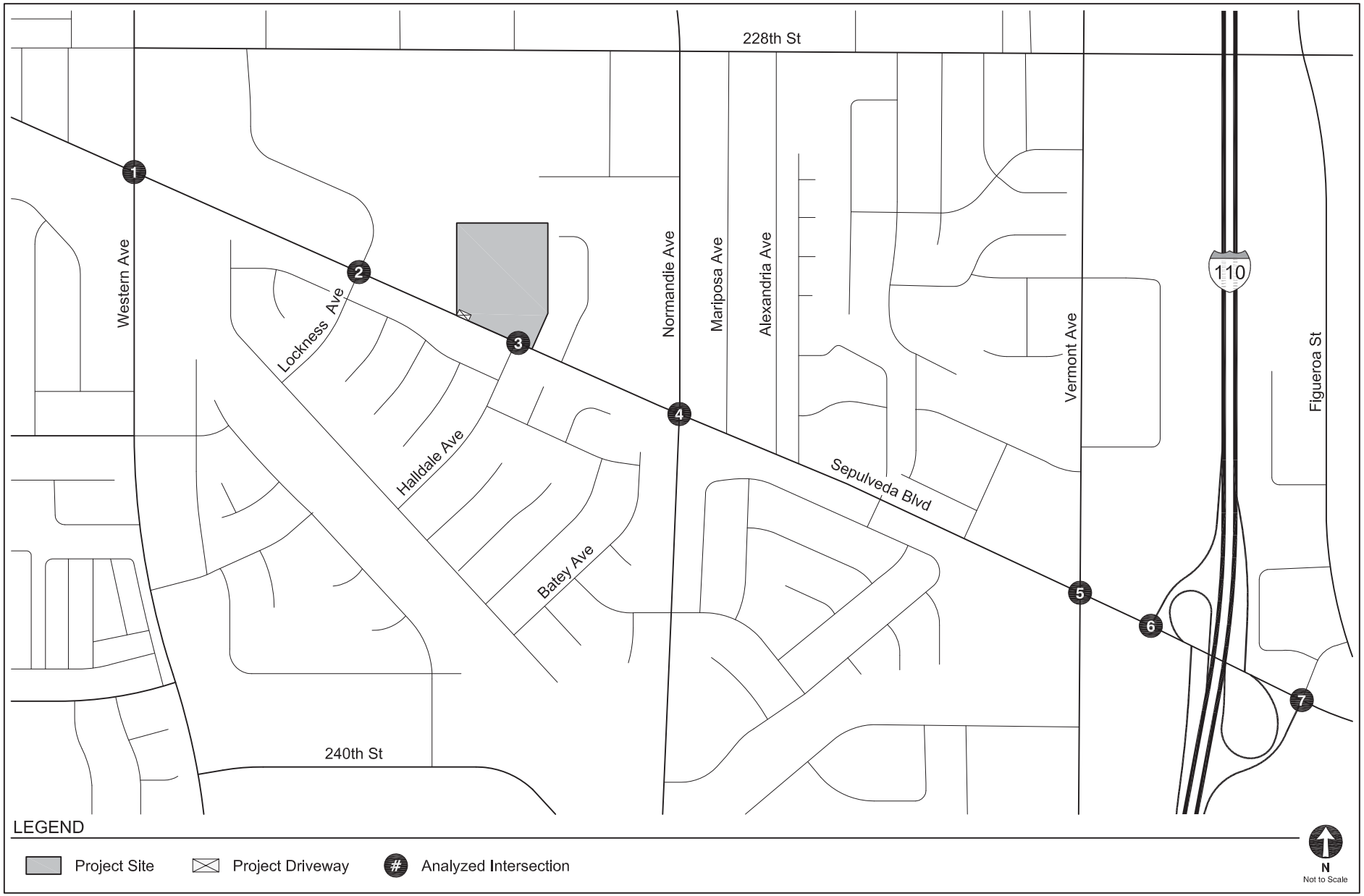
PROJECT SITE PLAN

FIGURE
1



PROJECT SITE LOCATION

FIGURE 2



STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 3

TABLE 1
PRELIMINARY STUDY INTERSECTIONS

No.	Intersection	Jurisdiction
1.	Western Avenue & Sepulveda Boulevard	City of Los Angeles
2.	Lockness Avenue & Sepulveda Boulevard	City of Los Angeles
3.	Halldale Avenue & Sepulveda Boulevard (stop control)	City of Los Angeles
4.	Normandie Avenue & Sepulveda Boulevard	City of Los Angeles
5.	Vermont Avenue & Sepulveda Boulevard	Los Angeles County
6.	I-110 SB Off Ramp & Sepulveda Boulevard	Los Angeles County / Caltrans
7.	I-110 NB Off Ramp & Sepulveda Boulevard	City of Carson / Caltrans

TABLE 2
TRIP GENERATION ESTIMATE
BRIDGE POINT SOUTH BAY VII - 1355 SEPULVEDA BOULEVARD

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates [a]								
High Cube Parcel Hub Warehouse [b]	156	per ksf						
Light Vehicles			50%	50%	0.70	68%	32%	0.64
Trucks			50%	50%	0.09	68%	32%	0.06
Multipurpose Recreational Facility [c]	435	per AC	-	-	-	55%	45%	3.58
Proposed Project								
Bridge Point South Bay VII Warehouse	156	174.211 ksf						
Light Vehicles			61	61	122	75	36	111
Trucks			8	8	16	7	3	10
Subtotal Proposed			**69**	**69**	**138**	**82**	**39**	**121**
Existing Uses to be Removed								
Mulligan Family Fun Center (Mini Golf) [b]	435	(7.400) AC	-	-	-	(14)	(12)	(26)
ESTIMATED - TOTAL NET NEW PROJECT TRIPS			**69**	**69**	**138**	**68**	**27**	**95**

Notes:

ksf: 1,000 square feet AC: acre

[a] Trip generation rates from *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017.

[b] 'High cube' is a descriptor for this trip generation rate, however the project is not designed to operate as a high cube facility. While the project is designed to operate similar to a standard warehouse (ITE 150); the tenant may operate as either a standard or last-mile delivery warehouse. To provide a conservative analysis, this analysis assumes the higher trip generation rate of a last mile type delivery use (ITE 156 - High Cube Parcel Hub Warehouse) for each vehicle type.

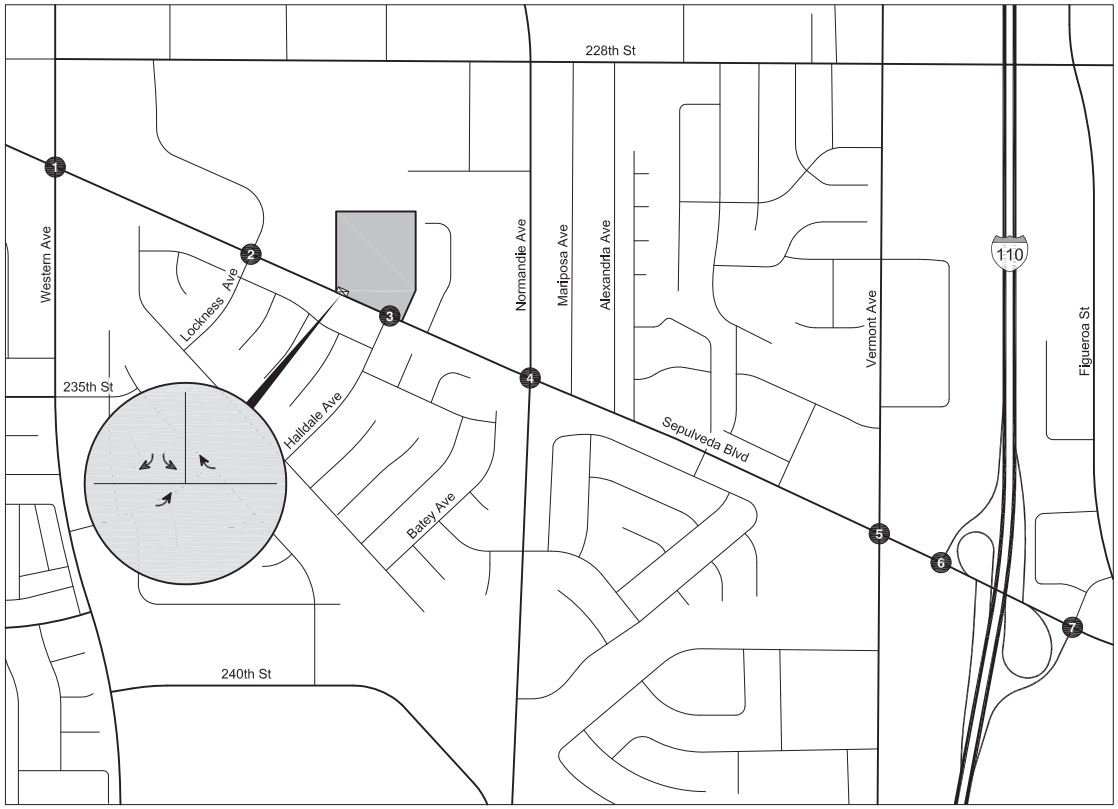
[c] The existing use (Mulligan Family Fun Center) was in continuous operation until February 2020 and therefore, an existing credit is taken for this use. A portion of the site includes a concrete batch plant; as it has not been recently operational, no existing credit is taken for this use.

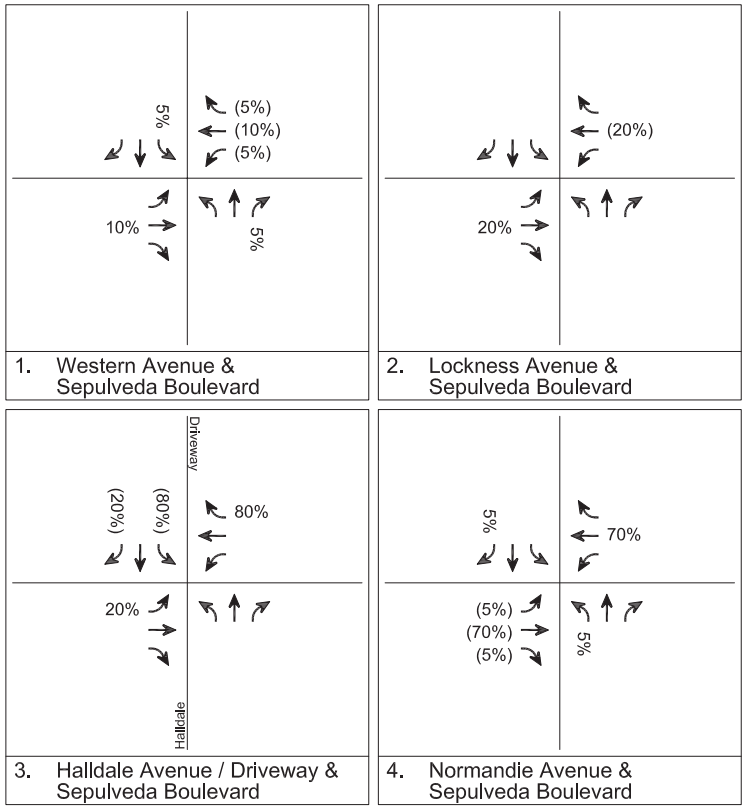
TABLE 3
PROJECT PEDESTRIAN TRIP GENERATION ESTIMATES

Vehicle Trip Generation Rates [a]	Unadjusted Trips [b]	MXD Trips [c]	Daily Trips Reduced [d]
Home Based Work Production	0	0	0
Home Based Other Production	0	0	0
Non-Home Based Other Production	240	234	6
Home-Based Work Attraction	253	234	19
Home-Based Other Attraction	481	393	88
Non-Home Based Other Attraction	240	234	6
Total Proposed Project Vehicle Trips	**1214**	**1095**	**119**
Pedestrian Trip Calculation			
Daily Trips Reduced			119
1.135 AVO Pedestrian Conversion Factor [e]			1.135
TOTAL PROJECT PEDESTRIAN TRIPS			**135**

Notes
ksf: 1,000 square feet
The daily trip values above are as calculated by LADOT VMT Calculator Version 1.3 and identified in Report 4-MXD Methodology output. No adjustments were applied to these values.
[a] The daily vehicle trip estimate is provided as a separate attachment in the MOU.
[b] Unadjusted trips represent the daily number of anticipated vehicle trips with the completion of the Project. This is prior to accounting for local factors such as transit usage and nearby pedestrian destinations.
[c] MXD trips are the anticipated daily number of Project vehicle trips after accounting for local factors such as transit usage and nearby pedestrian destinations.
[d] Trips reduced reflect the difference between Unadjusted trips and MXD trips. It is assumed that all of these trips would be pedestrians.
[e] Vehicle trips are converted into pedestrian trips using a conversion factor of 1.135 as found in *CEQA Air Quality Handbook (South Coast Air Quality Management District, 1993)*

Gibson transportation consulting, inc.

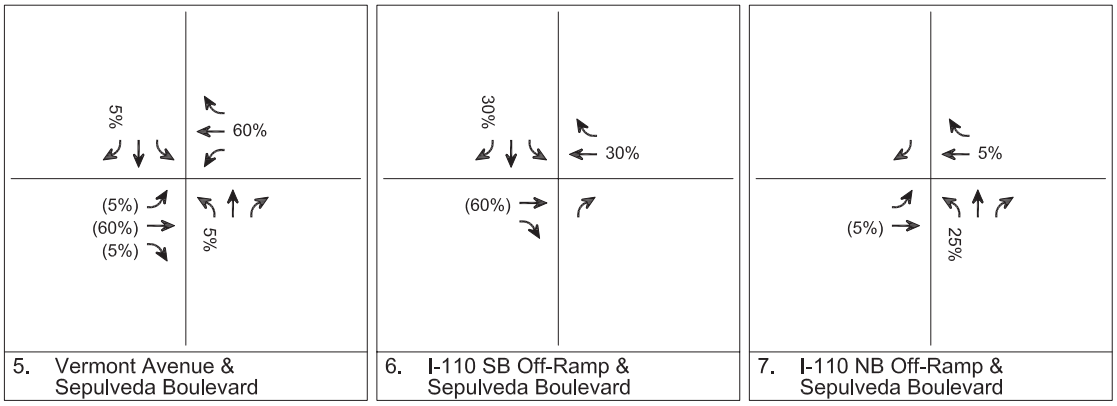




LEGEND

- Project Site
- Project Driveway
- # Analyzed Intersection
- %(%) Inbound(Outbound) Trip Percentage

N
Not to Scale



PROJECT TRIP DISTRIBUTION
CARS

FIGURE
4A

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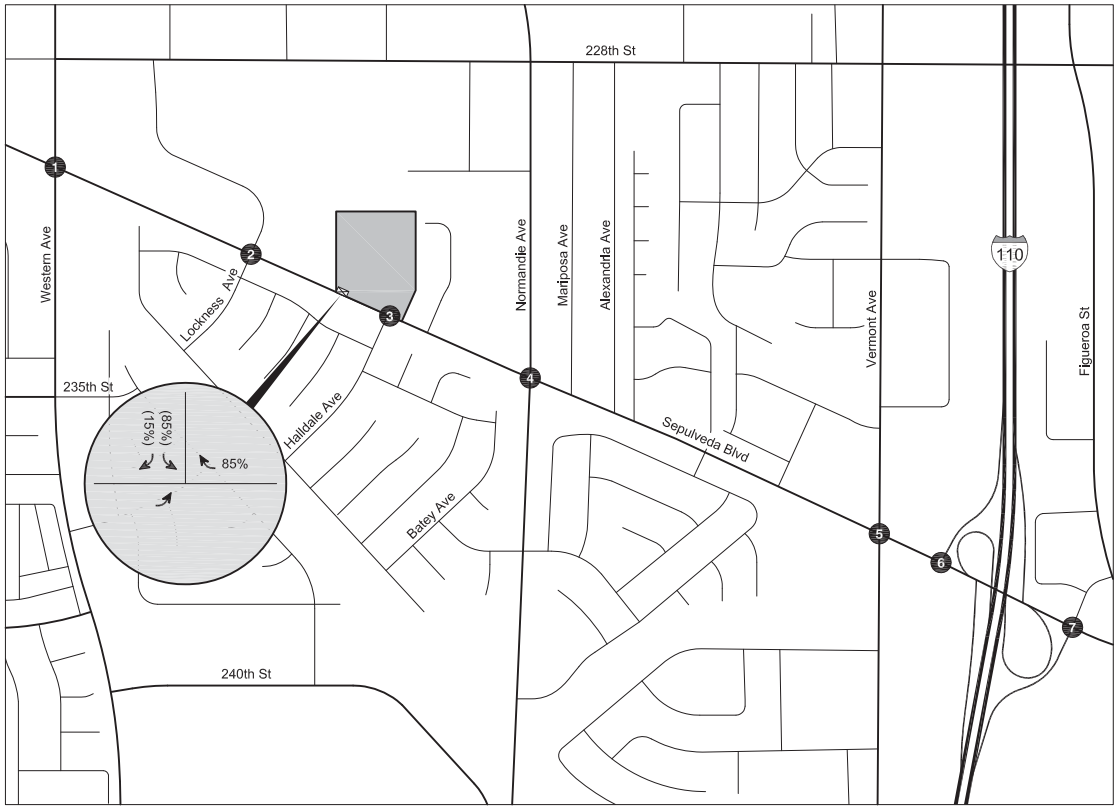
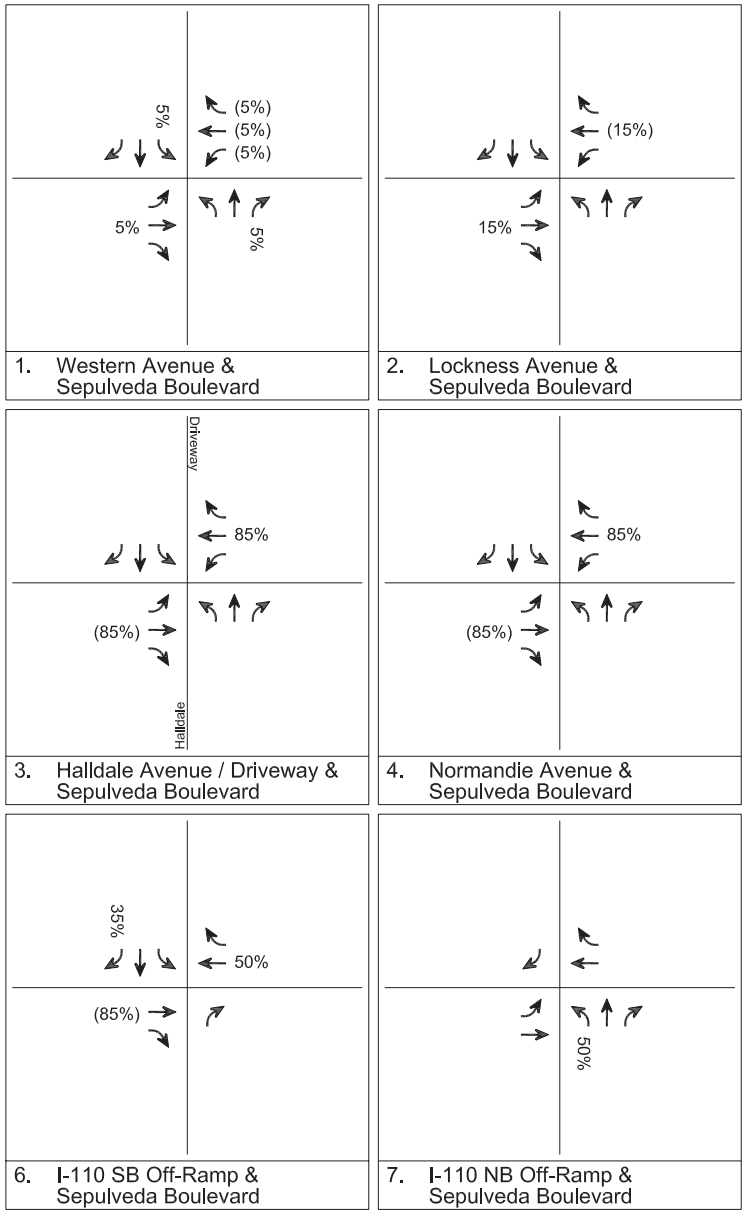




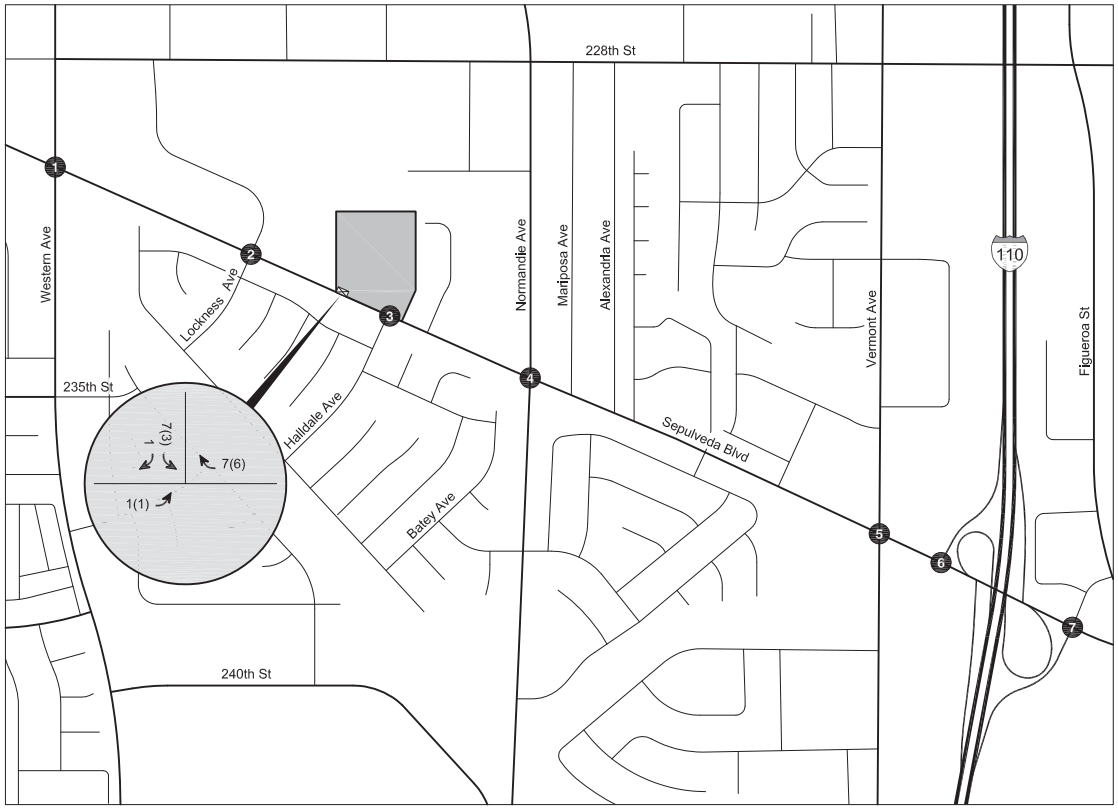
LEGEND

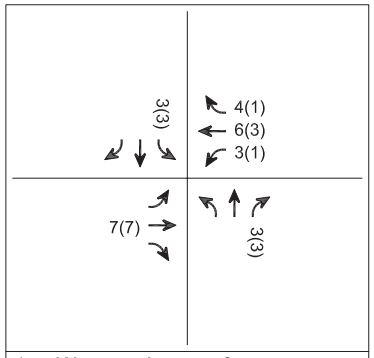
- Project Site
- Project Driveway
- # Analyzed Intersection
- %(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

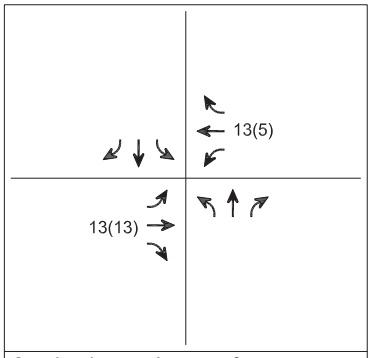
PROJECT TRIP DISTRIBUTION
TRUCKS

FIGURE
4B

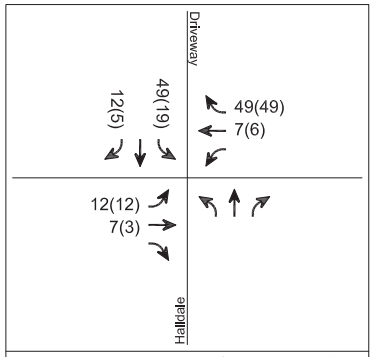




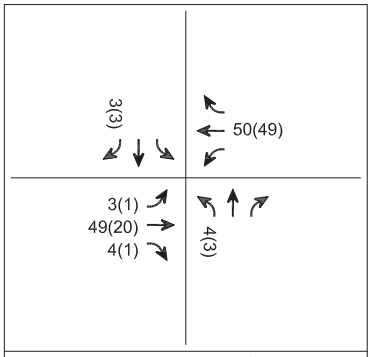
1. Western Avenue & Sepulveda Boulevard



2. Lockness Avenue & Sepulveda Boulevard



3. Halldale Avenue / Driveway & Sepulveda Boulevard

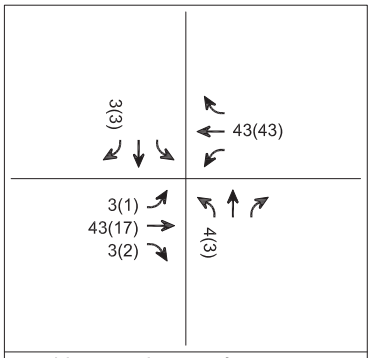


4. Normandie Avenue & Sepulveda Boulevard

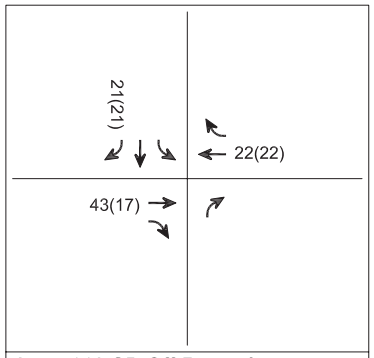
LEGEND

- Project Site
- Project Driveway
- # Analyzed Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes

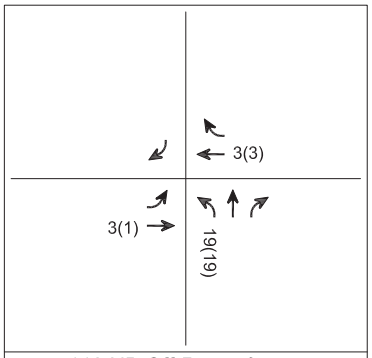
N
Not to Scale



5. Vermont Avenue & Sepulveda Boulevard



6. I-110 SB Off-Ramp & Sepulveda Boulevard



7. I-110 NB Off-Ramp & Sepulveda Boulevard

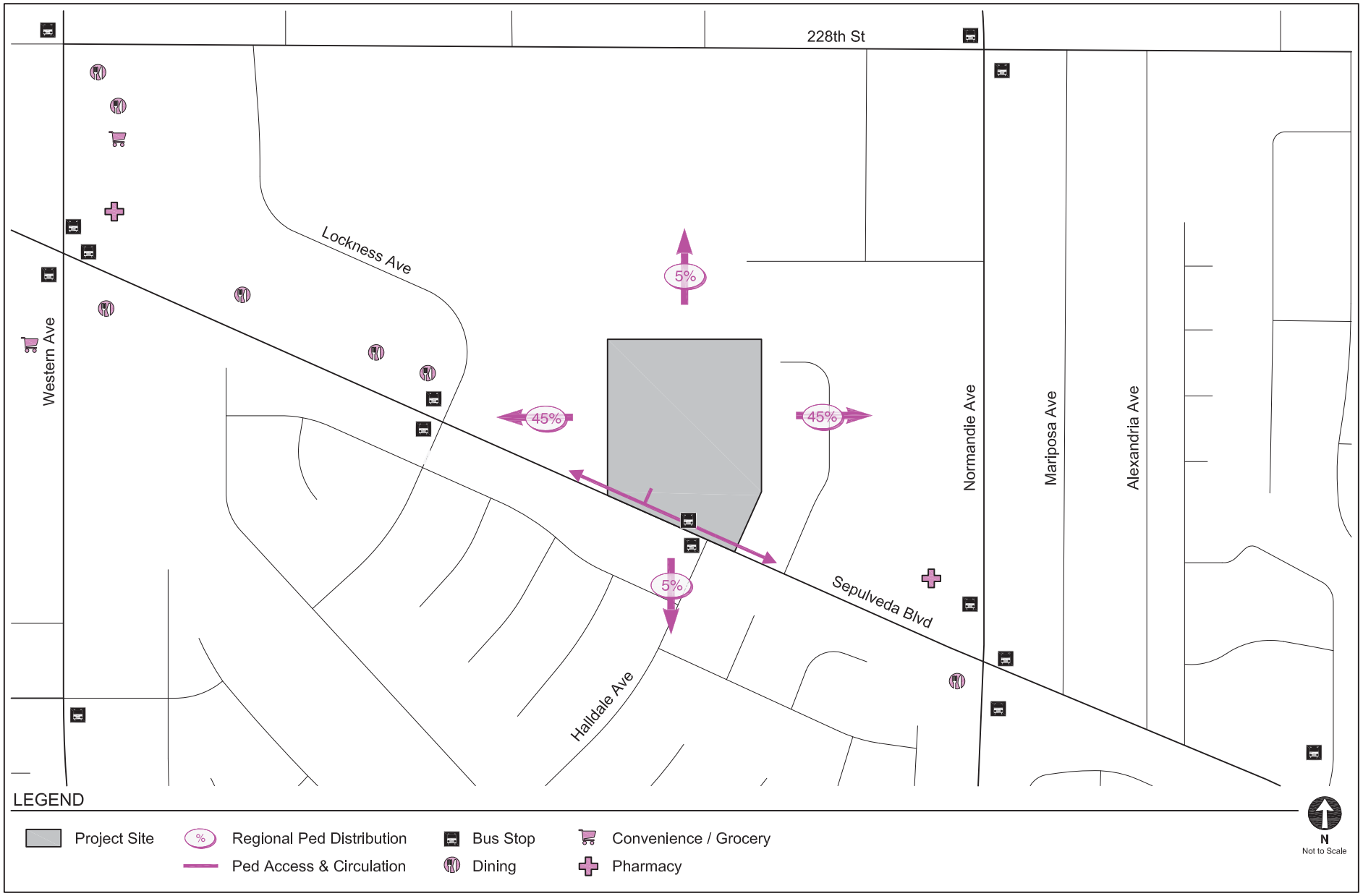
PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5

TABLE 4
RELATED PROJECTS LIST

No	Project Name	Address	Description	Trip Generation						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					Inbound	Outbound	Total	Inbound	Outbound	Total
No related projects were identified within 0.5 miles of the Project Site or within 0.25 miles of any study intersection.										

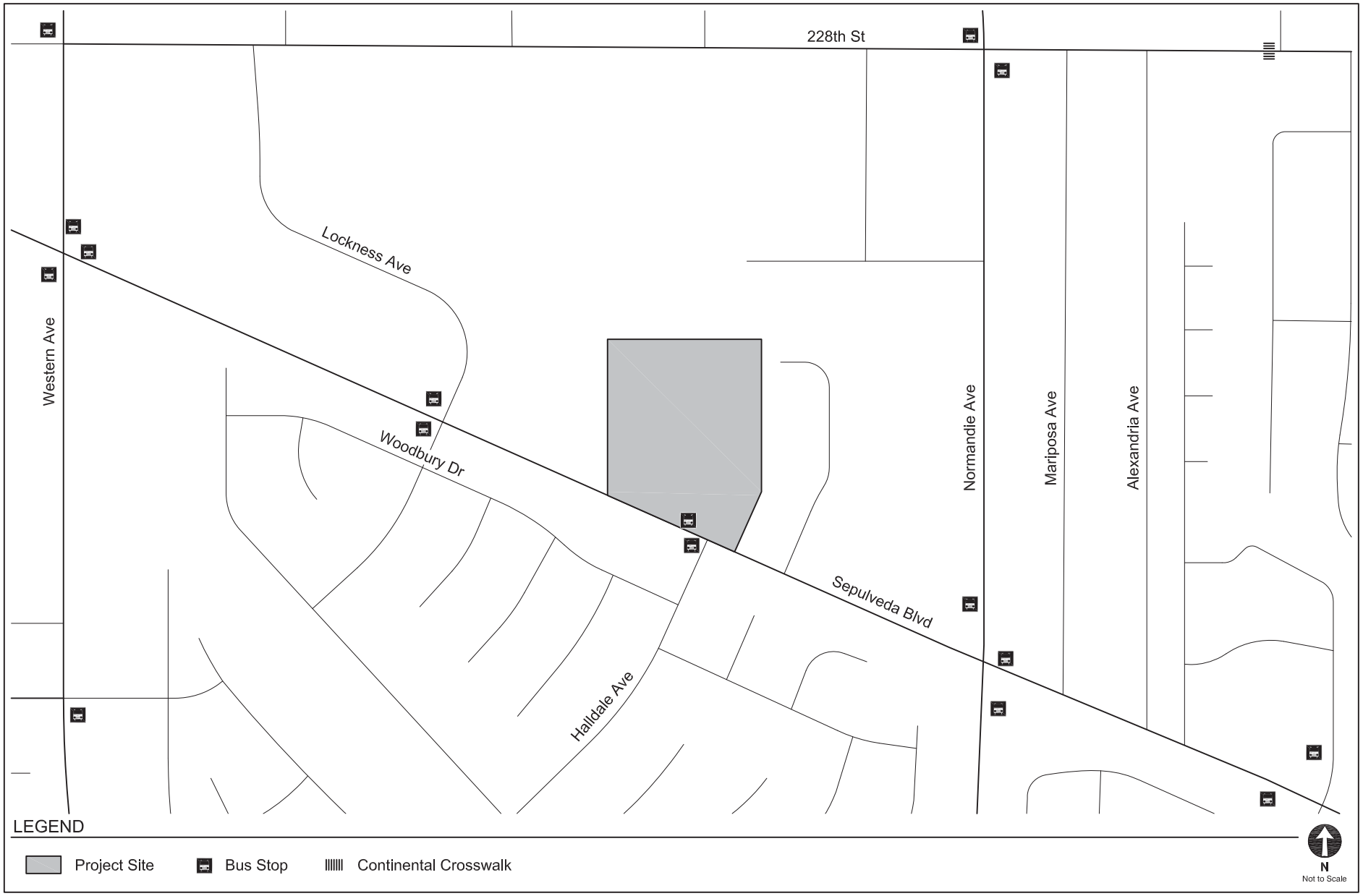
Notes:
Source: Related project information based on available information provided by LADOT and Department of City Planning on September 2, 2020, and recent studies.



PEDESTRIAN ATTRACTORS INVENTORY

FIGURE 6

Gibson transportation consulting, inc.



EXISTING TRANSPORTATION FACILITIES

FIGURE 7

FUTURE TRANSPORTATION FACILITIES

FIGURE 8

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

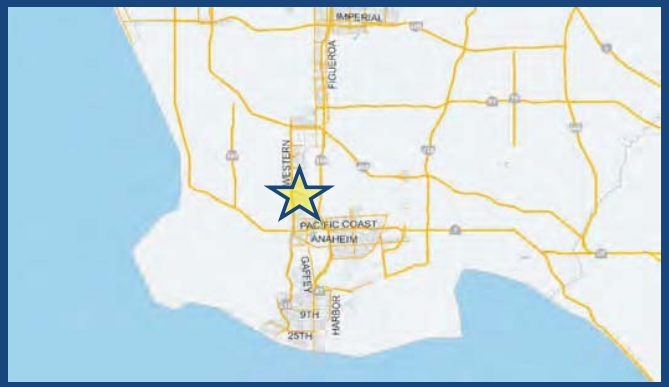
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: Bridge South Bay VII

Scenario:

Address: 1351 W SEPULVEDA BLVD, 90501



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU
(custom) Mulligan Family Fun Center | Daily	444	Trips
(custom) Mulligan Family Fun Center | HBW-Attra	4	Percent
(custom) Mulligan Family Fun Center | HBO-Attrac	76	Percent
(custom) Mulligan Family Fun Center | NHB-Attrac	10	Percent
(custom) Mulligan Family Fun Center | HBW-Prod	0	Percent
(custom) Mulligan Family Fun Center | HBO-Produ	0	Percent
(custom) Mulligan Family Fun Center | NHB-Produ	10	Percent
(custom) Mulligan Family Fun Center | Daily	0	Residents
(custom) Mulligan Family Fun Center | Daily	0	Employees
(custom) Mulligan Family Fun Center | Daily	Non-Retail	Retail/Non-Re

☑ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Industrial | Light Industrial		ksf
Industrial | Light Industrial	174.211	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
379 Daily Vehicle Trips	1,095 Daily Vehicle Trips
2,205 Daily VMT	7,449 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	716 Net Daily Trips
The net increase in daily VMT ≤ 0	5,244 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	0.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

10/14/2020

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: Bridge South Bay VII

Scenario:

Address: 1351 W SEPULVEDA BLVD, 90501

Proposed Project Land Use Type	Value	Unit
Industrial | Light Industrial	174.211	ks

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy
☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
1,088 Daily Vehicle Trips	**1,088** Daily Vehicle Trips
7,401 Daily VMT	**7,401** Daily VMT
0.0 Household VMT per Capita	**0.0** Household VMT
11.5 Work VMT per Employee	**11.5** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: No Threshold = 12.3 15% Below APC	**Work: No** Threshold = 12.3 15% Below APC

Measuring the Miles

10/14/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: October 14, 2020
Project Name: Bridge South Bay VII
Project Scenario:
Project Address: 1351 W SEPULVEDA BLVD, 90501

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	0	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	0.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	174.211	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

Analysis Results

Total Employees: 174
Total Population: 0

Proposed Project		*With Mitigation*	
1,088	**Daily Vehicle Trips**	**1,088**	**Daily Vehicle Trips**
7,401	**Daily VMT**	**7,401**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
11.5	**Work VMT per Employee**	**11.5**	**Work VMT per Employee**

Significant VMT Impact?

APC: Harbor

Impact Threshold: 15% Below APC Average
Household = 9.2
Work = 12.3

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 9.2	No	Household > 9.2	No
Work > 12.3	No	Work > 12.3	No

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
MAX. TDM EFFECT	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: October 14, 2020
Project Name: Bridge South Bay VII
Project Scenario:
Project Address: 1351 W SEPULVEDA BLVD, 90501

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.9	0	0
Home Based Other Production	0	0.0%	0	5.7	0	0
Non-Home Based Other Production	240	-2.5%	234	6.5	1,560	1,521
Home-Based Work Attraction	253	-7.5%	234	8.6	2,176	2,012
Home-Based Other Attraction	481	-18.3%	393	5.2	2,501	2,044
Non-Home Based Other Attraction	240	-2.5%	234	8.0	1,920	1,872

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-0.6%	0	0	-0.6%	0	0
Home Based Other Production	-0.6%	0	0	-0.6%	0	0
Non-Home Based Other Production	-0.6%	232	1,511	-0.6%	232	1,511
Home-Based Work Attraction	-0.6%	232	1,999	-0.6%	232	1,999
Home-Based Other Attraction	-0.6%	391	2,031	-0.6%	391	2,031
Non-Home Based Other Attraction	-0.6%	233	1,860	-0.6%	233	1,860

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 174
APC: Harbor

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**1,999**	**1,999**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**11.5**	**11.5**

Appendix B

Traffic Volume Data

APPENDIX B
TRAFFIC VOLUME WORKSHEET
ADJUSTMENT TO PRE-PANDEMIC CONDITIONS

AM Peak Hour			1	2	3	4	5	6	7	8	9	10	11	12	
N/S Street	E/W Street	Count Year	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total
Lockness	Sepulveda	2020	31	1	11	43	1495	4	11	1	53	10	977	13	2650
		2017	64	1	19	64	1820	5	13	5	83	23	1289	28	3414
					Comparison	2017 count factored to 2020 @ 1%/yr				3516	factored 2020 to actual 2020 count ratio:				1.327
Halldale	Sepulveda	2020	0	0	0	0	1534	14	22	0	3	12	998	0	2583
		2015	0	0	0	0	2092	8	38	0	9	7	1423	0	3577
					Comparison	2015 count factored to 2020 @ 1%/yr				3756	factored 2020 to actual 2020 count ratio:				1.454
Normandie	Sepulveda	2020	101	244	79	137	1361	120	69	266	103	63	917	65	3525
		2017	148	466	91	167	1738	117	72	521	141	67	1221	93	4842
					Comparison	2017 count factored to 2020 @ 1%/yr				4987	factored 2020 to actual 2020 count ratio:				1.415
Western	Sepulveda	2020	176	508	82	138	1184	235	198	543	110	43	759	110	4086
		2015	267	874	76	96	1602	304	297	973	139	72	1261	229	6190
					Comparison	2015 count factored to 2020 @ 1%/yr				6500	factored 2020 to actual 2020 count ratio:				1.591
											Average factored 2020 to actual 2020 count ratio:				1.447
														AM adjustment factor:	**1.45**

PM Peak Hour			1	2	3	4	5	6	7	8	9	10	11	12	
N/S Street	E/W Street	Count Year	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total
Lockness	Sepulveda	2020	61	19	100	53	1375	14	5	2	45	47	1749	40	3510
		2017	65	29	84	53	1597	20	9	4	45	63	1805	22	3796
					Comparison	2017 count factored to 2020 @ 1%/yr				3910	factored 2020 to actual 2020 count ratio:				1.114
Halldale	Sepulveda	2020	0	0	0	0	1411	29	19	0	3	30	1807	0	3299
		2015	0	0	0	0	1655	39	24	0	6	26	1798	0	3548
					Comparison	2015 count factored to 2020 @ 1%/yr				3725	factored 2020 to actual 2020 count ratio:				1.129
Normandie	Sepulveda	2020	145	417	165	126	1292	198	107	302	124	95	1463	114	4548
		2017	165	737	256	104	1376	162	91	293	120	101	1462	91	4958
					Comparison	2017 count factored to 2020 @ 1%/yr				5107	factored 2020 to actual 2020 count ratio:				1.123
Western	Sepulveda	2020	147	738	164	165	1053	275	348	675	140	128	1351	201	5385
		2015	133	961	174	139	1380	309	321	796	182	120	1338	210	6063
					Comparison	2015 count factored to 2020 @ 1%/yr				6366	factored 2020 to actual 2020 count ratio:				1.182
											Average factored 2020 to actual 2020 count ratio:				1.137
														PM adjustment factor:	**1.14**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5805-003 **Day:** Wednesday

City: Carson **Date:** 12/2/2015

AM

NS/EW Streets:	Western Ave			Western Ave			Sepulveda Blvd			Sepulveda Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	3	0	1	3	0	
7:00 AM	44	234	57	13	132	35	27	239	12	57	372	36	1258
7:15 AM	44	238	56	11	196	43	20	253	17	58	457	22	1415
7:30 AM	42	270	81	13	280	60	48	247	14	85	380	21	1541
7:45 AM	30	236	86	11	268	75	65	345	15	89	407	15	1642
8:00 AM	32	245	77	30	180	64	66	323	17	67	376	24	1501
8:15 AM	35	222	53	22	146	68	50	346	26	63	439	36	1506
8:30 AM	47	267	53	27	151	84	53	240	15	64	363	45	1409
8:45 AM	44	191	48	15	129	57	62	315	18	44	371	40	1334
9:00 AM	32	160	51	25	135	47	55	268	17	49	270	27	1136
9:15 AM	38	150	36	27	110	41	39	269	21	39	336	41	1147
9:30 AM	39	151	50	25	137	41	23	207	12	35	300	26	1046
9:45 AM	44	146	50	25	136	48	42	199	27	42	307	33	1099
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	471	2510	698	244	2000	663	550	3251	211	692	4378	366	16034
APPROACH %'s :	12.80%	68.23%	18.97%	8.39%	68.80%	22.81%	13.71%	81.03%	5.26%	12.73%	80.54%	6.73%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	139	973	297	76	874	267	229	1261	72	304	1602	96	6190
PEAK HR FACTOR :		0.896			0.859			0.919			0.930		0.942

UTURNS			
NB	SB	EB	WB
5	0	1	1
2	0	0	0
3	0	0	1
4	0	0	0
2	0	0	0
1	1	0	0
0	2	0	1
0	0	0	0
4	0	0	0
9	0	1	1
2	1	0	1
0	1	1	0
NB	SB	EB	WB
32	5	3	5

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5805-003 **Day:** Wednesday

City: Carson **Date:** 12/2/2015

PM

NS/EW Streets:	Western Ave			Western Ave			Sepulveda Blvd			Sepulveda Blvd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	3	0	1	3	0	
3:00 PM	43	182	73	39	242	40	39	332	30	73	286	40	1419
3:15 PM	21	205	58	39	199	36	53	390	39	70	304	39	1453
3:30 PM	35	205	93	49	221	34	51	338	24	66	302	29	1447
3:45 PM	33	183	81	39	207	42	54	387	39	73	342	41	1521
4:00 PM	38	213	88	41	256	29	59	322	31	70	279	37	1463
4:15 PM	29	189	92	37	234	27	66	353	43	74	296	29	1469
4:30 PM	33	201	85	42	267	40	59	294	37	76	338	38	1510
4:45 PM	43	193	72	40	227	27	60	355	36	83	362	39	1537
5:00 PM	47	220	69	50	254	34	57	297	33	73	298	36	1468
5:15 PM	51	183	82	43	223	27	44	350	25	75	375	38	1516
5:30 PM	41	200	98	41	257	45	49	336	26	78	345	26	1542
5:45 PM	44	178	70	40	237	31	36	367	29	74	322	34	1462
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	458	2352	961	500	2824	412	627	4121	392	885	3849	426	17807
APPROACH %'s :	12.15%	62.37%	25.48%	13.38%	75.59%	11.03%	12.20%	80.18%	7.63%	17.15%	74.59%	8.26%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	182	796	321	174	961	133	210	1338	120	309	1380	139	6063
PEAK HR FACTOR :		0.958			0.924			0.925			0.936		0.983

UTURNS

	NB	SB	EB	WB
3:00 PM	3	0		0
3:15 PM	2	2		1
3:30 PM	5	0		0
3:45 PM	2	0		0
4:00 PM	5	0		0
4:15 PM	1	0		1
4:30 PM	5	0		0
4:45 PM	5	0		2
5:00 PM	2	1		1
5:15 PM	2	1		0
5:30 PM	3	0		1
5:45 PM	2	0		0
TOTAL VOLUMES :	37	4	0	6

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Lockness Ave

East/West Sepulveda Blvd

Day: Wednesday Date: March 22, 2017 Weather: SUNNY

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

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	2	28	200	202
BIKES	1	0	14	14
BUSES	0	0	8	6

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	33	7.30	30	7.30	420	7.45	508	7.30
PM PK 15 MIN	21	17.45	60	16.30	531	15.30	438	16.45
AM PK HOUR	101	7.00	90	7.15	1524	7.30	1889	7.00
PM PK HOUR	58	17.00	185	16.30	2014	15.30	1680	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	83	5	13	101
8-9	45	2	10	57
9-10	41	2	9	52
15-16	29	1	12	42
16-17	38	4	9	51
17-18	45	4	9	58
TOTAL	281	18	62	361

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	19	1	64	84
8-9	18	1	44	63
9-10	31	2	29	62
15-16	67	13	75	155
16-17	83	15	70	168
17-18	84	29	65	178
TOTAL	302	61	347	710

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
185	0	0	3	0
120	2	0	2	0
114	2	1	7	0
197	2	0	3	0
219	0	0	4	0
236	2	0	4	0
1071	8	1	23	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	28	1289	23	1340
8-9	20	1331	30	1381
9-10	16	1124	28	1168
15-16	41	1852	50	1943
16-17	32	1852	47	1931
17-18	22	1805	63	1890
TOTAL	159	9253	241	9653

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	5	1820	64	1889
8-9	7	1598	79	1684
9-10	4	1319	43	1366
15-16	11	1416	41	1468
16-17	6	1503	41	1550
17-18	20	1597	53	1670
TOTAL	53	9253	321	9627

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
3229	1	0	0	0
3065	3	0	2	0
2534	0	0	1	0
3411	1	0	0	0
3481	1	0	0	0
3560	1	0	2	0
19280	7	0	5	0

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Halldale Ave

East/West Sepulveda Blvd

Day: Thursday Date: November 5, 2015 Weather: SUNNY

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

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	3	0	195	181
BIKES	1	0	10	11
BUSES	0	0	6	9

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	17	8.30	0	0.00	436	8.00	614	7.30
PM PK 15 MIN	12	17.30	0	0.00	504	16.30	444	17.15
AM PK HOUR	50	8.30	0	0.00	1615	7.30	2122	7.15
PM PK HOUR	30	17.00	0	0.00	1885	15.15	1706	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	9	0	38	47
8-9	7	0	42	49
9-10	8	0	25	33
15-16	0	0	21	21
16-17	2	0	14	16
17-18	6	0	24	30
TOTAL	32	0	164	196

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
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
47	1	0	3	2
49	1	0	1	0
33	3	0	2	0
21	0	0	2	0
16	1	0	12	0
30	0	0	4	0
196	6	0	24	2

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1423	7	1430
8-9	2	1470	14	1486
9-10	1	1166	5	1172
15-16	0	1769	29	1798
16-17	1	1827	30	1858
17-18	0	1798	26	1824
TOTAL	4	9453	111	9568

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	8	2092	0	2100
8-9	18	1835	0	1853
9-10	15	1414	0	1429
15-16	33	1601	0	1634
16-17	43	1512	0	1555
17-18	39	1655	0	1694
TOTAL	156	10109	0	10265

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
3530	0	0	0	0
3339	0	0	0	0
2601	0	0	0	0
3432	0	0	0	0
3413	0	0	0	0
3518	0	0	0	0
19833	0	0	0	0

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South NORMANDIE AV.

East/West SEPULVEDA BL.

Day: TUESDAY **Date:** September 12, 2017 **Weather:** SUNNY

Hours: 7-10AM 3-6PM **Staff:** MIO

School Day: YES **District:** SOUTHERN I/S CODE 0

	N/B	S/B	E/B	W/B
DUAL-WHEELED	52	112	184	236
BIKES	8	5	3	7
BUSES	41	41	26	21

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	235	8.00	232	7.30	395	7.45	568	7.45
PM PK 15 MIN	157	3.15	332	5.15	448	3.30	453	5.45
AM PK HOUR	882	7.30	735	7.15	1441	7.30	2092	7.45
PM PK HOUR	564	3.00	1158	5.00	1712	3.15	1642	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	141	521	72	734
8-9	175	554	79	808
9-10	132	295	80	507
3-4	132	335	97	564
4-5	97	303	66	466
5-6	120	293	91	504
TOTAL	797	2301	485	3583

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	91	466	148	705
8-9	81	309	132	522
9-10	108	258	113	479
3-4	165	471	156	792
4-5	182	554	190	926
5-6	256	737	165	1158
TOTAL	883	2795	904	4582

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
1439	1	0	4	0
1330	6	0	11	0
986	9	0	7	0
1356	7	0	17	0
1392	9	0	7	0
1662	4	0	13	0
8165	36	0	59	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	93	1221	67	1381
8-9	129	1065	90	1284
9-10	80	1058	69	1207
3-4	113	1446	121	1680
4-5	98	1443	101	1642
5-6	91	1462	101	1654
TOTAL	604	7695	549	8848

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	117	1738	167	2022
8-9	123	1691	177	1991
9-10	92	1267	117	1476
3-4	140	1199	92	1431
4-5	160	1322	102	1584
5-6	162	1376	104	1642
TOTAL	794	8593	759	10146

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
3403	2	0	4	0
3275	5	0	6	0
2683	6	0	15	0
3111	4	0	4	0
3226	4	0	8	0
3296	6	0	4	0
18994	27	0	41	0

(Rev Oct 06)

Turning Movement Count Report

Total Vehicles

Location ID: 1
North/South: Western Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	21	74	19	21	248	46	45	100	10	10	143	24	761
7:15	40	101	21	32	275	43	44	120	20	7	158	12	873
7:30	41	111	15	31	351	52	47	133	22	11	219	22	1055
7:45	52	142	27	41	286	55	50	165	25	8	181	26	1058
8:00	43	114	20	37	278	61	45	120	35	12	188	40	993
8:15	40	141	20	29	269	67	56	125	28	12	171	22	980
8:30	38	135	13	27	284	66	51	121	31	16	165	19	966
8:45	35	147	22	28	273	63	57	149	26	14	177	29	1020
9:00	31	106	16	30	232	56	38	111	27	10	203	22	882
9:15	31	123	21	28	252	37	50	103	17	10	151	29	852
9:30	32	125	24	18	234	46	44	119	23	15	175	28	883
9:45	38	127	27	35	223	52	57	108	30	23	183	36	939
Total Volume:	442	1446	245	357	3205	644	584	1474	294	148	2114	309	11262
Approach %	21%	68%	11%	8%	76%	15%	25%	63%	13%	6%	82%	12%	
Peak Hr Begin:	7:30												
PHV	176	508	82	138	1184	235	198	543	110	43	759	110	4086
PHF	0.867			0.897			0.886			0.905			0.966

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	33	147	34	33	284	61	61	127	35	31	293	53	1192
15:15	37	180	39	28	208	56	71	147	31	29	312	54	1192
15:30	43	180	43	40	288	80	85	169	30	22	340	52	1372
15:45	30	197	39	45	241	65	60	142	40	46	339	48	1292
16:00	35	181	36	43	261	57	74	180	29	32	300	52	1280
16:15	34	178	39	49	296	67	55	146	29	38	346	58	1335
16:30	32	168	40	38	297	71	83	179	39	29	316	51	1343
16:45	43	186	36	45	249	77	80	156	29	30	330	61	1322
17:00	32	178	39	51	264	60	84	156	35	46	368	49	1362
17:15	40	206	49	31	243	67	101	184	37	23	337	40	1358
17:30	33	180	41	49	262	81	61	125	25	34	368	52	1311
17:45	36	168	38	38	265	61	58	129	36	34	309	52	1224
Total Volume:	428	2149	473	490	3158	803	873	1840	395	394	3958	622	15583
Approach %	14%	70%	16%	11%	71%	18%	28%	59%	13%	8%	80%	13%	
Peak Hr Begin:	16:30												
PHV	147	738	164	165	1053	275	348	675	140	128	1351	201	5385
PHF	0.889			0.919			0.903			0.907			0.988

Turning Movement Count Report

Passenger Vehicles

Location ID: 1
North/South: Western Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	19	70	19	21	237	44	40	98	10	10	141	23	732
7:15	37	94	18	32	268	41	43	118	20	7	154	11	843
7:30	38	107	14	31	338	52	45	127	22	11	207	21	1013
7:45	50	137	27	37	275	55	47	158	25	8	178	24	1021
8:00	41	111	18	36	271	60	44	117	35	12	180	38	963
8:15	38	138	19	29	260	67	54	124	28	11	169	21	958
8:30	37	125	13	27	274	65	47	117	31	15	160	18	929
8:45	32	142	22	26	266	60	54	145	26	14	168	28	983
9:00	28	97	15	28	222	53	36	108	27	10	197	22	843
9:15	25	103	21	27	234	34	47	102	17	9	148	29	796
9:30	27	114	21	18	225	46	42	116	22	11	168	27	837
9:45	35	122	25	32	217	51	53	106	30	19	176	34	900
Total Volume:	407	1360	232	344	3087	628	552	1436	293	137	2046	296	10818
Approach %	20%	68%	12%	8%	76%	15%	24%	63%	13%	6%	83%	12%	
Peak Hr Begin:	7:30												
PHV	167	493	78	133	1144	234	190	526	110	42	734	104	3955
PHF	0.862			0.897			0.898			0.921			0.968

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	29	141	34	32	277	60	60	123	35	31	279	50	1151
15:15	37	174	37	27	202	56	69	143	31	28	300	54	1158
15:30	40	177	41	36	284	77	84	162	30	22	335	51	1339
15:45	30	193	38	45	236	64	59	134	40	46	330	44	1259
16:00	35	178	35	42	255	57	72	173	29	32	291	49	1248
16:15	33	173	39	48	292	60	53	142	29	38	337	58	1302
16:30	32	164	40	38	295	70	82	174	39	29	313	50	1326
16:45	42	185	36	42	247	77	78	153	29	30	326	61	1306
17:00	32	175	38	49	258	59	84	154	35	46	360	49	1339
17:15	39	203	49	30	241	63	101	180	37	23	332	39	1337
17:30	33	179	41	48	259	81	59	122	25	34	364	52	1297
17:45	36	166	38	38	264	61	57	126	36	34	307	52	1215
Total Volume:	418	2108	466	475	3110	785	858	1786	395	393	3874	609	15277
Approach %	14%	70%	16%	11%	71%	18%	28%	59%	13%	8%	79%	12%	
Peak Hr Begin:	16:30												
PHV	145	727	163	159	1041	269	345	661	140	128	1331	199	5308
PHF	0.889			0.911			0.901			0.911			0.991

Turning Movement Count Report

Light Trucks

Location ID: 1
North/South: Western Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	4	0	0	7	2	3	2	0	0	0	1	21
7:15	3	7	3	0	7	2	1	2	0	0	4	1	30
7:30	3	4	1	0	12	0	2	5	0	0	9	1	37
7:45	2	5	0	3	9	0	1	7	0	0	2	1	30
8:00	2	3	2	1	6	1	1	3	0	0	6	1	26
8:15	2	3	1	0	7	0	1	1	0	1	2	1	19
8:30	1	10	0	0	7	1	4	2	0	1	3	1	30
8:45	3	4	0	2	5	2	2	4	0	0	7	0	29
9:00	2	9	1	1	7	2	2	3	0	0	6	0	33
9:15	6	19	0	1	15	3	2	1	0	1	3	0	51
9:30	2	11	3	0	6	0	2	3	1	4	5	1	38
9:45	2	4	2	2	5	1	4	2	0	4	5	2	33
Total Volume:	30	83	13	10	93	14	25	35	1	11	52	10	377
Approach %	24%	66%	10%	9%	79%	12%	41%	57%	2%	15%	71%	14%	
Peak Hr Begin:	9:00												
PHV	12	43	6	4	33	6	10	9	1	9	19	3	155
PHF	0.610			0.566			0.833			0.705			0.760

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	4	5	0	0	6	0	1	4	0	0	12	2	34
15:15	0	6	0	1	5	0	1	4	0	1	12	0	30
15:30	2	3	2	4	3	3	1	6	0	0	5	1	30
15:45	0	4	0	0	5	1	1	7	0	0	8	3	29
16:00	0	3	1	0	6	0	1	7	0	0	9	3	30
16:15	1	4	0	1	3	6	1	3	0	0	7	0	26
16:30	0	4	0	0	2	1	1	5	0	0	2	1	16
16:45	1	1	0	3	2	0	2	2	0	0	3	0	14
17:00	0	3	1	2	3	0	0	1	0	0	7	0	17
17:15	1	2	0	1	1	3	0	4	0	0	3	1	16
17:30	0	1	0	1	2	0	2	3	0	0	4	0	13
17:45	0	1	0	0	1	0	1	3	0	0	2	0	8
Total Volume:	9	37	4	13	39	14	12	49	0	1	74	11	263
Approach %	18%	74%	8%	20%	59%	21%	20%	80%	0%	1%	86%	13%	
Peak Hr Begin:	15:00												
PHV	6	18	2	5	19	4	4	21	0	1	37	6	123
PHF	0.722			0.700			0.781			0.786			0.904

Turning Movement Count Report

Heavy Trucks

Location ID: 1
North/South: Western Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	4	0	2	0	0	0	2	0	8
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	1	0	0	1	0	0	3	0	5
7:45	0	0	0	1	2	0	2	0	0	0	1	1	7
8:00	0	0	0	0	1	0	0	0	0	0	2	1	4
8:15	0	0	0	0	2	0	1	0	0	0	0	0	3
8:30	0	0	0	0	3	0	0	2	0	0	2	0	7
8:45	0	1	0	0	2	1	1	0	0	0	2	1	8
9:00	1	0	0	1	3	1	0	0	0	0	0	0	6
9:15	0	1	0	0	3	0	1	0	0	0	0	0	5
9:30	3	0	0	0	3	0	0	0	0	0	2	0	8
9:45	1	1	0	1	1	0	0	0	0	0	2	0	6
Total Volume:	5	3	0	3	25	2	7	3	0	0	16	3	67
Approach %	63%	38%	0%	10%	83%	7%	70%	30%	0%	0%	84%	16%	
Peak Hr Begin:	8:45												
PHV	4	2	0	1	11	2	2	0	0	0	4	1	27
PHF	0.500			0.700			0.500			0.417			0.844

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	1	0	1	1	1	0	0	0	0	2	1	7
15:15	0	0	2	0	1	0	1	0	0	0	0	0	4
15:30	1	0	0	0	1	0	0	1	0	0	0	0	3
15:45	0	0	1	0	0	0	0	1	0	0	1	1	4
16:00	0	0	0	1	0	0	1	0	0	0	0	0	2
16:15	0	1	0	0	1	1	1	1	0	0	2	0	7
16:30	0	0	0	0	0	0	0	0	0	0	1	0	1
16:45	0	0	0	0	0	0	0	1	0	0	1	0	2
17:00	0	0	0	0	3	1	0	1	0	0	1	0	6
17:15	0	1	0	0	1	1	0	0	0	0	2	0	5
17:30	0	0	0	0	1	0	0	0	0	0	0	0	1
17:45	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume:	1	4	3	2	9	4	3	5	0	0	10	2	43
Approach %	13%	50%	38%	13%	60%	27%	38%	63%	0%	0%	83%	17%	
Peak Hr Begin:	15:00												
PHV	1	1	3	1	3	1	1	2	0	0	3	2	18
PHF	0.625			0.417			0.750			0.417			0.643

Bicycle & Pedestrian Count

Location ID: 1
North/South: Western Avenue
East/West: Sepulveda Boulevard
Date: 10/20/20
City: Torrance, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	0	1	0	2	1	1	0
7:15	0	0	2	0	0	1	0	0
7:30	1	1	5	0	3	0	0	0
7:45	0	0	4	1	1	0	0	0
8:00	0	0	1	2	0	0	0	0
8:15	3	1	1	1	0	1	0	0
8:30	0	0	2	0	0	1	0	1
8:45	0	0	0	0	0	0	0	0
9:00	1	1	1	1	0	0	0	0
9:15	0	0	1	0	0	0	1	0
9:30	1	0	3	0	2	0	1	0
9:45	2	1	1	1	0	0	0	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	0	0	0	0	3	0	0	0
15:15	0	0	0	0	2	0	0	0
15:30	0	1	0	0	1	1	0	0
15:45	0	0	2	0	0	0	0	0
16:00	2	0	3	0	1	0	0	0
16:15	2	0	2	0	1	0	0	0
16:30	1	0	1	0	1	0	0	0
16:45	1	0	2	0	5	0	0	0
17:00	1	1	0	0	0	5	0	0
17:15	0	1	4	0	1	0	0	0
17:30	1	0	2	0	2	0	0	0
17:45	3	1	3	0	1	1	2	0

Turning Movement Count Report

Total Vehicles

Location ID: 2
North/South: Lockness Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	8	0	3	14	343	0	4	2	6	2	198	3	583
7:15	7	1	3	6	311	0	2	0	15	4	209	0	558
7:30	8	0	2	6	423	1	0	0	14	1	252	3	710
7:45	9	0	4	13	356	2	4	1	13	2	262	6	672
8:00	7	1	1	14	371	1	4	0	15	3	238	1	656
8:15	7	0	4	10	345	0	3	0	11	4	225	3	612
8:30	9	1	6	11	354	2	4	0	9	5	199	3	603
8:45	10	0	3	13	380	1	0	0	14	7	258	3	689
9:00	6	1	8	5	313	0	1	1	7	3	241	4	590
9:15	9	1	5	6	283	3	3	0	12	3	205	3	533
9:30	7	2	3	7	294	0	3	1	9	5	238	2	571
9:45	7	0	10	12	294	1	2	0	10	5	239	5	585
Total Volume:	94	7	52	117	4067	11	30	5	135	44	2764	36	7362
Approach %	61%	5%	34%	3%	97%	0%	18%	3%	79%	2%	97%	1%	

Peak Hr Begin:	7:30												
PHV	31	1	11	43	1495	4	11	1	53	10	977	13	2650
PHF	0.827			0.897			0.855			0.926			0.933

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	9	1	17	8	335	6	2	0	10	7	362	3	760
15:15	16	0	20	9	273	5	2	0	7	12	389	6	739
15:30	17	4	20	11	365	3	4	0	13	11	412	5	865
15:45	10	2	19	22	308	0	1	1	8	8	411	5	795
16:00	17	1	25	13	369	5	2	0	15	7	396	7	857
16:15	22	0	14	11	341	2	3	1	5	10	400	4	813
16:30	14	3	26	11	375	1	0	1	5	10	408	10	864
16:45	11	2	20	12	347	3	1	0	14	12	449	10	881
17:00	20	6	28	16	331	5	1	1	11	13	433	9	874
17:15	16	8	26	14	322	5	3	0	15	12	459	11	891
17:30	12	2	21	10	357	1	2	0	6	23	407	16	857
17:45	13	1	16	24	315	3	2	1	8	18	381	8	790
Total Volume:	177	30	252	161	4038	39	23	5	117	143	4907	94	9986
Approach %	39%	7%	55%	4%	95%	1%	16%	3%	81%	3%	95%	2%	

Peak Hr Begin:	16:30												
PHV	61	19	100	53	1375	14	5	2	45	47	1749	40	3510
PHF	0.833			0.932			0.722			0.952			0.985

Turning Movement Count Report

Passenger Vehicles

Location ID: 2
North/South: Lockness Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	8	0	3	14	330	0	4	2	6	2	190	3	562
7:15	6	1	2	6	304	0	2	0	15	4	202	0	542
7:30	7	0	0	6	411	1	0	0	14	1	239	3	682
7:45	8	0	3	13	347	2	4	1	13	2	255	6	654
8:00	6	1	1	14	363	1	4	0	15	3	229	1	638
8:15	7	0	4	10	338	0	3	0	10	4	221	3	600
8:30	9	1	4	10	345	2	4	0	9	5	192	3	584
8:45	10	0	3	13	369	1	0	0	14	7	251	3	671
9:00	6	1	8	4	297	0	1	1	7	3	234	4	566
9:15	9	1	5	5	266	3	3	0	12	3	200	2	509
9:30	7	1	1	6	284	0	3	1	9	5	227	2	546
9:45	6	0	10	10	283	1	2	0	10	5	225	4	556
Total Volume:	89	6	44	111	3937	11	30	5	134	44	2665	34	7110
Approach %	64%	4%	32%	3%	97%	0%	18%	3%	79%	2%	97%	1%	
Peak Hr Begin:	7:30												
PHV	28	1	8	43	1459	4	11	1	52	10	944	13	2574
PHF	0.841			0.901			0.842			0.919			0.944

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	9	1	17	8	324	6	2	0	10	5	350	3	735
15:15	15	0	20	9	267	5	2	0	7	12	375	6	718
15:30	16	3	19	11	355	3	4	0	13	11	409	5	849
15:45	10	2	18	20	303	0	1	1	8	8	400	5	776
16:00	17	1	24	13	362	5	2	0	15	7	387	6	839
16:15	20	0	14	11	334	2	3	1	4	10	389	4	792
16:30	14	3	26	11	369	1	0	1	5	10	404	10	854
16:45	11	2	19	11	342	3	1	0	14	12	446	9	870
17:00	20	6	28	16	324	5	1	1	10	13	426	9	859
17:15	16	8	26	14	315	5	3	0	15	12	453	11	878
17:30	12	2	21	10	353	1	2	0	6	23	404	15	849
17:45	13	1	16	22	314	3	2	1	8	18	380	8	786
Total Volume:	173	29	248	156	3962	39	23	5	115	141	4823	91	9805
Approach %	38%	6%	55%	4%	95%	1%	16%	3%	80%	3%	95%	2%	
Peak Hr Begin:	16:30												
PHV	61	19	99	52	1350	14	5	2	44	47	1729	39	3461
PHF	0.829			0.929			0.708			0.953			0.985

Turning Movement Count Report

Light Trucks

Location ID: 2
North/South: Lockness Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	9	0	0	0	0	0	4	0	13
7:15	1	0	1	0	7	0	0	0	0	0	7	0	16
7:30	1	0	1	0	9	0	0	0	0	0	11	0	22
7:45	1	0	0	0	7	0	0	0	0	0	3	0	11
8:00	1	0	0	0	7	0	0	0	0	0	7	0	15
8:15	0	0	0	0	5	0	0	0	1	0	4	0	10
8:30	0	0	2	0	6	0	0	0	0	0	4	0	12
8:45	0	0	0	0	8	0	0	0	0	0	4	0	12
9:00	0	0	0	1	11	0	0	0	0	0	7	0	19
9:15	0	0	0	1	14	0	0	0	0	0	4	1	20
9:30	0	1	2	1	7	0	0	0	0	0	9	0	20
9:45	0	0	0	2	8	0	0	0	0	0	11	1	22
Total Volume:	4	1	6	5	98	0	0	0	1	0	75	2	192
Approach %	36%	9%	55%	5%	95%	0%	0%	0%	100%	0%	97%	3%	

Peak Hr Begin:	9:00												
PHV	0	1	2	5	40	0	0	0	0	0	31	2	81
PHF	0.250			0.750			0.000			0.688			0.920

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	8	0	0	0	0	2	11	0	21
15:15	1	0	0	0	5	0	0	0	0	0	10	0	16
15:30	1	1	1	0	9	0	0	0	0	0	3	0	15
15:45	0	0	1	2	5	0	0	0	0	0	8	0	16
16:00	0	0	1	0	5	0	0	0	0	0	7	1	14
16:15	2	0	0	0	4	0	0	0	1	0	8	0	15
16:30	0	0	0	0	5	0	0	0	0	0	3	0	8
16:45	0	0	1	1	5	0	0	0	0	0	2	1	10
17:00	0	0	0	0	4	0	0	0	1	0	6	0	11
17:15	0	0	0	0	5	0	0	0	0	0	4	0	9
17:30	0	0	0	0	3	0	0	0	0	0	3	1	7
17:45	0	0	0	2	1	0	0	0	0	0	1	0	4
Total Volume:	4	1	4	5	59	0	0	0	2	2	66	3	146
Approach %	44%	11%	44%	8%	92%	0%	0%	0%	100%	3%	93%	4%	

Peak Hr Begin:	15:00												
PHV	2	1	2	2	27	0	0	0	0	2	32	0	68
PHF	0.417			0.806			0.000			0.654			0.810

Turning Movement Count Report

Heavy Trucks

Location ID: 2
North/South: Lockness Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	4	0	0	0	0	0	4	0	8
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	1	0	3	0	0	0	0	0	2	0	6
7:45	0	0	1	0	2	0	0	0	0	0	4	0	7
8:00	0	0	0	0	1	0	0	0	0	0	2	0	3
8:15	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30	0	0	0	1	3	0	0	0	0	0	3	0	7
8:45	0	0	0	0	3	0	0	0	0	0	3	0	6
9:00	0	0	0	0	5	0	0	0	0	0	0	0	5
9:15	0	0	0	0	3	0	0	0	0	0	1	0	4
9:30	0	0	0	0	3	0	0	0	0	0	2	0	5
9:45	1	0	0	0	3	0	0	0	0	0	3	0	7
Total Volume:	1	0	2	1	32	0	0	0	0	0	24	0	60
Approach %	33%	0%	67%	3%	97%	0%	0%	0%	0%	0%	100%	0%	

Peak Hr Begin:	8:30												
PHV	0	0	0	1	14	0	0	0	0	0	7	0	22
PHF	0.000			0.750			0.000			0.583			0.786

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	3	0	0	0	0	0	1	0	4
15:15	0	0	0	0	1	0	0	0	0	0	4	0	5
15:30	0	0	0	0	1	0	0	0	0	0	0	0	1
15:45	0	0	0	0	0	0	0	0	0	0	3	0	3
16:00	0	0	0	0	2	0	0	0	0	0	2	0	4
16:15	0	0	0	0	3	0	0	0	0	0	3	0	6
16:30	0	0	0	0	1	0	0	0	0	0	1	0	2
16:45	0	0	0	0	0	0	0	0	0	0	1	0	1
17:00	0	0	0	0	3	0	0	0	0	0	1	0	4
17:15	0	0	0	0	2	0	0	0	0	0	2	0	4
17:30	0	0	0	0	1	0	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume:	0	0	0	0	17	0	0	0	0	0	18	0	35
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	

Peak Hr Begin:	15:45												
PHV	0	0	0	0	6	0	0	0	0	0	9	0	15
PHF	0.000			0.500			0.000			0.750			0.625

Bicycle & Pedestrian Count

Location ID: 2
North/South: Lockness Avenue
East/West: Sepulveda Boulevard
Date: 10/20/20
City: Harbor City, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	2	0	0	0	0	2	0	0
7:15	1	0	0	0	0	0	0	0
7:30	1	1	0	0	0	0	0	0
7:45	1	1	0	0	2	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	1	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	1	0	0	0	0	0	0
9:00	1	0	0	0	1	1	0	0
9:15	0	0	0	0	1	0	0	0
9:30	1	0	1	0	1	0	0	0
9:45	1	0	0	0	1	0	0	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	1	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	1	0	2	0	1	1	0	0
16:00	2	0	0	0	0	0	2	0
16:15	3	0	0	0	0	0	0	0
16:30	1	0	0	0	0	0	0	0
16:45	1	1	0	0	0	1	5	0
17:00	2	0	1	0	1	0	0	0
17:15	2	1	0	0	1	0	0	0
17:30	1	2	0	0	0	0	0	0
17:45	1	0	1	0	1	2	0	0

Turning Movement Count Report

Total Vehicles

Location ID: 3
North/South: Halldale Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	336	3	7	0	0	1	202	0	549
7:15	0	0	0	0	304	4	10	0	4	2	214	0	538
7:30	0	0	0	0	437	3	8	0	0	3	248	0	699
7:45	0	0	0	0	368	4	5	0	2	2	277	0	658
8:00	0	0	0	0	383	5	7	0	1	5	241	0	642
8:15	0	0	0	0	346	2	2	0	0	2	232	0	584
8:30	0	0	0	0	374	5	8	0	2	2	205	0	596
8:45	0	0	0	0	374	7	3	0	2	5	248	0	639
9:00	0	0	0	0	319	4	5	0	1	4	249	0	582
9:15	0	0	0	0	288	3	11	0	3	1	219	0	525
9:30	0	0	0	0	312	6	10	0	1	0	248	0	577
9:45	0	0	0	0	295	5	4	0	1	3	264	0	572
Total Volume:	0	0	0	0	4136	51	80	0	17	30	2847	0	7161
Approach %	0%	0%	0%	0%	99%	1%	82%	0%	18%	1%	99%	0%	

Peak Hr Begin:	7:30												
PHV	0	0	0	0	1534	14	22	0	3	12	998	0	2583
PHF	0.000			0.880			0.781			0.905			0.924

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	345	2	6	0	0	4	380	0	737
15:15	0	0	0	0	309	6	1	0	0	6	403	0	725
15:30	0	0	0	0	364	12	6	0	1	3	437	0	823
15:45	0	0	0	0	341	8	7	0	0	2	425	0	783
16:00	0	0	0	0	371	4	4	0	0	7	434	0	820
16:15	0	0	0	0	360	10	3	0	2	6	396	0	777
16:30	0	0	0	0	375	7	6	0	2	5	421	0	816
16:45	0	0	0	0	371	14	3	0	1	11	476	0	876
17:00	0	0	0	0	335	4	5	0	2	4	448	0	798
17:15	0	0	0	0	352	8	4	0	0	7	437	0	808
17:30	0	0	0	0	353	3	7	0	0	8	446	0	817
17:45	0	0	0	0	353	5	4	0	1	9	406	0	778
Total Volume:	0	0	0	0	4229	83	56	0	9	72	5109	0	9558
Approach %	0%	0%	0%	0%	98%	2%	86%	0%	14%	1%	99%	0%	

Peak Hr Begin:	16:45												
PHV	0	0	0	0	1411	29	19	0	3	30	1807	0	3299
PHF	0.000			0.935			0.786			0.943			0.941

Turning Movement Count Report

Passenger Vehicles

Location ID: 3
North/South: Halldale Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	322	3	7	0	0	1	195	0	528
7:15	0	0	0	0	298	4	9	0	4	2	205	0	522
7:30	0	0	0	0	427	3	8	0	0	3	233	0	674
7:45	0	0	0	0	358	4	5	0	2	2	271	0	642
8:00	0	0	0	0	376	5	7	0	1	4	232	0	625
8:15	0	0	0	0	339	2	2	0	0	2	229	0	574
8:30	0	0	0	0	361	5	8	0	2	2	196	0	574
8:45	0	0	0	0	363	7	3	0	2	5	239	0	619
9:00	0	0	0	0	304	4	5	0	1	4	242	0	560
9:15	0	0	0	0	270	3	11	0	3	1	213	0	501
9:30	0	0	0	0	301	6	10	0	1	0	238	0	556
9:45	0	0	0	0	283	5	4	0	1	3	250	0	546
Total Volume:	0	0	0	0	4002	51	79	0	17	29	2743	0	6921
Approach %	0%	0%	0%	0%	99%	1%	82%	0%	18%	1%	99%	0%	

Peak Hr Begin:	7:30												
PHV	0	0	0	0	1500	14	22	0	3	11	965	0	2515
PHF	0.000			0.880			0.781			0.894			0.933

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	332	2	6	0	0	4	366	0	710
15:15	0	0	0	0	302	6	1	0	0	6	388	0	703
15:30	0	0	0	0	353	12	6	0	1	3	433	0	808
15:45	0	0	0	0	334	8	7	0	0	2	414	0	765
16:00	0	0	0	0	364	4	4	0	0	7	424	0	803
16:15	0	0	0	0	353	10	3	0	1	6	385	0	758
16:30	0	0	0	0	373	7	6	0	2	5	418	0	811
16:45	0	0	0	0	364	13	3	0	1	11	471	0	863
17:00	0	0	0	0	329	4	5	0	2	4	442	0	786
17:15	0	0	0	0	345	8	4	0	0	7	432	0	796
17:30	0	0	0	0	345	3	7	0	0	8	442	0	805
17:45	0	0	0	0	351	5	4	0	1	9	403	0	773
Total Volume:	0	0	0	0	4145	82	56	0	8	72	5018	0	9381
Approach %	0%	0%	0%	0%	98%	2%	88%	0%	13%	1%	99%	0%	

Peak Hr Begin:	16:30												
PHV	0	0	0	0	1411	32	18	0	5	27	1763	0	3256
PHF	0.000			0.949			0.719			0.928			0.943

Turning Movement Count Report

Light Trucks

Location ID: 3
North/South: Halldale Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	9	0	0	0	0	0	3	0	12
7:15	0	0	0	0	6	0	1	0	0	0	8	0	15
7:30	0	0	0	0	7	0	0	0	0	0	12	0	19
7:45	0	0	0	0	9	0	0	0	0	0	2	0	11
8:00	0	0	0	0	6	0	0	0	0	1	6	0	13
8:15	0	0	0	0	5	0	0	0	0	0	3	0	8
8:30	0	0	0	0	8	0	0	0	0	0	7	0	15
8:45	0	0	0	0	9	0	0	0	0	0	6	0	15
9:00	0	0	0	0	10	0	0	0	0	0	6	0	16
9:15	0	0	0	0	15	0	0	0	0	0	4	0	19
9:30	0	0	0	0	9	0	0	0	0	0	8	0	17
9:45	0	0	0	0	10	0	0	0	0	0	12	0	22
Total Volume:	0	0	0	0	103	0	1	0	0	1	77	0	182
Approach %	0%	0%	0%	0%	100%	0%	100%	0%	0%	1%	99%	0%	

Peak Hr Begin:	9:00												
PHV	0	0	0	0	44	0	0	0	0	0	30	0	74
PHF	0.000			0.733			0.000			0.625			0.841

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	11	0	0	0	0	0	10	0	21
15:15	0	0	0	0	5	0	0	0	0	0	11	0	16
15:30	0	0	0	0	11	0	0	0	0	0	4	0	15
15:45	0	0	0	0	7	0	0	0	0	0	9	0	16
16:00	0	0	0	0	5	0	0	0	0	0	8	0	13
16:15	0	0	0	0	6	0	0	0	1	0	8	0	15
16:30	0	0	0	0	2	0	0	0	0	0	3	0	5
16:45	0	0	0	0	7	1	0	0	0	0	3	0	11
17:00	0	0	0	0	2	0	0	0	0	0	5	0	7
17:15	0	0	0	0	5	0	0	0	0	0	4	0	9
17:30	0	0	0	0	5	0	0	0	0	0	3	0	8
17:45	0	0	0	0	2	0	0	0	0	0	3	0	5
Total Volume:	0	0	0	0	68	1	0	0	1	0	71	0	141
Approach %	0%	0%	0%	0%	99%	1%	0%	0%	100%	0%	100%	0%	

Peak Hr Begin:	15:00												
PHV	0	0	0	0	34	0	0	0	0	0	34	0	68
PHF	0.000			0.773			0.000			0.773			0.810

Turning Movement Count Report

Heavy Trucks

Location ID: 3
North/South: Halldale Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	5	0	0	0	0	0	4	0	9
7:15	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30	0	0	0	0	3	0	0	0	0	0	3	0	6
7:45	0	0	0	0	1	0	0	0	0	0	4	0	5
8:00	0	0	0	0	1	0	0	0	0	0	3	0	4
8:15	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30	0	0	0	0	5	0	0	0	0	0	2	0	7
8:45	0	0	0	0	2	0	0	0	0	0	3	0	5
9:00	0	0	0	0	5	0	0	0	0	0	1	0	6
9:15	0	0	0	0	3	0	0	0	0	0	2	0	5
9:30	0	0	0	0	2	0	0	0	0	0	2	0	4
9:45	0	0	0	0	2	0	0	0	0	0	2	0	4
Total Volume:	0	0	0	0	31	0	0	0	0	0	27	0	58
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	

Peak Hr Begin:	8:30												
PHV	0	0	0	0	15	0	0	0	0	0	8	0	23
PHF	0.000			0.750			0.000			0.667			0.821

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	2	0	0	0	0	0	4	0	6
15:15	0	0	0	0	2	0	0	0	0	0	4	0	6
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	2	0	2
16:00	0	0	0	0	2	0	0	0	0	0	2	0	4
16:15	0	0	0	0	1	0	0	0	0	0	3	0	4
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	2	0	2
17:00	0	0	0	0	4	0	0	0	0	0	1	0	5
17:15	0	0	0	0	2	0	0	0	0	0	1	0	3
17:30	0	0	0	0	3	0	0	0	0	0	1	0	4
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume:	0	0	0	0	16	0	0	0	0	0	20	0	36
Approach %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	

Peak Hr Begin:	15:00												
PHV	0	0	0	0	4	0	0	0	0	0	10	0	14
PHF	0.000			0.500			0.000			0.625			0.583

Bicycle & Pedestrian Count

Location ID: 3
North/South: Halldale Avenue
East/West: Sepulveda Boulevard
Date: 10/20/20
City: Carson, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	2	0	1	0	0	2	0	0
7:15	2	0	0	0	1	0	0	0
7:30	2	0	0	0	1	0	0	0
7:45	0	1	0	0	0	0	0	0
8:00	1	0	0	0	1	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	1	0	0	0	0	0	0
9:00	1	0	0	0	1	0	0	0
9:15	0	0	0	0	1	0	0	0
9:30	1	0	0	0	1	0	0	0
9:45	0	1	0	0	1	0	0	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	0	0	0	0	1	0	0	0
15:15	1	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	1	1	0	0	0	0	0	0
16:00	1	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	0
16:30	2	0	0	0	0	0	0	0
16:45	4	0	0	0	0	0	0	0
17:00	2	1	0	0	1	0	0	0
17:15	4	0	0	0	0	0	0	0
17:30	2	1	0	0	0	0	0	0
17:45	2	0	0	0	0	3	0	0

Turning Movement Count Report

Total Vehicles

Location ID: 4
North/South: Normandie Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	21	45	17	16	305	26	10	44	20	13	194	13	724
7:15	20	59	9	10	283	28	10	54	14	8	191	10	696
7:30	23	69	19	32	386	27	23	65	25	13	255	9	946
7:45	32	64	21	29	314	44	15	69	26	12	236	23	885
8:00	24	56	16	34	358	26	14	60	24	18	214	17	861
8:15	22	55	23	42	303	23	17	72	28	20	212	16	833
8:30	42	44	22	20	316	31	20	62	21	13	186	16	793
8:45	25	75	24	27	329	46	23	74	38	14	209	22	906
9:00	34	53	25	13	264	15	16	65	22	17	219	20	763
9:15	21	27	33	25	244	23	19	52	21	16	190	21	692
9:30	30	59	22	22	266	28	24	63	31	16	235	16	812
9:45	22	70	22	28	242	19	16	64	33	21	192	21	750
Total Volume:	316	676	253	298	3610	336	207	744	303	181	2533	204	9661
Approach %	25%	54%	20%	7%	85%	8%	17%	59%	24%	6%	87%	7%	
Peak Hr Begin:	7:30												
PHV	101	244	79	137	1361	120	69	266	103	63	917	65	3525
PHF	0.906			0.909			0.936			0.943			0.932

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	43	84	39	28	288	39	25	68	33	32	335	22	1036
15:15	41	88	34	30	272	54	40	72	25	20	336	25	1037
15:30	31	111	44	30	316	41	26	90	28	25	374	22	1138
15:45	31	92	49	32	309	45	13	75	27	15	374	38	1100
16:00	40	103	43	30	309	47	32	76	35	23	385	28	1151
16:15	33	63	39	30	328	46	20	75	30	20	358	33	1075
16:30	31	139	42	33	318	55	22	79	31	22	376	26	1174
16:45	41	112	41	33	337	50	33	72	28	30	344	27	1148
17:00	38	135	59	46	265	41	31	71	29	29	370	19	1133
17:15	36	97	30	25	288	52	20	82	30	21	369	31	1081
17:30	37	95	59	34	290	43	31	58	28	32	369	20	1096
17:45	37	82	26	17	301	60	19	65	29	28	365	20	1049
Total Volume:	439	1201	505	368	3621	573	312	883	353	297	4355	311	13218
Approach %	20%	56%	24%	8%	79%	13%	20%	57%	23%	6%	88%	6%	
Peak Hr Begin:	16:00												
PHV	145	417	165	126	1292	198	107	302	124	95	1463	114	4548
PHF	0.857			0.962			0.932			0.959			0.968

Turning Movement Count Report

Passenger Vehicles

Location ID: 4
North/South: Normandie Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	19	41	15	11	288	25	10	44	20	13	186	13	685
7:15	19	56	9	10	276	26	10	49	14	7	182	9	667
7:30	22	63	18	32	375	25	23	63	25	12	240	9	907
7:45	28	64	18	29	307	42	13	68	24	12	230	23	858
8:00	24	52	16	33	350	24	13	56	24	16	204	17	829
8:15	20	52	20	40	294	22	14	71	28	20	208	16	805
8:30	41	41	21	19	303	30	19	60	21	11	179	16	761
8:45	23	71	20	27	317	45	22	69	37	14	202	21	868
9:00	32	50	24	12	246	14	14	64	22	17	212	20	727
9:15	20	25	32	24	223	21	19	49	21	16	183	21	654
9:30	29	59	21	22	253	25	23	60	30	15	223	16	776
9:45	22	66	19	28	228	19	13	59	32	21	182	20	709
Total Volume:	299	640	233	287	3460	318	193	712	298	174	2431	201	9246
Approach %	26%	55%	20%	7%	85%	8%	16%	59%	25%	6%	87%	7%	
Peak Hr Begin:	7:30												
PHV	94	231	72	134	1326	113	63	258	101	60	882	65	3399
PHF	0.902			0.910			0.934			0.950			0.937

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	42	82	38	27	277	36	25	64	33	32	323	20	999
15:15	40	86	33	27	264	53	39	69	25	18	322	24	1000
15:30	31	106	42	27	306	40	26	83	27	25	371	22	1106
15:45	29	91	48	28	304	45	13	74	27	14	366	37	1076
16:00	39	101	42	26	303	45	32	72	34	23	371	27	1115
16:15	33	62	38	27	320	45	19	73	30	19	347	33	1046
16:30	31	137	39	30	316	54	22	76	31	22	373	26	1157
16:45	40	112	41	31	329	49	29	70	28	30	339	27	1125
17:00	38	134	58	43	255	40	31	71	29	29	364	19	1111
17:15	35	95	30	23	282	51	17	80	30	21	366	31	1061
17:30	34	94	58	29	286	41	28	57	28	32	365	19	1071
17:45	37	81	25	17	298	59	19	63	29	27	363	20	1038
Total Volume:	429	1181	492	335	3540	558	300	852	351	292	4270	305	12905
Approach %	20%	56%	23%	8%	80%	13%	20%	57%	23%	6%	88%	6%	
Peak Hr Begin:	16:30												
PHV	144	478	168	127	1182	194	99	297	118	102	1442	103	4454
PHF	0.859			0.919			0.981			0.978			0.962

Turning Movement Count Report

Light Trucks

Location ID: 4
North/South: Normandie Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	4	2	4	13	1	0	0	0	0	4	0	30
7:15	1	2	0	0	7	2	0	4	0	1	8	1	26
7:30	1	4	1	0	8	2	0	2	0	0	13	0	31
7:45	4	0	2	0	6	2	2	1	2	0	3	0	22
8:00	0	4	0	0	7	2	1	4	0	2	6	0	26
8:15	1	3	2	2	8	0	3	1	0	0	4	0	24
8:30	1	3	1	1	9	1	1	2	0	2	5	0	26
8:45	2	4	3	0	10	0	1	5	1	0	5	0	31
9:00	1	2	1	1	14	0	2	1	0	0	7	0	29
9:15	1	2	1	1	18	2	0	3	0	0	6	0	34
9:30	1	0	1	0	11	3	1	1	1	1	10	0	30
9:45	0	4	3	0	12	0	3	3	1	0	8	1	35
Total Volume:	15	32	17	9	123	15	14	27	5	6	79	2	344
Approach %	23%	50%	27%	6%	84%	10%	30%	59%	11%	7%	91%	2%	

Peak Hr Begin:	9:00												
PHV	3	8	6	2	55	5	6	8	2	1	31	1	128
PHF	0.607			0.738			0.571			0.750			0.914

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	1	2	0	1	8	1	0	3	0	0	11	2	29
15:15	1	2	1	2	6	1	1	3	0	2	12	0	31
15:30	0	4	2	3	10	0	0	7	1	0	3	0	30
15:45	2	1	1	1	5	0	0	1	0	1	6	1	19
16:00	0	2	0	1	5	2	0	2	1	0	13	1	27
16:15	0	1	1	2	7	1	1	2	0	1	9	0	25
16:30	0	2	2	3	2	1	0	3	0	0	2	0	15
16:45	1	0	0	2	8	1	4	1	0	0	4	0	21
17:00	0	1	1	3	6	1	0	0	0	0	4	0	16
17:15	1	2	0	2	4	1	3	1	0	0	2	0	16
17:30	3	1	1	5	3	2	3	1	0	0	3	1	23
17:45	0	1	1	0	3	1	0	2	0	1	2	0	11
Total Volume:	9	19	10	25	67	12	12	26	2	5	71	5	263
Approach %	24%	50%	26%	24%	64%	12%	30%	65%	5%	6%	88%	6%	

Peak Hr Begin:	15:00												
PHV	4	9	4	7	29	2	1	14	1	3	32	3	109
PHF	0.708			0.731			0.500			0.679			0.879

Turning Movement Count Report

Heavy Trucks

Location ID: 4
North/South: Normandie Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Torrance, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	1	4	0	0	0	0	0	4	0	9
7:15	0	1	0	0	0	0	0	1	0	0	1	0	3
7:30	0	2	0	0	3	0	0	0	0	1	2	0	8
7:45	0	0	1	0	1	0	0	0	0	0	3	0	5
8:00	0	0	0	1	1	0	0	0	0	0	4	0	6
8:15	1	0	1	0	1	1	0	0	0	0	0	0	4
8:30	0	0	0	0	4	0	0	0	0	0	2	0	6
8:45	0	0	1	0	2	1	0	0	0	0	2	1	7
9:00	1	1	0	0	4	1	0	0	0	0	0	0	7
9:15	0	0	0	0	3	0	0	0	0	0	1	0	4
9:30	0	0	0	0	2	0	0	2	0	0	2	0	6
9:45	0	0	0	0	2	0	0	2	0	0	2	0	6
Total Volume:	2	4	3	2	27	3	0	5	0	1	23	1	71
Approach %	22%	44%	33%	6%	84%	9%	0%	100%	0%	4%	92%	4%	

Peak Hr Begin:	7:00												
PHV	0	3	1	1	8	0	0	1	0	1	10	0	25
PHF	0.500			0.450			0.250			0.688			0.694

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	1	0	3	2	0	1	0	0	1	0	8
15:15	0	0	0	1	2	0	0	0	0	0	2	1	6
15:30	0	1	0	0	0	1	0	0	0	0	0	0	2
15:45	0	0	0	3	0	0	0	0	0	0	2	0	5
16:00	1	0	1	3	1	0	0	2	0	0	1	0	9
16:15	0	0	0	1	1	0	0	0	0	0	2	0	4
16:30	0	0	1	0	0	0	0	0	0	0	1	0	2
16:45	0	0	0	0	0	0	0	1	0	0	1	0	2
17:00	0	0	0	0	4	0	0	0	0	0	2	0	6
17:15	0	0	0	0	2	0	0	1	0	0	1	0	4
17:30	0	0	0	0	1	0	0	0	0	0	1	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume:	1	1	3	8	14	3	0	5	0	0	14	1	50
Approach %	20%	20%	60%	32%	56%	12%	0%	100%	0%	0%	93%	7%	

Peak Hr Begin:	15:15												
PHV	1	1	1	7	3	1	0	2	0	0	5	1	22
PHF	0.375			0.688			0.250			0.500			0.611

Bicycle & Pedestrian Count

Location ID: 4
North/South: Normandie Avenue
East/West: Sepulveda Boulevard
Date: 10/20/20
City: Torrance, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	2	0	3	0	1	2	0	0
7:15	4	0	3	0	2	0	1	0
7:30	1	0	3	0	1	1	1	0
7:45	0	0	0	0	2	0	0	0
8:00	1	0	0	0	1	0	1	0
8:15	1	0	0	0	0	0	0	0
8:30	0	1	1	0	0	0	0	0
8:45	2	1	3	0	1	0	0	0
9:00	1	0	3	0	2	1	2	0
9:15	1	0	3	0	0	1	1	0
9:30	1	0	2	0	4	0	2	0
9:45	2	0	2	0	0	0	2	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	3	0	3	0	2	0	2	0
15:15	4	0	1	0	0	0	0	0
15:30	1	0	5	0	0	0	3	0
15:45	6	2	2	0	1	1	1	0
16:00	6	0	0	1	1	0	4	0
16:15	2	0	1	3	0	1	0	0
16:30	2	2	2	0	0	0	1	0
16:45	4	1	1	3	0	0	0	0
17:00	1	0	1	0	2	0	2	0
17:15	2	1	0	0	0	0	1	0
17:30	1	1	2	0	1	0	1	0
17:45	2	0	1	0	0	1	1	1

Turning Movement Count Report

Total Vehicles

Location ID: 5
North/South: Vermont Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	20	44	26	11	311	72	85	37	21	2	203	11	843
7:15	23	82	28	14	326	69	126	48	30	3	210	17	976
7:30	32	52	35	7	369	77	127	60	15	3	258	15	1050
7:45	24	79	33	12	379	68	108	65	19	6	285	16	1094
8:00	25	74	40	17	365	78	109	54	18	2	214	20	1016
8:15	32	84	31	17	321	67	122	68	27	12	231	15	1027
8:30	26	76	34	10	325	62	108	58	23	6	207	20	955
8:45	34	73	35	19	336	66	87	60	23	9	222	14	978
9:00	23	68	48	7	252	66	92	50	20	2	225	22	875
9:15	29	67	36	8	250	66	103	60	32	8	223	18	900
9:30	33	70	45	5	261	67	79	47	17	6	244	24	898
9:45	30	76	26	15	252	61	97	49	26	5	220	17	874
Total Volume:	331	845	417	142	3747	819	1243	656	271	64	2742	209	11486
Approach %	21%	53%	26%	3%	80%	17%	57%	30%	12%	2%	91%	7%	
Peak Hr Begin:	7:30												
PHV	113	289	139	53	1434	290	466	247	79	23	988	66	4187
PHF	0.920			0.966			0.912			0.877			0.957

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	40	96	49	25	300	46	111	83	30	16	336	31	1163
15:15	42	91	50	14	315	42	102	94	28	10	346	38	1172
15:30	45	130	37	22	341	39	120	97	27	10	365	38	1271
15:45	33	130	41	17	333	38	131	83	26	15	373	45	1265
16:00	43	131	42	20	326	40	117	80	28	6	380	33	1246
16:15	34	115	42	18	373	43	98	85	28	13	364	40	1253
16:30	28	130	41	25	347	37	127	101	38	19	349	31	1273
16:45	32	106	44	22	379	44	108	86	29	10	383	39	1282
17:00	46	132	40	28	323	39	16	107	38	14	390	31	1204
17:15	36	127	50	22	363	44	136	73	21	10	373	38	1293
17:30	37	124	41	18	330	39	128	92	29	8	374	30	1250
17:45	38	108	43	21	348	45	121	73	18	12	369	31	1227
Total Volume:	454	1420	520	252	4078	496	1315	1054	340	143	4402	425	14899
Approach %	19%	59%	22%	5%	85%	10%	49%	39%	13%	3%	89%	9%	
Peak Hr Begin:	16:00												
PHV	137	482	169	85	1425	164	450	352	123	48	1476	143	5054
PHF	0.912			0.940			0.869			0.965			0.986

Turning Movement Count Report

Passenger Vehicles

Location ID: 5
North/South: Vermont Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	20	40	25	10	297	70	79	36	21	2	192	11	803
7:15	23	80	27	14	317	67	122	45	30	3	201	17	946
7:30	32	50	34	7	359	76	122	57	15	3	249	15	1019
7:45	24	77	31	12	373	65	105	63	19	5	275	15	1064
8:00	25	72	37	14	356	78	104	51	18	2	207	19	983
8:15	32	81	31	14	312	64	113	66	27	12	226	13	991
8:30	26	71	31	9	310	58	106	55	23	6	199	20	914
8:45	32	71	31	18	326	65	86	58	23	9	214	14	947
9:00	23	65	47	7	234	62	87	47	20	1	215	22	830
9:15	29	64	34	8	232	65	95	58	31	8	214	18	856
9:30	31	67	43	5	252	62	75	43	16	6	231	24	855
9:45	29	73	23	14	240	57	87	49	26	5	206	17	826
Total Volume:	326	811	394	132	3608	789	1181	628	269	62	2629	205	11034
Approach %	21%	53%	26%	3%	80%	17%	57%	30%	13%	2%	91%	7%	
Peak Hr Begin:	7:30												
PHV	113	280	133	47	1400	283	444	237	79	22	957	62	4057
PHF	0.913			0.961			0.922			0.882			0.953

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	39	93	48	24	285	43	108	80	29	16	325	31	1121
15:15	41	91	50	14	309	39	97	90	26	10	329	38	1134
15:30	45	127	36	20	332	39	117	95	24	10	362	38	1245
15:45	30	129	41	16	326	34	128	82	26	15	363	44	1234
16:00	43	127	42	20	315	39	113	79	27	6	367	32	1210
16:15	34	113	41	18	360	43	95	82	28	13	351	40	1218
16:30	28	129	40	23	340	36	123	99	38	19	343	31	1249
16:45	31	105	44	22	374	43	106	84	28	10	376	39	1262
17:00	46	132	39	28	310	38	13	105	37	13	385	31	1177
17:15	36	125	50	22	354	43	134	73	21	10	369	38	1275
17:30	36	123	40	17	322	38	126	90	27	8	368	30	1225
17:45	36	107	43	20	345	45	117	73	18	12	367	31	1214
Total Volume:	445	1401	514	244	3972	480	1277	1032	329	142	4305	423	14564
Approach %	19%	59%	22%	5%	85%	10%	48%	39%	12%	3%	88%	9%	
Peak Hr Begin:	16:30												
PHV	141	491	173	95	1378	160	376	361	124	52	1473	139	4963
PHF	0.927			0.930			0.828			0.970			0.973

Turning Movement Count Report

Light Trucks

Location ID: 5
North/South: Vermont Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	4	1	0	11	2	4	1	0	0	5	0	28
7:15	0	2	0	0	8	2	1	2	0	0	8	0	23
7:30	0	2	1	0	7	0	2	3	0	0	8	0	23
7:45	0	2	0	0	5	2	3	1	0	1	5	1	20
8:00	0	2	2	1	7	0	4	3	0	0	3	1	23
8:15	0	2	0	1	7	3	5	2	0	0	4	2	26
8:30	0	4	1	0	10	1	2	2	0	0	6	0	26
8:45	0	2	2	0	6	0	0	0	0	0	7	0	17
9:00	0	1	1	0	11	3	3	3	0	0	10	0	32
9:15	0	3	2	0	13	0	5	2	1	0	8	0	34
9:30	0	2	1	0	6	5	2	3	1	0	11	0	31
9:45	1	2	2	1	10	2	7	0	0	0	12	0	37
Total Volume:	1	28	13	3	101	20	38	22	2	1	87	4	320
Approach %	2%	67%	31%	2%	81%	16%	61%	35%	3%	1%	95%	4%	
Peak Hr Begin:	9:00												
PHV	1	8	6	1	40	10	17	8	2	0	41	0	134
PHF	0.750			0.911			0.844			0.854			0.905

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	1	3	0	0	9	2	1	3	1	0	9	0	29
15:15	1	0	0	0	4	2	4	4	2	0	14	0	31
15:30	0	1	1	1	8	0	3	2	3	0	3	0	22
15:45	1	1	0	0	4	3	3	1	0	0	7	1	21
16:00	0	3	0	0	7	0	4	1	1	0	11	1	28
16:15	0	2	0	0	10	0	0	3	0	0	11	0	26
16:30	0	0	1	1	5	1	4	2	0	0	4	0	18
16:45	1	1	0	0	5	1	1	2	1	0	6	0	18
17:00	0	0	1	0	8	0	3	2	1	1	4	0	20
17:15	0	1	0	0	8	0	1	0	0	0	3	0	13
17:30	1	0	1	1	6	0	2	2	2	0	5	0	20
17:45	2	1	0	1	3	0	3	0	0	0	2	0	12
Total Volume:	7	13	4	4	77	9	29	22	11	1	79	2	258
Approach %	29%	54%	17%	4%	86%	10%	47%	35%	18%	1%	96%	2%	
Peak Hr Begin:	15:00												
PHV	3	5	1	1	25	7	11	10	6	0	33	1	103
PHF	0.563			0.750			0.675			0.607			0.831

Turning Movement Count Report

Heavy Trucks

Location ID: 5
North/South: Vermont Avenue
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Harbor City, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	1	3	0	2	0	0	0	6	0	12
7:15	0	0	1	0	1	0	3	1	0	0	1	0	7
7:30	0	0	0	0	3	1	3	0	0	0	1	0	8
7:45	0	0	2	0	1	1	0	1	0	0	5	0	10
8:00	0	0	1	2	2	0	1	0	0	0	4	0	10
8:15	0	1	0	2	2	0	4	0	0	0	1	0	10
8:30	0	1	2	1	5	3	0	1	0	0	2	0	15
8:45	2	0	2	1	4	1	1	2	0	0	1	0	14
9:00	0	2	0	0	7	1	2	0	0	1	0	0	13
9:15	0	0	0	0	5	1	3	0	0	0	1	0	10
9:30	2	1	1	0	3	0	2	1	0	0	2	0	12
9:45	0	1	1	0	2	2	3	0	0	0	2	0	11
Total Volume:	4	6	10	7	38	10	24	6	0	1	26	0	132
Approach %	20%	30%	50%	13%	69%	18%	80%	20%	0%	4%	96%	0%	
Peak Hr Begin:	8:15												
PHV	2	4	4	4	18	5	7	3	0	1	4	0	52
PHF	0.625			0.750			0.625			0.625			0.867

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	1	1	6	1	2	0	0	0	2	0	13
15:15	0	0	0	0	2	1	1	0	0	0	3	0	7
15:30	0	2	0	1	1	0	0	0	0	0	0	0	4
15:45	2	0	0	1	3	1	0	0	0	0	3	0	10
16:00	0	1	0	0	4	1	0	0	0	0	2	0	8
16:15	0	0	1	0	3	0	3	0	0	0	2	0	9
16:30	0	1	0	1	2	0	0	0	0	0	2	0	6
16:45	0	0	0	0	0	0	1	0	0	0	1	0	2
17:00	0	0	0	0	5	1	0	0	0	0	1	0	7
17:15	0	1	0	0	1	1	1	0	0	0	1	0	5
17:30	0	1	0	0	2	1	0	0	0	0	1	0	5
17:45	0	0	0	0	0	0	1	0	0	0	0	0	1
Total Volume:	2	6	2	4	29	7	9	0	0	0	18	0	77
Approach %	20%	60%	20%	10%	73%	18%	100%	0%	0%	0%	100%	0%	
Peak Hr Begin:	15:00												
PHV	2	2	1	3	12	3	3	0	0	0	8	0	34
PHF	0.625			0.563			0.375			0.667			0.654

Bicycle & Pedestrian Count

Location ID:	5		
North/South:	Vermont Avenue	Date:	10/20/20
East/West:	Sepulveda Boulevard	City:	Harbor City, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	1	0	0	1	1	1	0
7:15	0	0	2	0	1	1	3	0
7:30	0	2	1	2	0	0	1	0
7:45	0	1	0	1	0	0	0	0
8:00	0	0	0	0	1	0	0	1
8:15	0	0	3	0	1	0	0	0
8:30	4	1	1	0	0	0	0	0
8:45	0	0	2	0	1	0	4	1
9:00	0	0	0	0	0	2	2	0
9:15	4	1	5	0	0	0	2	11
9:30	3	0	0	0	0	0	3	0
9:45	5	0	1	0	1	0	3	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	2	1	2	0	4	1	5	0
15:15	5	0	2	0	5	1	3	1
15:30	4	2	1	0	0	0	6	1
15:45	0	1	0	0	0	0	3	1
16:00	5	0	0	0	2	0	5	0
16:15	3	1	3	1	1	2	2	0
16:30	2	3	1	0	2	0	3	0
16:45	5	1	0	0	0	0	4	0
17:00	3	0	1	1	1	2	4	0
17:15	4	2	0	0	1	0	5	0
17:30	0	0	0	0	4	1	8	0
17:45	3	0	3	1	6	3	6	0

Turning Movement Count Report

Total Vehicles

Location ID: 6
North/South: I-110 SB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	271	9	54	24	123	0	3	0	0	2	307	0	793
7:15	269	6	46	26	174	0	4	0	0	3	375	0	903
7:30	295	7	51	34	184	0	3	0	0	3	409	0	986
7:45	288	11	50	29	180	1	5	0	0	2	449	0	1015
8:00	285	7	53	32	176	2	5	0	0	3	358	0	921
8:15	270	5	48	23	154	1	3	0	0	7	386	0	897
8:30	247	4	67	24	154	0	3	0	0	3	355	0	857
8:45	262	9	49	30	167	0	4	0	0	6	347	0	874
9:00	205	5	50	27	131	0	2	0	0	3	359	0	782
9:15	219	7	41	31	134	0	7	0	0	5	378	0	822
9:30	194	6	58	26	128	1	8	0	0	1	366	0	788
9:45	192	4	65	25	161	0	6	0	0	5	341	0	799
Total Volume:	2997	80	632	331	1866	5	53	0	0	43	4430	0	10437
Approach %	81%	2%	17%	15%	85%	0%	100%	0%	0%	1%	99%	0%	
Peak Hr Begin:	7:15												
PHV	1137	31	200	121	714	3	17	0	0	11	1591	0	3825
PHF	0.969			0.961			0.850			0.888			0.942

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	207	11	46	28	192	0	11	0	0	4	504	0	1003
15:15	198	8	62	28	186	0	5	0	0	4	510	0	1001
15:30	215	11	78	36	199	0	10	0	0	4	511	0	1064
15:45	228	10	90	30	189	0	16	0	0	1	546	0	1110
16:00	228	9	88	26	181	0	6	0	0	2	554	0	1094
16:15	232	11	100	28	203	0	5	0	0	4	510	0	1093
16:30	240	6	84	49	197	1	4	0	0	2	536	0	1119
16:45	224	9	93	44	236	1	8	0	0	1	521	0	1137
17:00	217	14	97	39	210	0	6	0	0	6	573	0	1162
17:15	236	13	90	40	203	0	15	0	0	2	563	0	1162
17:30	215	11	87	40	222	1	12	0	1	2	554	0	1145
17:45	251	10	111	43	172	1	5	0	0	6	522	0	1121
Total Volume:	2691	123	1026	431	2390	4	103	0	1	38	6404	0	13211
Approach %	70%	3%	27%	15%	85%	0%	99%	0%	1%	1%	99%	0%	
Peak Hr Begin:	16:45												
PHV	892	47	367	163	871	2	41	0	1	11	2211	0	4606
PHF	0.963			0.922			0.700			0.959			0.991

Turning Movement Count Report

Passenger Vehicles

Location ID: 6
North/South: I-110 SB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	260	9	46	14	118	0	3	0	0	2	289	0	741
7:15	263	6	33	19	171	0	4	0	0	3	364	0	863
7:30	287	7	40	28	182	0	3	0	0	3	394	0	944
7:45	280	10	40	25	180	1	4	0	0	2	433	0	975
8:00	280	7	49	24	169	2	3	0	0	2	345	0	881
8:15	259	5	39	19	150	1	3	0	0	7	371	0	854
8:30	232	3	47	16	152	0	3	0	0	3	343	0	799
8:45	255	9	45	24	161	0	3	0	0	6	331	0	834
9:00	190	5	42	21	125	0	2	0	0	3	344	0	732
9:15	201	6	35	20	131	0	6	0	0	5	361	0	765
9:30	184	5	43	19	124	1	8	0	0	1	349	0	734
9:45	178	4	50	17	157	0	6	0	0	4	317	0	733
Total Volume:	2869	76	509	246	1820	5	48	0	0	41	4241	0	9855
Approach %	83%	2%	15%	12%	88%	0%	100%	0%	0%	1%	99%	0%	
Peak Hr Begin:	7:15												
PHV	1110	30	162	96	702	3	14	0	0	10	1536	0	3663
PHF	0.969			0.954			0.875			0.889			0.939

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	196	11	37	28	185	0	11	0	0	4	489	0	961
15:15	193	8	56	23	184	0	5	0	0	4	493	0	966
15:30	210	11	67	34	194	0	10	0	0	4	501	0	1031
15:45	224	10	78	26	182	0	16	0	0	1	533	0	1070
16:00	220	9	74	23	175	0	5	0	0	2	539	0	1047
16:15	230	11	95	25	195	0	5	0	0	4	494	0	1059
16:30	240	6	77	44	188	1	4	0	0	2	522	0	1084
16:45	220	9	86	42	230	1	6	0	0	1	511	0	1106
17:00	213	13	88	37	201	0	6	0	0	5	565	0	1128
17:15	232	13	87	36	199	0	15	0	0	2	553	0	1137
17:30	212	11	83	36	217	1	11	0	1	2	547	0	1121
17:45	248	10	98	34	170	0	5	0	0	6	517	0	1088
Total Volume:	2638	122	926	388	2320	3	99	0	1	37	6264	0	12798
Approach %	72%	3%	25%	14%	86%	0%	99%	0%	1%	1%	99%	0%	
Peak Hr Begin:	15:00												
PHV	1	0	0	1	107	0	86	0	22	0	74	0	291
PHF	0.250			0.818			0.730			0.804			0.877

Turning Movement Count Report

Light Trucks

Location ID: 6
North/South: I-110 SB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	8	0	5	4	4	0	0	0	0	0	10	0	31
7:15	6	0	7	3	2	0	0	0	0	0	6	0	24
7:30	5	0	7	3	1	0	0	0	0	0	10	0	26
7:45	6	1	4	1	0	0	0	0	0	0	8	0	20
8:00	5	0	2	2	3	0	2	0	0	1	8	0	23
8:15	7	0	2	0	4	0	0	0	0	0	10	0	23
8:30	6	1	6	3	2	0	0	0	0	0	8	0	26
8:45	4	0	3	0	4	0	1	0	0	0	12	0	24
9:00	8	0	4	1	6	0	0	0	0	0	12	0	31
9:15	13	1	2	6	2	0	1	0	0	0	14	0	39
9:30	7	1	5	2	4	0	0	0	0	0	12	0	31
9:45	11	0	7	5	4	0	0	0	0	1	18	0	46
Total Volume:	86	4	54	30	36	0	4	0	0	2	128	0	344
Approach %	60%	3%	38%	45%	55%	0%	100%	0%	0%	2%	98%	0%	
Peak Hr Begin:	9:00												
PHV	39	2	18	14	16	0	1	0	0	1	56	0	147
PHF	0.819			0.833			0.250			0.750			0.799

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	6	0	2	0	4	0	0	0	0	0	10	0	22
15:15	3	0	5	2	1	0	0	0	0	0	13	0	24
15:30	5	0	6	1	3	0	0	0	0	0	10	0	25
15:45	3	0	9	0	4	0	0	0	0	0	10	0	26
16:00	4	0	5	1	4	0	1	0	0	0	14	0	29
16:15	2	0	1	1	4	0	0	0	0	0	12	0	20
16:30	0	0	1	5	7	0	0	0	0	0	10	0	23
16:45	3	0	2	2	5	0	2	0	0	0	9	0	23
17:00	2	1	4	2	7	0	0	0	0	1	6	0	23
17:15	2	0	0	2	4	0	0	0	0	0	8	0	16
17:30	1	0	1	1	5	0	1	0	0	0	6	0	15
17:45	2	0	7	3	2	1	0	0	0	0	4	0	19
Total Volume:	33	1	43	20	50	1	4	0	0	1	112	0	265
Approach %	43%	1%	56%	28%	70%	1%	100%	0%	0%	1%	99%	0%	
Peak Hr Begin:	15:30												
PHV	0	0	0	0	37	0	10	0	11	0	38	0	96
PHF	#DIV/0!			0.841			0.750			0.792			0.889

Turning Movement Count Report

Heavy Trucks

Location ID: 6
North/South: I-110 SB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	3	0	3	6	1	0	0	0	0	0	8	0	21
7:15	0	0	6	4	1	0	0	0	0	0	5	0	16
7:30	3	0	4	3	1	0	0	0	0	0	5	0	16
7:45	2	0	6	3	0	0	1	0	0	0	8	0	20
8:00	0	0	2	6	4	0	0	0	0	0	5	0	17
8:15	4	0	7	4	0	0	0	0	0	0	5	0	20
8:30	9	0	14	5	0	0	0	0	0	0	4	0	32
8:45	3	0	1	6	2	0	0	0	0	0	4	0	16
9:00	7	0	4	5	0	0	0	0	0	0	3	0	19
9:15	5	0	4	5	1	0	0	0	0	0	3	0	18
9:30	3	0	10	5	0	0	0	0	0	0	5	0	23
9:45	3	0	8	3	0	0	0	0	0	0	6	0	20
Total Volume:	42	0	69	55	10	0	1	0	0	0	61	0	238
Approach %	38%	0%	62%	85%	15%	0%	100%	0%	0%	0%	100%	0%	

Peak Hr Begin:	7:45												
PHV	15	0	29	18	4	0	1	0	0	0	22	0	89
PHF	0.478			0.550			0.250			0.688			0.695

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	5	0	7	0	3	0	0	0	0	0	5	0	20
15:15	2	0	1	3	1	0	0	0	0	0	4	0	11
15:30	0	0	5	1	2	0	0	0	0	0	0	0	8
15:45	1	0	3	4	3	0	0	0	0	0	3	0	14
16:00	4	0	9	2	2	0	0	0	0	0	1	0	18
16:15	0	0	4	2	4	0	0	0	0	0	4	0	14
16:30	0	0	6	0	2	0	0	0	0	0	4	0	12
16:45	1	0	5	0	1	0	0	0	0	0	1	0	8
17:00	2	0	5	0	2	0	0	0	0	0	2	0	11
17:15	2	0	3	2	0	0	0	0	0	0	2	0	9
17:30	2	0	3	3	0	0	0	0	0	0	1	0	9
17:45	1	0	6	6	0	0	0	0	0	0	1	0	14
Total Volume:	20	0	57	23	20	0	0	0	0	0	28	0	148
Approach %	26%	0%	74%	53%	47%	0%	0%	0%	0%	0%	100%	0%	

Peak Hr Begin:	15:00												
PHV	0	0	0	0	36	0	40	0	7	0	20	0	103
PHF	0.000			0.818			0.653			0.556			0.736

Bicycle & Pedestrian Count

Location ID:	6		
North/South:	I-110 SB Off Ramp	Date:	10/20/20
East/West:	Sepulveda Boulevard	City:	Carson, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	1	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	1	2	0	0	0	0	0	0
7:45	1	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	2	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	1	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	1	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	0	0	0	0	0	0	0	0
15:15	1	0	0	0	0	0	0	0
15:30	2	2	0	0	0	0	0	0
15:45	2	0	0	0	0	0	0	0
16:00	1	0	0	0	0	0	0	0
16:15	2	0	0	0	0	0	0	0
16:30	3	3	0	0	0	1	0	0
16:45	1	0	0	0	0	0	0	0
17:00	5	0	0	0	0	0	0	0
17:15	1	2	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	0

Turning Movement Count Report

Total Vehicles

Location ID: 7
North/South: I-110 NB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	0	0	0	183	0	16	1	43	0	93	4	341
7:15	3	0	0	1	227	0	21	2	72	0	97	2	425
7:30	10	0	0	0	247	0	23	2	73	0	104	5	464
7:45	10	0	0	1	204	0	36	2	84	0	120	8	465
8:00	5	0	0	1	198	0	32	1	62	0	112	12	423
8:15	11	0	0	0	174	0	30	1	78	0	96	14	404
8:30	8	0	0	3	188	0	29	3	55	0	110	8	404
8:45	13	0	0	1	225	0	34	3	50	0	121	10	457
9:00	10	0	0	2	166	0	24	1	42	0	123	11	379
9:15	9	0	0	3	166	0	41	7	41	0	100	17	384
9:30	21	0	0	4	153	0	22	5	43	0	132	18	398
9:45	21	0	0	1	166	0	26	11	49	0	131	17	422
Total Volume:	122	0	0	17	2297	0	334	39	692	0	1339	126	4966
Approach %	100%	0%	0%	1%	99%	0%	31%	4%	65%	0%	91%	9%	

Peak Hr Begin:	7:15												
PHV	28	0	0	3	876	0	112	7	291	0	433	27	1777
PHF	0.700			0.890			0.840			0.898			0.955

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	28	0	0	10	210	1	32	5	51	0	196	23	556
15:15	29	0	0	3	188	0	46	15	64	0	199	24	568
15:30	25	0	0	6	248	0	44	7	63	0	191	23	607
15:45	30	0	0	4	193	0	42	4	66	0	246	31	616
16:00	26	0	0	2	190	0	37	9	55	0	245	32	596
16:15	31	0	0	4	192	0	49	11	93	0	255	24	659
16:30	29	0	0	3	247	0	39	4	57	0	225	25	629
16:45	33	0	0	6	224	0	49	16	91	0	233	31	683
17:00	29	0	0	2	247	0	55	4	70	0	259	36	702
17:15	33	0	0	4	218	0	41	8	77	0	248	27	656
17:30	37	0	0	4	236	0	34	8	53	0	258	27	657
17:45	26	0	0	7	228	0	26	9	50	0	260	27	633
Total Volume:	356	0	0	55	2621	1	494	100	790	0	2815	330	7562
Approach %	100%	0%	0%	2%	98%	0%	36%	7%	57%	0%	90%	10%	

Peak Hr Begin:	16:45												
PHV	132	0	0	16	925	0	179	36	291	0	998	121	2698
PHF	0.892			0.945			0.811			0.948			0.961

Turning Movement Count Report

Passenger Vehicles

Location ID: 7
North/South: I-110 NB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	1	0	0	0	157	0	14	1	41	0	84	4	302
7:15	3	0	0	1	201	0	18	2	72	0	83	2	382
7:30	10	0	0	0	224	0	16	2	72	0	88	5	417
7:45	9	0	0	1	185	0	29	2	82	0	106	8	422
8:00	5	0	0	1	170	0	25	1	61	0	104	12	379
8:15	11	0	0	0	150	0	23	1	77	0	83	14	359
8:30	8	0	0	3	161	0	23	3	53	0	91	8	350
8:45	12	0	0	1	192	0	25	3	50	0	112	10	405
9:00	10	0	0	2	137	0	18	1	39	0	111	11	329
9:15	9	0	0	3	140	0	32	6	41	0	90	17	338
9:30	20	0	0	4	126	0	16	5	41	0	111	18	341
9:45	20	0	0	1	147	0	20	11	47	0	113	17	376
Total Volume:	118	0	0	17	1990	0	259	38	676	0	1176	126	4400
Approach %	100%	0%	0%	1%	99%	0%	27%	4%	69%	0%	90%	10%	

Peak Hr Begin:	7:15												
PHV	27	0	0	3	780	0	88	7	287	0	381	27	1600
PHF	0.675			0.874			0.845			0.879			0.948

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	28	0	0	9	194	1	17	5	47	0	184	23	508
15:15	28	0	0	3	175	0	33	15	61	0	189	24	528
15:30	25	0	0	6	226	0	32	7	60	0	176	23	555
15:45	30	0	0	4	173	0	36	4	61	0	229	31	568
16:00	26	0	0	2	175	0	26	9	54	0	225	32	549
16:15	31	0	0	4	173	0	41	11	86	0	245	24	615
16:30	29	0	0	3	228	0	27	4	51	0	216	25	583
16:45	32	0	0	6	213	0	38	16	85	0	218	30	638
17:00	29	0	0	2	225	0	50	4	67	0	251	35	663
17:15	33	0	0	4	206	0	40	8	76	0	242	27	636
17:30	37	0	0	4	212	0	29	8	53	0	249	27	619
17:45	26	0	0	7	212	0	24	9	48	0	243	27	596
Total Volume:	354	0	0	54	2412	1	393	100	749	0	2667	328	7058
Approach %	100%	0%	0%	2%	98%	0%	32%	8%	60%	0%	89%	11%	

Peak Hr Begin:	15:00												
PHV	1	0	0	1	107	0	86	0	22	0	74	0	291
PHF	0.250			0.818			0.730			0.804			0.877

Turning Movement Count Report

Light Trucks

Location ID: 7
North/South: I-110 NB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	6	0	1	0	1	0	7	0	15
7:15	0	0	0	0	11	0	0	0	0	0	7	0	18
7:30	0	0	0	0	10	0	3	0	1	0	13	0	27
7:45	1	0	0	0	7	0	4	0	2	0	4	0	18
8:00	0	0	0	0	6	0	2	0	1	0	7	0	16
8:15	0	0	0	0	11	0	4	0	1	0	4	0	20
8:30	0	0	0	0	10	0	4	0	2	0	11	0	27
8:45	1	0	0	0	14	0	1	0	0	0	8	0	24
9:00	0	0	0	0	11	0	2	0	3	0	8	0	24
9:15	0	0	0	0	14	0	4	1	0	0	6	0	25
9:30	1	0	0	0	13	0	1	0	2	0	10	0	27
9:45	1	0	0	0	7	0	3	0	2	0	10	0	23
Total Volume:	4	0	0	0	120	0	29	1	15	0	95	0	264
Approach %	100%	0%	0%	0%	100%	0%	64%	2%	33%	0%	100%	0%	

Peak Hr Begin:	8:30												
PHV	1	0	0	0	49	0	11	1	5	0	33	0	100
PHF	0.250			0.875			0.708			0.750			0.926

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	1	8	0	0	0	1	0	3	0	13
15:15	1	0	0	0	5	0	3	0	2	0	8	0	19
15:30	0	0	0	0	11	0	2	0	2	0	12	0	27
15:45	0	0	0	0	11	0	1	0	3	0	11	0	26
16:00	0	0	0	0	5	0	6	0	0	0	10	0	21
16:15	0	0	0	0	10	0	1	0	6	0	5	0	22
16:30	0	0	0	0	10	0	2	0	4	0	2	0	18
16:45	1	0	0	0	5	0	3	0	5	0	10	1	25
17:00	0	0	0	0	12	0	3	0	3	0	5	0	23
17:15	0	0	0	0	4	0	1	0	1	0	3	0	9
17:30	0	0	0	0	9	0	3	0	0	0	7	0	19
17:45	0	0	0	0	8	0	1	0	2	0	11	0	22
Total Volume:	2	0	0	1	98	0	26	0	29	0	87	1	244
Approach %	100%	0%	0%	1%	99%	0%	47%	0%	53%	0%	99%	1%	

Peak Hr Begin:	15:30												
PHV	0	0	0	0	37	0	10	0	11	0	38	0	96
PHF	0.000			0.841			0.750			0.792			0.889

Turning Movement Count Report

Heavy Trucks

Location ID: 7
North/South: I-110 NB Off Ramp
East/West: Sepulveda Boulevard

Date: 10/20/20
City: Carson, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	20	0	1	0	1	0	2	0	24
7:15	0	0	0	0	15	0	3	0	0	0	7	0	25
7:30	0	0	0	0	13	0	4	0	0	0	3	0	20
7:45	0	0	0	0	12	0	3	0	0	0	10	0	25
8:00	0	0	0	0	22	0	5	0	0	0	1	0	28
8:15	0	0	0	0	13	0	3	0	0	0	9	0	25
8:30	0	0	0	0	17	0	2	0	0	0	8	0	27
8:45	0	0	0	0	19	0	8	0	0	0	1	0	28
9:00	0	0	0	0	18	0	4	0	0	0	4	0	26
9:15	0	0	0	0	12	0	5	0	0	0	4	0	21
9:30	0	0	0	0	14	0	5	0	0	0	11	0	30
9:45	0	0	0	0	12	0	3	0	0	0	8	0	23
Total Volume:	0	0	0	0	187	0	46	0	1	0	68	0	302
Approach %	0%	0%	0%	0%	100%	0%	98%	0%	2%	0%	100%	0%	
Peak Hr Begin:	8:00												
PHV	0	0	0	0	71	0	18	0	0	0	19	0	108
PHF	0.000			0.807			0.563			0.528			0.964

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	0	0	0	8	0	15	0	3	0	9	0	35
15:15	0	0	0	0	8	0	10	0	1	0	2	0	21
15:30	0	0	0	0	11	0	10	0	1	0	3	0	25
15:45	0	0	0	0	9	0	5	0	2	0	6	0	22
16:00	0	0	0	0	10	0	5	0	1	0	10	0	26
16:15	0	0	0	0	9	0	7	0	1	0	5	0	22
16:30	0	0	0	0	9	0	10	0	2	0	7	0	28
16:45	0	0	0	0	6	0	8	0	1	0	5	0	20
17:00	0	0	0	0	10	0	2	0	0	0	3	1	16
17:15	0	0	0	0	8	0	0	0	0	0	3	0	11
17:30	0	0	0	0	15	0	2	0	0	0	2	0	19
17:45	0	0	0	0	8	0	1	0	0	0	6	0	15
Total Volume:	0	0	0	0	111	0	75	0	12	0	61	1	260
Approach %	0%	0%	0%	0%	100%	0%	86%	0%	14%	0%	98%	2%	
Peak Hr Begin:	15:00												
PHV	0	0	0	0	36	0	40	0	7	0	20	0	103
PHF	0.000			0.818			0.653			0.556			0.736

Bicycle & Pedestrian Count

Location ID:	7		
North/South:	I-110 NB Off Ramp	Date:	10/20/20
East/West:	Sepulveda Boulevard	City:	Carson, CA

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
7:00	0	0	0	0	1	1	0	0
7:15	0	1	1	0	2	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	1	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	1	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
9:00	0	0	0	0	2	0	0	0
9:15	0	1	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0

Leg:	*North*		*East*		*South*		*West*	
Class:	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*	*Peds*	*Bicycle*
15:00	0	0	1	0	1	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	1	2	0	0	0	0	0	0
15:45	1	1	1	1	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	1	1	0	0	1	0	0	0
16:30	0	3	1	0	2	1	0	0
16:45	1	0	0	0	0	0	0	0
17:00	2	1	0	1	0	0	0	0
17:15	1	1	0	0	1	0	0	0
17:30	0	1	0	1	0	1	0	0
17:45	0	0	0	0	1	2	0	0

Appendix C

Plans, Policies, and Programs Consistency Worksheets
Easement Dedication Approval

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Plans, Policies and Programs Consistency Worksheet

The worksheet provides a structured approach to evaluate the threshold T-1 question below, that asks whether a project conflicts with a program, plan, ordinance or policy addressing the circulation system. The intention of the worksheet is to streamline the project review by highlighting the most relevant plans, policies and programs when assessing potential impacts to the City's circulation system.

> Threshold T-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

This worksheet does not include an exhaustive list of City policies, and does not include community plans, specific plans, or any area-specific regulatory overlays. The Department of City Planning project planner will need to be consulted to determine if the project would obstruct the City from carrying out a policy or program in a community plan, specific plan, streetscape plan, or regulatory overlay that was adopted to support multimodal transportation options or public safety. LADOT staff should be consulted if a project would lead to a conflict with a mobility investment in the Public Right of Way (PROW) that is currently undergoing planning, design, or delivery. This worksheet must be completed for all projects that meet the Section I. Screening Criteria. For description of the relevant planning documents, **see Attachment D.1.**

For any response to the following questions that checks the box in bold text ((i.e. Yes or No), further analysis is needed to demonstrate that the project does not conflict with a plan, policy, or program.

I. SCREENING CRITERIA FOR POLICY ANALYSIS

If the answer is 'yes' to any of the following questions, further analysis will be required:

Does the project require a discretionary action that requires the decision maker to find that the project would substantially conform to the purpose, intent and provisions of the General Plan?

Yes No

Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?

86/100-104 80/110 80/110

Yes No

Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?

Yes No

II. PLAN CONSISTENCY ANALYSIS

A. Mobility Plan 2035 PROW Classification Standards for Dedications and Improvements

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.1 *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

Mobility Plan 2035 Policy 2.3 *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

Mobility Plan 2035 Policy 3.2 – *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

A.1 Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? ☐ Yes ☐ No

A.2 If **A.1 is yes**, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation. ☐ Yes ☐ No ☐ N/A

A.3 If **A.2 is yes**, is the project making the dedications and improvements as necessary to meet the designated dimensions of the fronting street (Boulevard I, and II, or Avenue I, II, or III)?

☐ Yes ☐ No ☐ N/A

If the answer is to **A.1 or A.2 is NO, or to A.1, A.2 and A.3. is YES**, then the project does not conflict with the dedication and improvement requirements that are needed to comply with the Mobility Plan 2035 Street Designations and Standard Roadway Dimensions.

A.4 If the answer to **A.3. is NO**, is the project applicant asking to waive from the dedication standards?
☐ **Yes** ☐ **No** ☐ N/A

Lists any streets subject to dedications or voluntary dedications and include existing roadway and sidewalk widths, required roadway and sidewalk widths, and proposed roadway and sidewalk width or waivers.

Frontage 1 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 2 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 3 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 4 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

If the answer to **A.4 is NO**, the project is inconsistent with Mobility Plan 2035 street designations and must file for a waiver of street dedication and improvement.

If the answer to **A.4 is YES**, additional analysis is necessary to determine if the dedication and/or improvements are necessary to meet the City's mobility needs for the next 20 years. The following factors may contribute to determine if the dedication or improvement is necessary:

Is the project site along any of the following networks identified in the City's Mobility Plan?

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District ☑ ☐
- Neighborhood Enhanced Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[1]

Is the project within the service area of Metro Bike Share, or is there demonstrated demand for micro-mobility services?

If the project dedications and improvements asking to be waived are necessary to meet the City's mobility needs, the project may be found to conflict with a plan that is adopted to protect the environment.

B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 2.1*** *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*
>
> ***Mobility Plan 2035 Policy 2.3*** *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*
>
> ***Mobility Plan 2035 Policy 3.2 –*** *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*
>
> ***Mobility Plan 2035 Policy 2.10*** *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*
>
> **Mobility Plan 2035 Street Designations and Standard Roadway Dimensions**

[1] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

B.1 Does the project physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that changes how people access a property?

Examples of physical changes to the public right-of-way include:

- widening the roadway,
- narrowing the sidewalk,
- adding space for vehicle turn outs or loading areas,
- removing bicycle lanes, bike share stations, or bicycle parking
- modifying existing bus stop, transit shelter, or other street furniture
- paving, narrowing, shifting or removing an existing parkway or tree well

☐ ☑

☐ **Yes** ☐ No

B.2 Driveway Access

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.10 *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*

Mobility Plan 2035 Program PL.1. Driveway Access. *Require driveway access to buildings from non-arterial streets or alleys (where feasible) in order to minimize interference with pedestrian access and vehicular movement.*

Citywide Design Guidelines - Guideline 2*: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.*

Site Planning Best Practices:

- *Prioritize pedestrian access first and automobile access second. Orient parking and driveways toward the rear or side of buildings and away from the public right-of-way. On corner lots, parking should be oriented as far from the corner as possible.*
- *Minimize both the number of driveway entrances and overall driveway widths.*
- *Do not locate drop-off/pick-up areas between principal building entrances and the adjoining sidewalks.*
- *Orient vehicular access as far from street intersections as possible.*
- *Place drive-thru elements away from intersections and avoid placing them so that they create a barrier between the sidewalk and building entrance(s).*
- *Ensure that loading areas do not interfere with on-site pedestrian and vehicular circulation by separating loading areas and larger commercial vehicles from areas that are used for public parking and public entrances.*

B.2 Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines (See Sec. 321 in the Manual of Policies and Procedures) by any of the following:

☐ ☑ ☐

- locating new driveways for residential properties on an Avenue or Boulevard, and access is otherwise possible using an alley or a collector/local street, or
- locating new driveways for industrial or commercial properties on an Avenue or Boulevard and access is possible along a collector/local street, or

- the total number of new driveways exceeds 1 driveway per every 200 feet[2] along on the Avenue or Boulevard frontage, or
- locating new driveways on an Avenue or Boulevard within 150 feet from the intersecting street, or
- locating new driveways on a collector or local street within 75 feet from the intersecting street, or
- locating new driveways near mid-block crosswalks, requiring relocation of the mid-block crosswalk

☐ ☑ ☐

☐ **Yes** ☐ No

If the answer to **B.1 and B.2 are both NO**, then the project would not conflict with a plan or policies that govern the PROW as a result of the project-initiated changes to the PROW.

Impact Analysis

If the answer to either **B.1 or B.2 are YES**, City plans and policies should be reviewed in light of the proposed physical changes to determine if the City would be obstructed from carrying out the plans and policies. The analysis should pay special consideration to substantial changes to the Public Right of Way that may either degrade existing facilities for people walking and bicycling (e.g., removing a bicycle lane), or preclude the City from completing complete street infrastructure as identified in the Mobility Plan 2035, especially if the physical changes are along streets that are on the High Injury Network (HIN). The analysis should also consider if the project is in a Transit Oriented Community (TOC) area, and would degrade or inhibit trips made by biking, walking and/ or transit ridership. The streets that need special consideration are those that are included on the following networks identified in the Mobility Plan 2035, or the HIN:

☐ ☐ ☑

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network
- High Injury Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[3]

☐ ☑

Once the project is reviewed relevant to plans and policies, and existing facilities that may be impacted by the project, the analysis will need to answer the following two questions in concluding if there is an impact due to plan inconsistency.

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B.2.1 Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure?

☐ **Yes** ☐ No ☐ N/A

[2] for a project frontage that exceeds 400 feet along an Avenue or Boulevard, the incremental additional driveway above 2 is more than 1 driveway for every 400 additional feet.

[3] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

B.2.2 Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users?

☐ **Yes** ☐ No ☐ N/A

If either of the answers to either **B.2.1 or B.2.2 are YES**, the project may conflict with the Mobility Plan 2035, and therefore conflict with a plan that is adopted to protect the environment. If either of the answers to both **B.2.1. or B.2.2. are NO**, then the project would not be shown to conflict with plans or policies that govern the Public Right-of-Way.

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

Mobility Plan Policy 3.9 *Increased Network Access: Discourage the vacation of public rights-of-way.*

C.1.1 Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?

☐ Yes ☐ No

C.1.2 If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking and biking on the street, alley or stairway?

☐ Yes ☐ **No** ☐ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

Mobility Plan 2035 Policy 3.10 *Cul-de-sacs: Discourage the use of cul-de-sacs that do not provide access for active transportation options.*

C.2.1 Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?

☐ Yes ☐ No

C.2.2 If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network?

☐ Yes ☐ **No** ☐ N/A

If the answers to either C.1.2 or C.2.2 are YES, then the project would not conflict with a plan or policies that ensures access for all modes of travel. If the answer to either **C.1.2 or C.2.2 are NO**, the project may conflict with a plan or policies that governs multimodal access to a property. Further analysis must assess to the degree that pedestrians and bicyclists have sufficient public access to the transportation network.

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

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Mobility Plan 2035 Policy 3.8 *– Bicycle Parking, Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.*

☑ ☐ ☐

Mobility Plan 2035 Policy 4.8 – *Transportation Demand Management Strategies. Encourage greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles.*

Mobility Plan 2035 Policy 4.13 *– Parking and Land Use Management: Balance on-street and off-street parking supply with other transportation and land use objectives.*

D.1 Would the project propose a supply of onsite parking that exceeds the baseline amount[4] as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?

☐ Yes ☐ No

D.2 If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to all users (e.g. parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?

☐ Yes ☐ **No** ☐ N/A

If the answer to **D.2. is NO** the project may conflict with parking management policies. Further analysis is needed to demonstrate how the supply of parking above city requirements will not result in additional (induced) drive-alone trips as compared to an alternative that provided no more parking than the baseline required by the LAMC or Specific Plan. If there is potential for the supply of parking to result in induced demand for drive-alone trips, the project should further explore transportation demand management (TDM) measures to further off-set the induced demands of driving and vehicle miles travelled (VMT) that may result from higher amounts of on-site parking. The TDM measures should specifically focus on strategies that encourage dynamic and context-sensitive pricing solutions and ensure the parking is efficiently allocated, such as providing real time information. Research has demonstrated that charging a user cost for parking or providing a 'cash-out' option in return for not using it is the most effective strategy to reduce the instances of drive-alone trips and increase non-auto mode share to further reduce VMT. To ensure the parking is efficiently managed and reduce the need to build parking for future uses, further strategies should include sharing parking with other properties and/or the general public.

☑ ☐ ☐ ☑ ☐ ☐ ☐ ☑

D.3. Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC?

☐ Yes ☐ **No**

[4] The baseline parking is defined here as the default parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code or any applicable Specific Plan, whichever prevails, for each applicable use not taking into consideration other parking incentives to reduce the amount of required parking.

D.4. Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?

☐ Yes ☐ No

D.5 If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC?

☐ Yes ☐ **No** ☐ N/A

If the answer to **D.3. or D.5. is NO** the project conflicts with LAMC code requirements of bicycle parking and TDM measures. If the project includes uses that require bicycle parking (Section 12.21 A.16) or TDM (Section 12.26 J), and the project does not comply with those Sections of the LAMC, further analysis is required to ensure that the project supports the intent of the two LAMC sections. To meet the intent of bicycle parking requirements, the analysis should identify how the project commits to providing safe access to those traveling by bicycle and accommodates storing their bicycle in locations that demonstrates priority over vehicle access.

Similarly, to meet the intent of the TDM requirements of Section 12.26 J of the LAMC, the analysis should identify how the project commits to providing effective strategies in either physical facilities or programs that encourage non-drive alone trips to and from the project site and changes in work schedule that move trips out of the peak period or eliminate them altogether (as in the case in telecommuting or compressed work weeks).

E. Consistency with Regional Plans

This section addresses potential inconsistencies with greenhouse gas (GHG) reduction targets forecasted in the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS).

E.1 Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e. VMT per capita, VMT per employee, or VMT per service population) as discussed in Section 2.2.3 of the TAG?

☐ Yes ☐ No

E.2 If the Answer to E.1 is YES, does the Project or Plan result in a significant VMT impact?

☐ Yes ☐ No ☐ N/A

E.3 If the Answer to E.1 is NO, does the Project result in a net increase in VMT?

☐ Yes ☐ No ☐ N/A

If the Answer to E.2 or E.3 is NO, then the Project or Plan is shown to align with the long-term VMT and GHG reduction goals of SCAG's RTP/SCS.

E.4 If the Answer to E.2 or E.3 is YES, then further evaluation would be necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS. For the purpose of making a finding that a project is consistent with the GHG reduction targets forecasted in the SCAG RTP/SCS, the project analyst should consult Section 2.2.4 of the Transportation Assessment Guidelines (TAG). Section 2.2.4 provides the methodology for evaluating a land use project's cumulative impacts to VMT, and the appropriate reliance on SCAG's most recently adopted RTP/SCS in reaching that conclusion.

The analysis methods therein can further support findings that the project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy for which the State Air Resources Board, pursuant to Section 65080(b)(2)(H) of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

References

BOE Street Standard Dimensions S-470-1 http://eng2.lacity.org/techdocs/stdplans/s-400/S-470-1_20151021_150849.pdf

LADCP Citywide Design Guidelines. https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

LADOT Transportation Assessment Support Map https://arcg.is/fubbD

Mobility Plan 2035 https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

SCAG. Connect SoCal, 2020-2045 RTP/SCS, https://www.connectsocal.org/Pages/default.aspx

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

The Transportation Element of the City's General Plan, Mobility Plan 2035, established the "Complete Streets Design Guide" as the City's document to guide the operations and design of streets and other public rights-of-way. It lays out a vision for designing safer, more vibrant streets that are accessible to people, no matter what their mode choice. As a living document, it is intended to be frequently updated as City departments identify and implement street standards and experiment with different configurations to promote complete streets. The guide is meant to be a toolkit that provides numerous examples of what is possible in the public right-of-way and that provides guidance on context-sensitive design.

The Plan for A Healthy Los Angeles (March 2015) includes policies directing several City departments to develop plans that promote active transportation and safety.

The City of Los Angeles Community Plans, which make up the Land Use Element of the City's General Plan, guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 Community Plans provide specific, neighborhood-level detail for land uses and the transportation network, relevant policies, and implementation strategies necessary to achieve General Plan and community-specific objectives.

The stated goal of Vision Zero is to eliminate traffic-related deaths in Los Angeles by 2025 through a number of strategies, including modifying the design of streets to increase the safety of vulnerable road users. Extensive crash data analysis is conducted on an ongoing basis to prioritize intersections and corridors for implementation of projects that will have the greatest effect on overall fatality reduction. The City designs and deploys Vision Zero Corridor Plans as part of the implementation of Vision Zero. If a project is proposed whose site lies on the High Injury Network (HIN), the applicant should consult with LADOT to inform the project's site plan and to determine appropriate improvements, whether by funding their implementation in full or by making a contribution toward their implementation.

The Citywide Design Guidelines (October 24, 2019) includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access and comfort as they access to and from the building and the immediate public right of way.

The City's Transportation Demand Management (TDM) Ordinance (LA Municipal Code 12.26.J) requires certain projects to incorporate strategies that reduce drive-alone vehicle trips and improve access to destinations and services. The ordinance is revised and updated periodically and should be reviewed for application to specific projects as they are reviewed.

The City's LAMC Section 12.37 (Waivers of Dedication and Improvement) requires certain projects to dedicate and/or implement improvements within the public right-of-way to meet the street designation standards of the Mobility Plan 2035.

The Bureau of Engineering (BOE) Street Standard Dimensions S-470-1 provides the specific street widths and public right of way dimensions associated with the City's street standards.

Appendix D

VMT Analysis Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

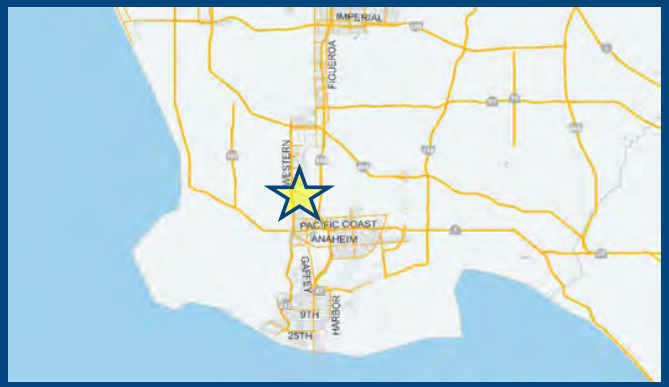
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: Bridge South Bay VII

Scenario:

Address: 1351 W SEPULVEDA BLVD, 90501



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit

○ Yes ◉ No

Existing Land Use

Land Use Type	Value	Unit
Housing | Single Family		DU
(custom) Mulligan Family Fun Center | Retail/Non-	Retail	LU type
(custom) Mulligan Family Fun Center | Residents	0	Person
(custom) Mulligan Family Fun Center | Employees	30	Person
(custom) Mulligan Family Fun Center | Daily	456	Trips
(custom) Mulligan Family Fun Center | HBW-Attra	4	Percent
(custom) Mulligan Family Fun Center | HBO-Attrac	76	Percent
(custom) Mulligan Family Fun Center | NHB-Attrac	10	Percent
(custom) Mulligan Family Fun Center | HBW-Prod	0	Percent
(custom) Mulligan Family Fun Center | HBO-Produ	0	Percent
(custom) Mulligan Family Fun Center | NHB-Produ	10	Percent

☑ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Industrial | Light Industrial		ksf
Industrial | Light Industrial	174.211	ksf

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed
391 Daily Vehicle Trips	1,095 Daily Vehicle Trips
2,276 Daily VMT	7,449 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	704 Net Daily Trips
The net increase in daily VMT ≤ 0	5,173 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	0.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

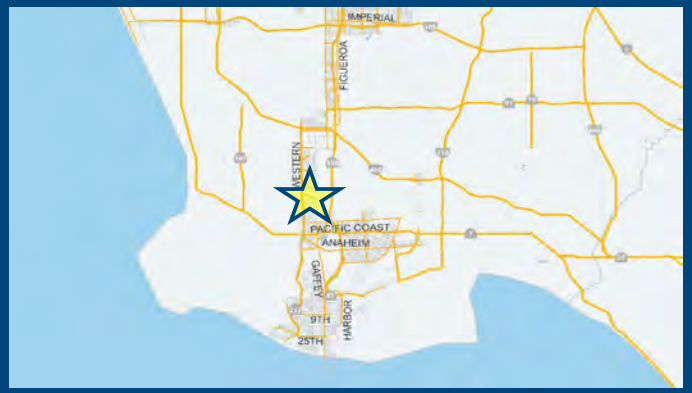
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: Bridge South Bay VII

Scenario:

Address: 1351 W SEPULVEDA BLVD, 90501



Proposed Project Land Use Type	Value	Unit
Industrial | Light Industrial	174.211	ks

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

Include Bike Parking Per LAMC — Select Proposed Prj or Mitigation to include this strategy
☑ Proposed Prj ☐ Mitigation

Include Secure Bike Parking and Showers — Select Proposed Prj or Mitigation to include this strategy
☐ Proposed Prj ☐ Mitigation

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
1,088 Daily Vehicle Trips	**1,088** Daily Vehicle Trips
7,401 Daily VMT	**7,401** Daily VMT
0.0 Household VMT per Capita	**0.0** Household VMT
11.5 Work VMT per Employee	**11.5** Work VMT per Employee

Significant VMT Impact?

Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: No Threshold = 12.3 15% Below APC	**Work: No** Threshold = 12.3 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: January 14, 2021
Project Name: Bridge South Bay VII
Project Scenario:
Project Address: 1351 W SEPULVEDA BLVD, 90501

Version 1.3

Project Information

Land Use Type		Value	Units
Housing	Single Family	0	DU
	Multi Family	0	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
Affordable Housing	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
Retail	General Retail	0.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	0.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	0.000	ksf
	Medical Office	0.000	ksf
Industrial	Light Industrial	174.211	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
School	University	0	Students
	High School	0	Students
	Middle School	0	Students
	Elementary	0	Students
	Private School (K-12)	0	Students
Other		0	Trips

Analysis Results

Total Employees: 174
Total Population: 0

Proposed Project		*With Mitigation*	
1,088	**Daily Vehicle Trips**	**1,088**	**Daily Vehicle Trips**
7,401	**Daily VMT**	**7,401**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
11.5	**Work VMT per Employee**	**11.5**	**Work VMT per Employee**

Significant VMT Impact?

APC: Harbor

Impact Threshold: 15% Below APC Average
Household = 9.2
Work = 12.3

Proposed Project		*With Mitigation*	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 9.2	No	Household > 9.2	No
Work > 12.3	No	Work > 12.3	No

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	*Car share*	*Car share project setting (Urban, Suburban, All Other)*	*0*	*0*
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	*Implement/Improve on-street bicycle facility*	*Provide bicycle facility along site (Yes/No)*	*0*	*0*
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	*Includes indoor bike parking/lockers, showers, & repair station (Yes/No)*	*0*	*0*
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	*Included (within project and connecting off-site/within project only)*	*0*	*0*

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Suburban

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
MAX. TDM EFFECT	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE TYPE MAX:	*urban*	*75%*
	compact infill	*40%*
	suburban center	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: January 14, 2021
Project Name: Bridge South Bay VII
Project Scenario:
Project Address: 1351 W SEPULVEDA BLVD, 90501

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.9	0	0
Home Based Other Production	0	0.0%	0	5.7	0	0
Non-Home Based Other Production	240	-2.5%	234	6.5	1,560	1,521
Home-Based Work Attraction	253	-7.5%	234	8.6	2,176	2,012
Home-Based Other Attraction	481	-18.3%	393	5.2	2,501	2,044
Non-Home Based Other Attraction	240	-2.5%	234	8.0	1,920	1,872

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-0.6%	0	0	-0.6%	0	0
Home Based Other Production	-0.6%	0	0	-0.6%	0	0
Non-Home Based Other Production	-0.6%	232	1,511	-0.6%	232	1,511
Home-Based Work Attraction	-0.6%	232	1,999	-0.6%	232	1,999
Home-Based Other Attraction	-0.6%	391	2,031	-0.6%	391	2,031
Non-Home Based Other Attraction	-0.6%	233	1,860	-0.6%	233	1,860

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 174
APC: Harbor

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**1,999**	**1,999**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**11.5**	**11.5**

Appendix E

HCM Analysis Worksheets

APPENDIX E
QUEUING ANALYSIS SUMMARY

No.	Intersection	Peak Hour	Movement	Available Queue Storage [a]	Existing Conditions (Year 2020)		Existing with Project Conditions (Year 2020)			Future Conditions (Year 2022)		Future with Project Conditions (Year 2022)		
					95th Percentile Queue	Available Capacity	95th Percentile Queue	Available Capacity	Change in Available Capacity	95th Percentile Queue	Available Capacity	95th Percentile Queue	Available Capacity	Change in Available Capacity
1.	Western Avenue & Sepulveda Boulevard [b]	A.M.	EBL	180	528	(348)	528	(348)	0	548	(368)	548	(368)	0
			WBL	400	678	(278)	688	(288)	(10)	753	(353)	770	(370)	(18)
			NBL	160	333	(173)	333	(173)	0	313	(153)	313	(153)	0
			NBR	115	368	(253)	370	(255)	(3)	375	(260)	380	(265)	(5)
			SBL	250	125	125	130	120	(5)	130	120	135	115	(5)
		P.M.	EBL	180	485	(305)	485	(305)	0	505	(325)	505	(325)	0
			WBL	400	705	(305)	710	(310)	(5)	740	(340)	745	(345)	(5)
			NBL	160	488	(328)	488	(328)	0	458	(298)	458	(298)	0
			NBR	115	400	(285)	415	(300)	(15)	420	(305)	425	(310)	(5)
			SBL	250	450	(200)	420	(170)	30	423	(173)	438	(188)	(15)
2.	Lockness Avenue & Sepulveda Boulevard [c]	A.M.	EBL	100	5	95	5	95	0	5	95	5	95	0
			WBL	100	0	100	0	100	0	0	100	0	100	0
		P.M.	EBL	100	0	100	0	100	0	0	100	0	100	0
			WBL	100	3	98	3	98	0	3	98	3	98	0
3.	Halldale Avenune / Project Driveway & Sepulveda Boulevard [c]	A.M.	EBL	100	N/A	N/A	15	85	N/A	N/A	N/A	15	85	N/A
			WBL	100	3	98	3	98	0	3	98	3	98	0
		P.M.	EBL	100	N/A	N/A	8	93	N/A	N/A	N/A	8	93	N/A
			WBL	100	40	60	40	60	0	45	55	45	55	0
4.	Normandie Avenue & Sepulveda Boulevard [d]	A.M.	EBL	145	110	35	115	30	(5)	115	30	118	28	(3)
			WBL	100	90	10	90	10	0	90	10	90	10	0
			NBL	200	193	8	200	0	(8)	198	3	208	(8)	(10)
			SBL	180	115	65	115	65	0	120	60	120	60	0
			SBR	180	128	53	130	50	(3)	130	50	133	48	(3)
		P.M.	EBL	145	163	(18)	165	(20)	(3)	168	(23)	170	(25)	(3)
			WBL	100	215	(115)	190	(90)	25	200	(100)	195	(95)	5
			NBL	200	233	(33)	240	(40)	(7)	243	(43)	248	(48)	(5)
			SBL	180	388	(208)	388	(208)	0	403	(223)	403	(223)	0
			SBR	180	175	5	178	3	(3)	178	3	183	(3)	(5)
5.	Vermont Avenue & Sepulveda Boulevard	A.M.	EBL	200	148	53	150	50	(3)	150	50	153	48	(3)
			WBL	370	798	(428)	855	(485)	(58)	835	(465)	893	(523)	(58)
			NBL	180	218	(38)	230	(50)	(13)	213	(33)	240	(60)	(28)
			NBR	180	850	(670)	883	(703)	(32)	928	(748)	928	(748)	0
			SBL	185	493	(308)	493	(308)	0	510	(325)	510	(325)	0
			SBR	200	195	5	198	3	(3)	200	0	200	0	0
		P.M.	EBL	200	245	(45)	213	(13)	33	215	(15)	215	(15)	0
			WBL	370	418	(48)	330	40	88	348	23	343	28	5
			NBL	180	275	(95)	285	(105)	(10)	248	(68)	300	(120)	(53)
			NBR	180	625	(445)	628	(448)	(3)	673	(493)	673	(493)	0
			SBL	185	410	(225)	410	(225)	0	390	(205)	425	(240)	(35)
			SBR	200	185	15	190	10	(5)	193	8	195	5	(3)
6.	110 SB Ramps / Alley & Sepulveda Boulevard [e]	A.M.	SBL	300	105	195	105	195	0	108	193	108	193	0
			SBR	300	1403	(1103)	1460	(1160)	(58)	1490	(1190)	1548	(1248)	(58)
		P.M.	SBL	300	195	105	195	105	0	200	100	198	103	3
			SBR	300	623	(323)	675	(375)	(53)	673	(373)	695	(395)	(23)
7.	110 NB Ramps / Shopping Center & Sepulveda Boulevard	A.M.	EBL	215	30	185	30	185	0	33	183	33	183	0
		P.M.	EBL	215	103	113	110	105	(8)	100	115	98	118	3

Notes:
Queue storage and 95th percentile queue expressed in feet. Typical queued vehicle length assumed at 25'.
[a] Estimated storage capacity based on existing street network.
[b] A two-way left-turn median is located beyond the westbound left-turn pocket.
[c] A two-way left-turn median is located beyond the eastbound/westbound left-turn pockets.
[d] A two-way left-turn median is located beyond the northbound/southbound left-turn pockets.
[e] Striped turn pocket lengths; the off-ramp gore point is approximately 675' beyond turn pockets (or approximately 975' from intersection).

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	1324	76	319	1682	101	146	1022	312	80	918	280
Future Volume (veh/h)	240	1324	76	319	1682	101	146	1022	312	80	918	280
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	1439	83	347	1828	110	159	1111	339	87	998	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1449	84	282	1609	97	148	1094	488	140	1078	481
Arrive On Green	0.13	0.29	0.29	0.16	0.33	0.33	0.08	0.31	0.31	0.08	0.30	0.30
Sat Flow, veh/h	1781	4938	285	1781	4925	296	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	261	992	530	347	1262	676	159	1111	339	87	998	304
Grp Sat Flow(s),veh/h/ln	1781	1702	1819	1781	1702	1817	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.0	34.9	34.9	19.0	39.2	39.2	10.0	37.0	22.6	5.7	32.6	19.8
Cycle Q Clear(g_c), s	15.0	34.9	34.9	19.0	39.2	39.2	10.0	37.0	22.6	5.7	32.6	19.8
Prop In Lane	1.00		0.16	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	999	534	282	1112	594	148	1094	488	140	1078	481
V/C Ratio(X)	1.17	0.99	0.99	1.23	1.14	1.14	1.07	1.02	0.69	0.62	0.93	0.63
Avail Cap(c_a), veh/h	223	999	534	282	1112	594	148	1094	488	148	1078	481
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	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	42.3	42.3	50.5	40.4	40.4	55.0	41.5	36.6	53.5	40.5	36.0
Incr Delay (d2), s/veh	114.7	26.8	37.2	126.8	70.5	78.7	94.1	31.1	7.9	7.1	14.5	6.2
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	21.1	24.8	28.1	27.1	37.3	41.3	13.3	28.0	14.7	5.0	22.5	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.2	69.1	79.5	177.3	110.9	119.1	149.1	72.6	44.5	60.6	55.0	42.2
LnGrp LOS	F	E	E	F	F	F	F	F	D	E	E	D
Approach Vol, veh/h		1783			2285			1609			1389	
Approach Delay, s/veh		86.6			123.4			74.2			52.6	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	42.6	23.0	41.0	14.0	42.0	19.0	45.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	10.0	* 36	19.0	35.2	10.0	* 36	15.0	39.2
Max Q Clear Time (g_c+I1), s	7.7	39.0	21.0	36.9	12.0	34.6	17.0	41.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1328	24	5	1875	66	85	5	13	20	1	66
Future Volume (veh/h)	29	1328	24	5	1875	66	85	5	13	20	1	66
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	1443	26	5	2038	72	92	5	14	22	1	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	3974	72	325	3897	137	205	13	21	77	17	139
Arrive On Green	0.77	0.77	0.77	1.00	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	193	5165	93	361	5064	178	1189	117	189	249	152	1256
Grp Volume(v), veh/h	32	951	518	5	1368	742	111	0	0	95	0	0
Grp Sat Flow(s),veh/h/ln	193	1702	1854	361	1702	1838	1495	0	0	1657	0	0
Q Serve(g_s), s	4.1	8.0	8.0	0.1	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.1	8.0	8.0	8.2	0.0	0.0	6.1	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.10	0.83		0.13	0.23		0.76
Lane Grp Cap(c), veh/h	229	2620	1426	325	2620	1415	238	0	0	232	0	0
V/C Ratio(X)	0.14	0.36	0.36	0.02	0.52	0.52	0.47	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	229	2620	1426	325	2620	1415	366	0	0	375	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.9	3.3	3.3	0.5	0.0	0.0	38.2	0.0	0.0	37.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.1	0.2	0.1	0.7	1.4	2.0	0.0	0.0	1.6	0.0	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	0.2	2.7	2.9	0.0	0.5	1.0	4.4	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.2	3.4	3.5	0.6	0.7	1.4	40.2	0.0	0.0	39.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1501			2115			111			95	
Approach Delay, s/veh		3.4			1.0			40.2			39.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.8	15.2	74.8	15.2
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	60.9	* 18	60.9	* 18
Max Q Clear Time (g_c+I1), s	10.2	6.7	10.0	8.1
Green Ext Time (p_c), s	39.7	0.4	27.2	0.5

Intersection Summary	
HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1494	7	8	2197	9	40
Future Vol, veh/h	1494	7	8	2197	9	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1624	8	9	2388	10	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1632	0	2601	816
Stage 1	-	-	-	-	1628	-
Stage 2	-	-	-	-	973	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	192	-	44	275
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	295	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	192	-	42	275
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	281	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	31.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	190	-	-	192	-
HCM Lane V/C Ratio	0.28	-	-	0.045	-
HCM Control Delay (s)	31.2	-	-	24.6	-
HCM Lane LOS	D	-	-	C	-
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1258	69	121	1790	172	145	537	74	94	480	152
Future Volume (veh/h)	96	1258	69	121	1790	172	145	537	74	94	480	152
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1367	75	132	1946	187	158	584	80	102	522	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1996	110	191	1930	184	236	1015	139	210	1149	512
Arrive On Green	0.03	0.13	0.13	0.11	0.41	0.41	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	4954	272	1781	4740	452	755	3141	429	772	3554	1585
Grp Volume(v), veh/h	104	939	503	132	1394	739	158	330	334	102	522	165
Grp Sat Flow(s),veh/h/ln	1781	1702	1821	1781	1702	1789	755	1777	1793	772	1777	1585
Q Serve(g_s), s	5.2	23.7	23.7	6.4	36.6	36.6	18.6	13.9	14.0	11.4	10.5	7.1
Cycle Q Clear(g_c), s	5.2	23.7	23.7	6.4	36.6	36.6	29.1	13.9	14.0	25.4	10.5	7.1
Prop In Lane	1.00		0.15	1.00		0.25	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	183	1372	734	191	1386	728	236	575	580	210	1149	512
V/C Ratio(X)	0.57	0.68	0.68	0.69	1.01	1.02	0.67	0.57	0.58	0.49	0.45	0.32
Avail Cap(c_a), veh/h	198	1372	734	198	1386	728	236	575	580	210	1149	512
HCM Platoon Ratio	0.33	0.33	0.33	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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	33.6	33.6	38.8	26.7	26.7	35.8	25.3	25.3	35.9	24.2	23.0
Incr Delay (d2), s/veh	3.2	2.8	5.1	0.9	8.6	14.0	14.1	4.1	4.1	7.8	1.3	1.7
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	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	16.7	18.2	3.6	17.1	19.2	7.7	10.5	10.6	4.6	8.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	36.4	38.7	39.7	35.3	40.7	49.9	29.4	29.5	43.7	25.4	24.7
LnGrp LOS	D	D	D	D	F	F	D	C	C	D	C	C
Approach Vol, veh/h		1546			2265			822			789	
Approach Delay, s/veh		37.7			37.3			33.4			27.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	41.8		34.6	13.3	42.1		34.6
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	10.0	* 36		* 29	10.0	* 36		* 29
Max Q Clear Time (g_c+I1), s	8.4	25.7		31.1	7.2	38.6		27.4
Green Ext Time (p_c), s	0.0	6.2		0.0	0.1	0.0		0.8

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1433	33	421	2079	77	115	358	676	202	419	164
Future Volume (veh/h)	96	1433	33	421	2079	77	115	358	676	202	419	164
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1558	36	458	2260	84	125	389	735	220	455	178
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1391	32	341	1929	71	148	992	746	178	1051	469
Arrive On Green	0.08	0.27	0.27	0.19	0.38	0.38	0.08	0.28	0.28	0.10	0.30	0.30
Sat Flow, veh/h	1781	5134	119	1781	5054	187	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	104	1033	561	458	1519	825	125	389	735	220	455	178
Grp Sat Flow(s),veh/h/ln	1781	1702	1849	1781	1702	1837	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.8	32.5	32.5	23.0	45.8	45.8	8.3	10.6	33.5	12.0	12.4	10.7
Cycle Q Clear(g_c), s	6.8	32.5	32.5	23.0	45.8	45.8	8.3	10.6	33.5	12.0	12.4	10.7
Prop In Lane	1.00		0.06	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	922	501	341	1300	701	148	992	746	178	1051	469
V/C Ratio(X)	0.72	1.12	1.12	1.34	1.17	1.18	0.84	0.39	0.98	1.24	0.43	0.38
Avail Cap(c_a), veh/h	148	922	501	341	1300	701	148	992	746	178	1051	469
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)	0.64	0.64	0.64	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	43.8	43.8	48.5	37.1	37.1	54.2	35.0	31.3	54.0	34.1	33.5
Incr Delay (d2), s/veh	10.3	64.0	70.6	155.5	76.8	81.0	33.2	1.2	29.5	144.6	1.3	2.3
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	5.9	29.5	32.9	31.9	39.3	43.5	8.7	8.2	34.0	19.7	9.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	107.8	114.4	204.0	113.9	118.1	87.4	36.2	60.8	198.6	35.4	35.8
LnGrp LOS	E	F	F	F	F	F	F	D	E	F	D	D
Approach Vol, veh/h		1698			2802			1249			853	
Approach Delay, s/veh		107.3			129.9			55.8			77.6	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	39.0	27.0	38.0	14.0	41.0	13.7	51.3
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	12.0	* 34	23.0	* 33	10.0	* 36	10.0	* 46
Max Q Clear Time (g_c+I1), s	14.0	35.5	25.0	34.5	10.3	14.4	8.8	47.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	103.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2307	16	4	1035	175	0	0	25	290	45	1649
Future Volume (veh/h)	0	2307	16	4	1035	175	0	0	25	290	45	1649
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		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	0	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2508	17	4	1125	190	0	0	27	350	0	1792
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	2238	15	40	2184	365	0	0	713	1379	0	1427
Arrive On Green	0.00	0.43	0.43	0.86	0.86	0.86	0.00	0.00	0.45	0.45	0.00	0.45
Sat Flow, veh/h	0	5401	35	0	5106	852	0	0	1585	2767	0	3170
Grp Volume(v), veh/h	0	1631	894	327	646	345	0	0	27	350	0	1792
Grp Sat Flow(s),veh/h/ln	0	1702	1864	1482	1464	1549	0	0	1585	1383	0	1585
Q Serve(g_s), s	0.0	38.5	38.5	0.0	5.1	5.2	0.0	0.0	0.9	7.3	0.0	40.5
Cycle Q Clear(g_c), s	0.0	38.5	38.5	38.5	5.1	5.2	0.0	0.0	0.9	8.2	0.0	40.5
Prop In Lane	0.00		0.02	0.01		0.55	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1456	797	674	1252	662	0	0	713	1379	0	1427
V/C Ratio(X)	0.00	1.12	1.12	0.49	0.52	0.52	0.00	0.00	0.04	0.25	0.00	1.26
Avail Cap(c_a), veh/h	0	1456	797	674	1252	662	0	0	713	1379	0	1427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.67	0.67	0.67	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.8	25.8	7.7	4.1	4.1	0.0	0.0	13.8	16.1	0.0	24.8
Incr Delay (d2), s/veh	0.0	54.9	56.6	1.7	1.0	2.0	0.0	0.0	0.1	0.4	0.0	121.2
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	0.0	30.9	34.2	3.2	2.1	2.5	0.0	0.0	0.6	4.2	0.0	56.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	80.7	82.4	9.4	5.1	6.1	0.0	0.0	13.9	16.6	0.0	145.9
LnGrp LOS	A	F	F	A	A	A	A	A	B	B	A	F
Approach Vol, veh/h		2525			1319			27			2142	
Approach Delay, s/veh		81.3			6.4			13.9			124.8	
Approach LOS		F			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.0	44.0	46.0	44.0
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 41	* 39	* 41	* 39
Max Q Clear Time (g_c+I1), s	2.9	40.5	42.5	40.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	80.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

HCM 6th Signalized Intersection Summary
7: I-110 NB Ramps/Shopping Center & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	628	0	0	1270	4	422	10	162	0	0	41
Future Volume (veh/h)	39	628	0	0	1270	4	422	10	162	0	0	41
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	42	683	0	0	1380	4	459	11	176	0	0	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	129	2522	0	0	1983	6	569	12	609	0	0	609
Arrive On Green	0.14	0.99	0.00	0.00	0.38	0.38	0.38	0.38	0.38	0.00	0.00	0.38
Sat Flow, veh/h	1781	5274	0	0	5425	15	1275	31	1585	0	0	1585
Grp Volume(v), veh/h	42	683	0	0	894	490	470	0	176	0	0	45
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1868	1306	0	1585	0	0	1585
Q Serve(g_s), s	1.9	0.2	0.0	0.0	20.0	20.0	29.8	0.0	6.9	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.9	0.2	0.0	0.0	20.0	20.0	31.4	0.0	6.9	0.0	0.0	1.6
Prop In Lane	1.00		0.00	0.00		0.01	0.98		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	129	2522	0	0	1284	704	580	0	609	0	0	609
V/C Ratio(X)	0.33	0.27	0.00	0.00	0.70	0.70	0.81	0.00	0.29	0.00	0.00	0.07
Avail Cap(c_a), veh/h	198	2522	0	0	1284	704	610	0	643	0	0	643
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	0.3	0.0	0.0	23.7	23.7	27.5	0.0	19.2	0.0	0.0	17.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	3.1	5.6	7.8	0.0	0.3	0.0	0.0	0.1
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	1.2	0.1	0.0	0.0	12.6	14.2	15.8	0.0	11.5	0.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	0.3	0.0	0.0	26.8	29.3	35.3	0.0	19.5	0.0	0.0	17.6
LnGrp LOS	D	A	A	A	C	C	D	A	B	A	A	B
Approach Vol, veh/h		725			1384			646			45	
Approach Delay, s/veh		2.4			27.7			31.0			17.6	
Approach LOS		A			C			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	49.9		40.1	10.5	39.4		40.1
Change Period (Y+Rc), s	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	* 43		* 37	10.0	* 29		* 37
Max Q Clear Time (g_c+I1), s	2.2		33.4	3.9	22.0		3.6
Green Ext Time (p_c), s	5.0		1.1	0.0	4.2		0.2

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1405	126	324	1449	146	191	836	337	183	1009	140
Future Volume (veh/h)	221	1405	126	324	1449	146	191	836	337	183	1009	140
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	1527	137	352	1575	159	208	909	366	199	1097	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	1359	122	267	1500	151	163	1108	494	163	1108	494
Arrive On Green	0.12	0.28	0.28	0.30	0.64	0.64	0.09	0.31	0.31	0.09	0.31	0.31
Sat Flow, veh/h	1781	4770	428	1781	4714	475	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	240	1090	574	352	1137	597	208	909	366	199	1097	152
Grp Sat Flow(s),veh/h/ln	1781	1702	1793	1781	1702	1785	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.0	34.2	34.2	18.0	38.2	38.2	11.0	28.4	24.8	11.0	36.9	8.8
Cycle Q Clear(g_c), s	14.0	34.2	34.2	18.0	38.2	38.2	11.0	28.4	24.8	11.0	36.9	8.8
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	970	511	267	1084	568	163	1108	494	163	1108	494
V/C Ratio(X)	1.15	1.12	1.12	1.32	1.05	1.05	1.27	0.82	0.74	1.22	0.99	0.31
Avail Cap(c_a), veh/h	208	970	511	267	1084	568	163	1108	494	163	1108	494
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	42.9	42.9	42.0	21.8	21.8	54.5	38.2	37.0	54.5	41.1	31.4
Incr Delay (d2), s/veh	110.4	69.0	78.5	163.8	39.3	49.1	162.2	6.9	9.6	141.2	24.9	1.6
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	19.4	33.4	36.6	28.2	20.3	23.1	19.5	18.9	16.0	18.0	26.6	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.4	111.9	121.4	205.8	61.1	70.9	216.7	45.1	46.6	195.7	66.0	33.1
LnGrp LOS	F	F	F	F	F	F	F	D	D	F	E	C
Approach Vol, veh/h		1904			2086			1483			1448	
Approach Delay, s/veh		121.2			88.3			69.5			80.4	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	43.0	22.0	40.0	15.0	43.0	18.0	44.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	11.0	* 37	18.0	34.2	11.0	* 37	14.0	38.2
Max Q Clear Time (g_c+I1), s	13.0	30.4	20.0	36.2	13.0	38.9	16.0	40.2
Green Ext Time (p_c), s	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	91.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1859	65	21	1645	55	46	4	9	87	30	67
Future Volume (veh/h)	23	1859	65	21	1645	55	46	4	9	87	30	67
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2021	71	23	1788	60	50	4	10	95	33	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	3867	136	210	3873	130	179	17	26	149	45	86
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	250	5065	178	197	5074	170	855	117	180	714	310	584
Grp Volume(v), veh/h	25	1357	735	23	1199	649	64	0	0	201	0	0
Grp Sat Flow(s),veh/h/ln	250	1702	1838	197	1702	1840	1152	0	0	1608	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	14.5	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.09	0.78		0.16	0.47		0.36
Lane Grp Cap(c), veh/h	251	2599	1404	210	2599	1405	222	0	0	280	0	0
V/C Ratio(X)	0.10	0.52	0.52	0.11	0.46	0.46	0.29	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	251	2599	1404	210	2599	1405	336	0	0	409	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	46.1	0.0	0.0	49.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.0	0.6	1.1	1.0	0.0	0.0	4.9	0.0	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	0.0	0.0	0.1	0.1	0.4	0.8	3.3	0.0	0.0	10.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.1	0.1	1.0	0.6	1.1	47.1	0.0	0.0	54.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		2117			1871			64			201	
Approach Delay, s/veh		0.1			0.8			47.1			54.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	97.1	22.9	97.1	22.9
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	81.5	* 28	81.5	* 28
Max Q Clear Time (g_c+I1), s	2.0	16.5	2.0	8.0
Green Ext Time (p_c), s	47.7	1.1	55.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1888	27	41	1738	6	25
Future Vol, veh/h	1888	27	41	1738	6	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2052	29	45	1889	7	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2081	0	2913	1041
Stage 1	-	-	-	-	2067	-
Stage 2	-	-	-	-	846	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	114	-	29	195
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	345	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	114	-	18	195
Mov Cap-2 Maneuver	-	-	-	-	42	-
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	209	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	49.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	114	-	-	114	-
HCM Lane V/C Ratio	0.296	-	-	0.391	-
HCM Control Delay (s)	49.3	-	-	55.5	-
HCM Lane LOS	E	-	-	F	-
HCM 95th %tile Q(veh)	1.1	-	-	1.6	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	1506	104	167	1417	107	124	302	94	264	759	170
Future Volume (veh/h)	94	1506	104	167	1417	107	124	302	94	264	759	170
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	1637	113	182	1540	116	135	328	102	287	825	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1849	128	193	1971	148	173	1038	318	348	1377	614
Arrive On Green	0.05	0.25	0.25	0.04	0.13	0.13	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	4877	336	1781	4844	365	558	2680	820	958	3554	1585
Grp Volume(v), veh/h	102	1142	608	182	1082	574	135	216	214	287	825	185
Grp Sat Flow(s),veh/h/ln	1781	1702	1810	1781	1702	1805	558	1777	1723	958	1777	1585
Q Serve(g_s), s	6.8	38.7	38.8	12.2	36.9	36.9	24.3	10.2	10.4	35.9	22.2	9.7
Cycle Q Clear(g_c), s	6.8	38.7	38.8	12.2	36.9	36.9	46.5	10.2	10.4	46.4	22.2	9.7
Prop In Lane	1.00		0.19	1.00		0.20	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	143	1291	686	193	1385	734	173	689	668	348	1377	614
V/C Ratio(X)	0.71	0.88	0.89	0.94	0.78	0.78	0.78	0.31	0.32	0.83	0.60	0.30
Avail Cap(c_a), veh/h	148	1291	686	193	1385	734	173	689	668	348	1377	614
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	42.2	42.3	57.5	46.8	46.8	49.8	25.6	25.7	41.9	29.3	25.5
Incr Delay (d2), s/veh	14.2	9.1	15.6	16.3	0.9	1.6	28.7	1.2	1.3	19.6	1.9	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	25.3	28.2	8.6	19.9	21.2	9.3	8.0	8.0	15.5	14.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.6	51.3	57.9	73.8	47.6	48.4	78.6	26.8	27.0	61.5	31.2	26.7
LnGrp LOS	E	D	E	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		1852			1838			565			1297	
Approach Delay, s/veh		54.5			50.5			39.2			37.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	51.0		52.0	13.7	54.3		52.0
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	13.0	* 46		* 47	10.0	* 49		* 47
Max Q Clear Time (g_c+I1), s	14.2	40.8		48.5	8.8	38.9		48.4
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	6.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	1683	55	187	1625	97	140	401	513	193	549	156
Future Volume (veh/h)	163	1683	55	187	1625	97	140	401	513	193	549	156
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	1829	60	203	1766	105	152	436	558	210	597	170
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1756	58	193	1787	106	163	992	614	193	1051	469
Arrive On Green	0.18	0.69	0.69	0.11	0.36	0.36	0.09	0.28	0.28	0.11	0.30	0.30
Sat Flow, veh/h	1781	5078	166	1781	4929	293	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	177	1226	663	203	1219	652	152	436	558	210	597	170
Grp Sat Flow(s),veh/h/ln	1781	1702	1840	1781	1702	1818	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.0	41.5	41.5	13.0	42.7	42.8	10.2	12.1	33.5	13.0	17.1	10.2
Cycle Q Clear(g_c), s	11.0	41.5	41.5	13.0	42.7	42.8	10.2	12.1	33.5	13.0	17.1	10.2
Prop In Lane	1.00		0.09	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	1177	636	193	1234	659	163	992	614	193	1051	469
V/C Ratio(X)	1.08	1.04	1.04	1.05	0.99	0.99	0.93	0.44	0.91	1.09	0.57	0.36
Avail Cap(c_a), veh/h	163	1177	636	193	1234	659	163	992	614	193	1051	469
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.29	0.29	0.29	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	18.5	18.5	53.5	38.0	38.0	54.1	35.5	34.7	53.5	35.8	33.3
Incr Delay (d2), s/veh	62.7	26.3	31.4	64.9	17.1	24.8	50.5	1.4	19.7	90.3	2.2	2.2
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	9.8	14.5	16.7	13.4	25.6	28.8	11.0	9.1	25.0	16.4	12.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.7	44.8	49.9	118.4	55.1	62.9	104.6	37.0	54.4	143.8	38.0	35.5
LnGrp LOS	F	F	F	F	E	E	F	D	D	F	D	D
Approach Vol, veh/h		2066			2074			1146			977	
Approach Delay, s/veh		52.2			63.7			54.4			60.3	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	39.0	17.0	47.0	15.0	41.0	15.0	49.0
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	13.0	* 34	13.0	* 42	11.0	* 36	11.0	* 44
Max Q Clear Time (g_c+I1), s	15.0	35.5	15.0	43.5	12.2	19.1	13.0	44.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	57.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2521	13	2	993	186	1	0	47	418	54	1017
Future Volume (veh/h)	0	2521	13	2	993	186	1	0	47	418	54	1017
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		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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2740	14	2	1079	202	1	0	51	496	0	1105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	2872	15	41	2878	532	42	9	511	1073	0	1046
Arrive On Green	0.00	0.55	0.55	1.00	1.00	1.00	0.33	0.00	0.33	0.33	0.00	0.33
Sat Flow, veh/h	0	5411	27	1	5253	972	4	26	1549	2707	0	3170
Grp Volume(v), veh/h	0	1778	976	364	601	317	52	0	0	496	0	1105
Grp Sat Flow(s),veh/h/ln	0	1702	1866	1772	1464	1527	1580	0	0	1354	0	1585
Q Serve(g_s), s	0.0	44.5	44.7	1.4	0.0	0.0	0.0	0.0	0.0	10.7	0.0	29.7
Cycle Q Clear(g_c), s	0.0	44.5	44.7	46.1	0.0	0.0	2.0	0.0	0.0	12.7	0.0	29.7
Prop In Lane	0.00		0.01	0.01		0.64	0.02		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	0	1865	1022	1011	1604	837	562	0	0	1073	0	1046
V/C Ratio(X)	0.00	0.95	0.96	0.36	0.37	0.38	0.09	0.00	0.00	0.46	0.00	1.06
Avail Cap(c_a), veh/h	0	1865	1022	1011	1604	837	562	0	0	1073	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.66	0.66	0.66	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.3	19.3	0.1	0.0	0.0	20.9	0.0	0.0	24.3	0.0	30.1
Incr Delay (d2), s/veh	0.0	1.6	3.0	0.7	0.4	0.9	0.3	0.0	0.0	1.4	0.0	43.9
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	0.0	18.1	20.1	0.3	0.2	0.4	1.4	0.0	0.0	7.8	0.0	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.9	22.3	0.7	0.4	0.9	21.2	0.0	0.0	25.7	0.0	74.1
LnGrp LOS	A	C	C	A	A	A	C	A	A	C	A	F
Approach Vol, veh/h		2754			1283			52			1601	
Approach Delay, s/veh		21.4			0.6			21.2			59.1	
Approach LOS		C			A			C			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.2	54.8	35.2	54.8
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 30	* 49	* 30	* 49
Max Q Clear Time (g_c+I1), s	4.0	46.7	31.7	48.1
Green Ext Time (p_c), s	0.2	2.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	1138	0	0	1055	18	332	41	204	0	0	150
Future Volume (veh/h)	138	1138	0	0	1055	18	332	41	204	0	0	150
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	150	1237	0	0	1147	20	361	45	222	0	0	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	193	2406	0	0	1644	29	458	48	645	0	0	645
Arrive On Green	0.22	0.94	0.00	0.00	0.32	0.32	0.41	0.41	0.41	0.00	0.00	0.41
Sat Flow, veh/h	1781	5274	0	0	5336	90	942	117	1585	0	0	1585
Grp Volume(v), veh/h	150	1237	0	0	755	412	406	0	222	0	0	163
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1854	1059	0	1585	0	0	1585
Q Serve(g_s), s	7.1	2.4	0.0	0.0	17.5	17.5	27.9	0.0	8.7	0.0	0.0	6.1
Cycle Q Clear(g_c), s	7.1	2.4	0.0	0.0	17.5	17.5	34.0	0.0	8.7	0.0	0.0	6.1
Prop In Lane	1.00		0.00	0.00		0.05	0.89		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	193	2406	0	0	1083	590	506	0	645	0	0	645
V/C Ratio(X)	0.78	0.51	0.00	0.00	0.70	0.70	0.80	0.00	0.34	0.00	0.00	0.25
Avail Cap(c_a), veh/h	218	2406	0	0	1083	590	519	0	660	0	0	660
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.19	0.19	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	1.4	0.0	0.0	26.9	26.9	28.9	0.0	18.4	0.0	0.0	17.7
Incr Delay (d2), s/veh	3.1	0.2	0.0	0.0	3.7	6.7	8.6	0.0	0.3	0.0	0.0	0.2
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	4.1	0.9	0.0	0.0	11.6	13.1	14.4	0.0	13.8	0.0	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	1.6	0.0	0.0	30.6	33.6	37.6	0.0	18.7	0.0	0.0	17.9
LnGrp LOS	D	A	A	A	C	C	D	A	B	A	A	B
Approach Vol, veh/h		1387			1167			628			163	
Approach Delay, s/veh		5.5			31.7			30.9			17.9	
Approach LOS		A			C			C			B	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	47.9	42.1	13.8	34.1	42.1
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 42	* 38	11.0	* 27	* 38
Max Q Clear Time (g_c+I1), s	4.4	36.0	9.1	19.5	8.1
Green Ext Time (p_c), s	10.6	0.6	0.1	3.9	1.0

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	1331	76	322	1688	105	146	1022	315	83	918	280
Future Volume (veh/h)	240	1331	76	322	1688	105	146	1022	315	83	918	280
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	1447	83	350	1835	114	159	1111	342	90	998	304
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1449	83	282	1606	100	148	1093	487	141	1078	481
Arrive On Green	0.13	0.29	0.29	0.16	0.33	0.33	0.08	0.31	0.31	0.08	0.30	0.30
Sat Flow, veh/h	1781	4940	283	1781	4915	305	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	261	997	533	350	1270	679	159	1111	342	90	998	304
Grp Sat Flow(s),veh/h/ln	1781	1702	1819	1781	1702	1816	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.0	35.1	35.1	19.0	39.2	39.2	10.0	36.9	22.9	5.9	32.6	19.8
Cycle Q Clear(g_c), s	15.0	35.1	35.1	19.0	39.2	39.2	10.0	36.9	22.9	5.9	32.6	19.8
Prop In Lane	1.00		0.16	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	999	534	282	1112	593	148	1093	487	141	1078	481
V/C Ratio(X)	1.17	1.00	1.00	1.24	1.14	1.15	1.07	1.02	0.70	0.64	0.93	0.63
Avail Cap(c_a), veh/h	223	999	534	282	1112	593	148	1093	487	148	1078	481
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	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	42.4	42.4	50.5	40.4	40.4	55.0	41.6	36.7	53.6	40.5	36.0
Incr Delay (d2), s/veh	114.7	28.1	38.6	130.8	73.1	81.3	94.1	31.5	8.2	8.2	14.5	6.2
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	21.1	25.1	28.5	27.5	37.9	41.9	13.3	28.1	14.8	5.2	22.5	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.2	70.5	81.0	181.3	113.5	121.7	149.1	73.0	44.9	61.8	55.0	42.2
LnGrp LOS	F	E	F	F	F	F	F	F	D	E	E	D
Approach Vol, veh/h		1791			2299			1612			1392	
Approach Delay, s/veh		87.7			126.2			74.6			52.7	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	42.5	23.0	41.0	14.0	42.0	19.0	45.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	10.0	* 36	19.0	35.2	10.0	* 36	15.0	39.2
Max Q Clear Time (g_c+I1), s	7.9	38.9	21.0	37.1	12.0	34.6	17.0	41.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1341	24	5	1888	66	85	5	13	20	1	66
Future Volume (veh/h)	29	1341	24	5	1888	66	85	5	13	20	1	66
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	1458	26	5	2052	72	92	5	14	22	1	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	3975	71	321	3898	136	205	13	21	77	17	139
Arrive On Green	0.77	0.77	0.77	1.00	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	191	5166	92	355	5065	177	1189	117	189	249	152	1256
Grp Volume(v), veh/h	32	961	523	5	1377	747	111	0	0	95	0	0
Grp Sat Flow(s),veh/h/ln	191	1702	1854	355	1702	1838	1495	0	0	1657	0	0
Q Serve(g_s), s	4.2	8.2	8.2	0.2	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	8.2	8.2	8.3	0.0	0.0	6.1	0.0	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.10	0.83		0.13	0.23		0.76
Lane Grp Cap(c), veh/h	227	2620	1427	321	2620	1415	238	0	0	232	0	0
V/C Ratio(X)	0.14	0.37	0.37	0.02	0.53	0.53	0.47	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	227	2620	1427	321	2620	1415	366	0	0	375	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.24	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.9	3.3	3.3	0.5	0.0	0.0	38.2	0.0	0.0	37.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.1	0.2	0.1	0.8	1.4	2.0	0.0	0.0	1.6	0.0	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	0.2	2.7	2.9	0.0	0.5	1.0	4.4	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.2	3.4	3.5	0.6	0.8	1.4	40.2	0.0	0.0	39.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1516			2129			111			95	
Approach Delay, s/veh		3.4			1.0			40.2			39.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.8	15.2	74.8	15.2
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	60.9	* 18	60.9	* 18
Max Q Clear Time (g_c+I1), s	10.3	6.7	10.2	8.1
Green Ext Time (p_c), s	39.8	0.4	27.6	0.5

Intersection Summary	
HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	53

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1501	7	8	2204	49	9	0	40	49	0	12
Future Vol, veh/h	12	1501	7	8	2204	49	9	0	40	49	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	65	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	1632	8	9	2396	53	10	0	43	53	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2449	0	0	1640	0	0	2638	4129	820	3120	4107	1225
Stage 1	-	-	-	-	-	-	1662	1662	-	2441	2441	-
Stage 2	-	-	-	-	-	-	976	2467	-	679	1666	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	74	-	-	190	-	-	25	2	273	~ 12	2	146
Stage 1	-	-	-	-	-	-	68	153	-	~ 18	61	-
Stage 2	-	-	-	-	-	-	243	59	-	371	152	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	74	-	-	190	-	-	19	2	273	~ 8	2	146
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	2	-	~ 8	2	-
Stage 1	-	-	-	-	-	-	56	126	-	~ 15	58	-
Stage 2	-	-	-	-	-	-	211	56	-	257	125	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	115.8	$ 3268.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	79	74	-	-	190	-	-	10
HCM Lane V/C Ratio	0.674	0.176	-	-	0.046	-	-	6.63
HCM Control Delay (s)	115.8	63.8	-	-	24.9	-		$ 3268.6
HCM Lane LOS	F	F	-	-	C	-	-	F
HCM 95th %tile Q(veh)	3.1	0.6	-	-	0.1	-	-	9.6

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	1307	73	121	1840	172	149	537	74	94	480	155
Future Volume (veh/h)	99	1307	73	121	1840	172	149	537	74	94	480	155
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	1421	79	132	2000	187	162	584	80	102	522	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	2000	111	191	1937	180	235	1012	138	209	1145	511
Arrive On Green	0.03	0.13	0.13	0.11	0.41	0.41	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	4950	275	1781	4754	441	753	3141	429	772	3554	1585
Grp Volume(v), veh/h	108	977	523	132	1428	759	162	330	334	102	522	168
Grp Sat Flow(s),veh/h/ln	1781	1702	1821	1781	1702	1791	753	1777	1793	772	1777	1585
Q Serve(g_s), s	5.4	24.7	24.7	6.4	36.7	36.7	18.5	13.9	14.0	11.4	10.5	7.2
Cycle Q Clear(g_c), s	5.4	24.7	24.7	6.4	36.7	36.7	29.0	13.9	14.0	25.4	10.5	7.2
Prop In Lane	1.00		0.15	1.00		0.25	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	185	1376	736	191	1387	730	235	573	578	209	1145	511
V/C Ratio(X)	0.58	0.71	0.71	0.69	1.03	1.04	0.69	0.58	0.58	0.49	0.46	0.33
Avail Cap(c_a), veh/h	198	1376	736	198	1387	730	235	573	578	209	1145	511
HCM Platoon Ratio	0.33	0.33	0.33	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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	34.0	34.0	38.8	26.7	26.7	36.2	25.4	25.4	36.0	24.2	23.1
Incr Delay (d2), s/veh	3.9	3.1	5.7	0.9	16.5	22.7	15.4	4.2	4.2	8.0	1.3	1.7
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	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	17.3	19.0	3.6	19.1	21.6	8.0	10.5	10.6	4.6	8.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	37.1	39.7	39.7	43.2	49.4	51.5	29.6	29.6	43.9	25.5	24.8
LnGrp LOS	D	D	D	D	F	F	D	C	C	D	C	C
Approach Vol, veh/h		1608			2319			826			792	
Approach Delay, s/veh		38.5			45.0			33.9			27.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	41.9		34.5	13.3	42.2		34.5
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	10.0	* 36		* 29	10.0	* 36		* 29
Max Q Clear Time (g_c+I1), s	8.4	26.7		31.0	7.4	38.7		27.4
Green Ext Time (p_c), s	0.0	6.0		0.0	0.1	0.0		0.8

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	1476	36	421	2122	77	119	358	676	202	419	167
Future Volume (veh/h)	99	1476	36	421	2122	77	119	358	676	202	419	167
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	1604	39	458	2307	84	129	389	735	220	455	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1431	35	327	1929	70	148	992	733	178	1051	469
Arrive On Green	0.08	0.28	0.28	0.18	0.38	0.38	0.08	0.28	0.28	0.10	0.30	0.30
Sat Flow, veh/h	1781	5127	125	1781	5058	183	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	108	1065	578	458	1549	842	129	389	735	220	455	182
Grp Sat Flow(s),veh/h/ln	1781	1702	1848	1781	1702	1837	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.1	33.5	33.5	22.0	45.8	45.8	8.6	10.6	33.5	12.0	12.4	11.0
Cycle Q Clear(g_c), s	7.1	33.5	33.5	22.0	45.8	45.8	8.6	10.6	33.5	12.0	12.4	11.0
Prop In Lane	1.00		0.07	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	950	516	327	1298	701	148	992	733	178	1051	469
V/C Ratio(X)	0.75	1.12	1.12	1.40	1.19	1.20	0.87	0.39	1.00	1.24	0.43	0.39
Avail Cap(c_a), veh/h	148	950	516	327	1298	701	148	992	733	178	1051	469
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)	0.60	0.60	0.60	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	43.3	43.3	49.0	37.1	37.1	54.4	35.0	32.3	54.0	34.1	33.6
Incr Delay (d2), s/veh	11.5	63.3	69.5	182.8	87.6	92.0	38.6	1.2	33.9	144.6	1.3	2.4
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	6.0	30.0	33.4	34.2	42.1	46.7	9.2	8.2	35.3	19.7	9.3	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	106.5	112.8	231.8	124.7	129.2	93.0	36.2	66.1	198.6	35.4	36.0
LnGrp LOS	E	F	F	F	F	F	F	D	F	F	D	D
Approach Vol, veh/h		1751			2849			1253			857	
Approach Delay, s/veh		106.1			143.2			59.6			77.4	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	39.0	26.0	39.0	14.0	41.0	13.7	51.3
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	12.0	* 34	22.0	* 34	10.0	* 36	10.0	* 46
Max Q Clear Time (g_c+I1), s	14.0	35.5	24.0	35.5	10.6	14.4	9.1	47.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	109.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2350	16	4	1057	175	0	0	25	290	45	1670
Future Volume (veh/h)	0	2350	16	4	1057	175	0	0	25	290	45	1670
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		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	0	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2554	17	4	1149	190	0	0	27	350	0	1815
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	2239	15	40	2191	359	0	0	713	1379	0	1427
Arrive On Green	0.00	0.43	0.43	0.86	0.86	0.86	0.00	0.00	0.45	0.45	0.00	0.45
Sat Flow, veh/h	0	5402	35	0	5123	838	0	0	1585	2767	0	3170
Grp Volume(v), veh/h	0	1660	911	333	658	352	0	0	27	350	0	1815
Grp Sat Flow(s),veh/h/ln	0	1702	1864	1482	1464	1551	0	0	1585	1383	0	1585
Q Serve(g_s), s	0.0	38.5	38.5	0.0	5.3	5.4	0.0	0.0	0.9	7.3	0.0	40.5
Cycle Q Clear(g_c), s	0.0	38.5	38.5	38.5	5.3	5.4	0.0	0.0	0.9	8.2	0.0	40.5
Prop In Lane	0.00		0.02	0.01		0.54	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1456	797	674	1252	664	0	0	713	1379	0	1427
V/C Ratio(X)	0.00	1.14	1.14	0.49	0.53	0.53	0.00	0.00	0.04	0.25	0.00	1.27
Avail Cap(c_a), veh/h	0	1456	797	674	1252	664	0	0	713	1379	0	1427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.65	0.65	0.65	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.8	25.8	7.8	4.1	4.1	0.0	0.0	13.8	16.1	0.0	24.8
Incr Delay (d2), s/veh	0.0	63.9	65.6	1.7	1.0	2.0	0.0	0.0	0.1	0.4	0.0	128.2
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	0.0	33.4	37.0	3.2	2.1	2.6	0.0	0.0	0.6	4.2	0.0	58.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	89.7	91.4	9.5	5.1	6.1	0.0	0.0	13.9	16.6	0.0	152.9
LnGrp LOS	A	F	F	A	A	A	A	A	B	B	A	F
Approach Vol, veh/h		2571			1343			27			2165	
Approach Delay, s/veh		90.3			6.5			13.9			130.9	
Approach LOS		F			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.0	44.0	46.0	44.0
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 41	* 39	* 41	* 39
Max Q Clear Time (g_c+I1), s	2.9	40.5	42.5	40.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	85.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	631	0	0	1273	4	441	10	162	0	0	41
Future Volume (veh/h)	39	631	0	0	1273	4	441	10	162	0	0	41
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	42	686	0	0	1384	4	479	11	176	0	0	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	129	2467	0	0	1927	6	584	12	625	0	0	625
Arrive On Green	0.14	0.97	0.00	0.00	0.37	0.37	0.39	0.39	0.39	0.00	0.00	0.39
Sat Flow, veh/h	1781	5274	0	0	5425	15	1279	29	1585	0	0	1585
Grp Volume(v), veh/h	42	686	0	0	896	492	490	0	176	0	0	45
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1868	1308	0	1585	0	0	1585
Q Serve(g_s), s	1.9	0.6	0.0	0.0	20.4	20.4	31.2	0.0	6.8	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.9	0.6	0.0	0.0	20.4	20.4	32.8	0.0	6.8	0.0	0.0	1.6
Prop In Lane	1.00		0.00	0.00		0.01	0.98		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	129	2467	0	0	1248	685	595	0	625	0	0	625
V/C Ratio(X)	0.33	0.28	0.00	0.00	0.72	0.72	0.82	0.00	0.28	0.00	0.00	0.07
Avail Cap(c_a), veh/h	198	2467	0	0	1248	685	610	0	643	0	0	643
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	0.8	0.0	0.0	24.5	24.5	27.2	0.0	18.6	0.0	0.0	17.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	3.6	6.4	8.8	0.0	0.2	0.0	0.0	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	1.2	0.3	0.0	0.0	12.9	14.6	16.6	0.0	11.5	0.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	0.8	0.0	0.0	28.1	30.9	36.0	0.0	18.8	0.0	0.0	17.0
LnGrp LOS	D	A	A	A	C	C	D	A	B	A	A	B
Approach Vol, veh/h		728			1388			666			45	
Approach Delay, s/veh		2.9			29.1			31.4			17.0	
Approach LOS		A			C			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	49.0		41.0	10.5	38.5		41.0
Change Period (Y+Rc), s	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	* 43		* 37	10.0	* 29		* 37
Max Q Clear Time (g_c+I1), s	2.6		34.8	3.9	22.4		3.6
Green Ext Time (p_c), s	5.0		0.7	0.0	4.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1412	126	325	1452	147	191	836	340	186	1009	140
Future Volume (veh/h)	221	1412	126	325	1452	147	191	836	340	186	1009	140
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	1535	137	353	1578	160	208	909	370	202	1097	152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	1360	121	267	1500	152	163	1078	481	178	1108	494
Arrive On Green	0.12	0.28	0.28	0.30	0.64	0.64	0.09	0.30	0.30	0.10	0.31	0.31
Sat Flow, veh/h	1781	4772	426	1781	4711	477	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	240	1095	577	353	1140	598	208	909	370	202	1097	152
Grp Sat Flow(s),veh/h/ln	1781	1702	1794	1781	1702	1784	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.0	34.2	34.2	18.0	38.2	38.2	11.0	28.7	25.5	12.0	36.9	8.8
Cycle Q Clear(g_c), s	14.0	34.2	34.2	18.0	38.2	38.2	11.0	28.7	25.5	12.0	36.9	8.8
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	970	511	267	1084	568	163	1078	481	178	1108	494
V/C Ratio(X)	1.15	1.13	1.13	1.32	1.05	1.05	1.27	0.84	0.77	1.13	0.99	0.31
Avail Cap(c_a), veh/h	208	970	511	267	1084	568	163	1078	481	178	1108	494
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	42.9	42.9	42.0	21.8	21.8	54.5	39.1	38.0	54.0	41.1	31.4
Incr Delay (d2), s/veh	110.4	71.0	80.4	165.3	40.1	49.9	162.2	8.1	11.3	108.0	24.9	1.6
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	19.4	33.8	37.1	28.4	20.5	23.3	19.5	19.3	16.6	16.8	26.6	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.4	113.9	123.3	207.3	61.9	71.7	216.7	47.2	49.3	162.0	66.0	33.1
LnGrp LOS	F	F	F	F	F	F	F	D	D	F	E	C
Approach Vol, veh/h		1912			2091			1487			1451	
Approach Delay, s/veh		123.0			89.3			71.4			75.9	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	42.0	22.0	40.0	15.0	43.0	18.0	44.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	12.0	* 36	18.0	34.2	11.0	* 37	14.0	38.2
Max Q Clear Time (g_c+I1), s	14.0	30.7	20.0	36.2	13.0	38.9	16.0	40.2
Green Ext Time (p_c), s	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	91.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1872	65	21	1650	55	46	4	9	87	30	67
Future Volume (veh/h)	23	1872	65	21	1650	55	46	4	9	87	30	67
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2035	71	23	1793	60	50	4	10	95	33	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	3870	135	208	3876	130	178	17	26	149	45	85
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	249	5066	176	194	5074	170	854	117	180	714	310	584
Grp Volume(v), veh/h	25	1366	740	23	1202	651	64	0	0	201	0	0
Grp Sat Flow(s),veh/h/ln	249	1702	1839	194	1702	1840	1152	0	0	1608	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	14.5	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.09	0.78		0.16	0.47		0.36
Lane Grp Cap(c), veh/h	250	2600	1404	208	2600	1405	222	0	0	279	0	0
V/C Ratio(X)	0.10	0.53	0.53	0.11	0.46	0.46	0.29	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	250	2600	1404	208	2600	1405	326	0	0	397	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	46.2	0.0	0.0	49.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.6	1.1	1.0	0.0	0.0	5.0	0.0	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	0.0	0.0	0.1	0.1	0.4	0.8	3.3	0.0	0.0	10.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.1	0.1	1.1	0.6	1.1	47.2	0.0	0.0	54.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		2131			1876			64			201	
Approach Delay, s/veh		0.1			0.8			47.2			54.7	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	97.2	22.8	97.2	22.8
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	82.4	* 27	82.4	* 27
Max Q Clear Time (g_c+I1), s	2.0	16.5	2.0	8.0
Green Ext Time (p_c), s	48.2	1.1	56.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1891	27	41	1744	49	6	0	25	19	0	5
Future Vol, veh/h	12	1891	27	41	1744	49	6	0	25	19	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	65	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	2055	29	45	1896	53	7	0	27	21	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1949	0	0	2084	0	0	2944	4135	1042	2861	4123	975
Stage 1	-	-	-	-	-	-	2096	2096	-	2013	2013	-
Stage 2	-	-	-	-	-	-	848	2039	-	848	2110	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	133	-	-	113	-	-	16	2	194	~ 18	2	216
Stage 1	-	-	-	-	-	-	33	92	-	38	102	-
Stage 2	-	-	-	-	-	-	292	99	-	292	91	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	133	-	-	113	-	-	10	1	194	~ 10	1	216
Mov Cap-2 Maneuver	-	-	-	-	-	-	10	1	-	~ 10	1	-
Stage 1	-	-	-	-	-	-	30	83	-	34	61	-
Stage 2	-	-	-	-	-	-	171	60	-	227	82	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.3	218.6	$ 1171.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	43	133	-	-	113	-	-	12
HCM Lane V/C Ratio	0.784	0.098	-	-	0.394	-	-	2.174
HCM Control Delay (s)	218.6	35	-	-	56.2	-	-	$ 1171.8
HCM Lane LOS	F	D	-	-	F	-	-	F
HCM 95th %tile Q(veh)	3	0.3	-	-	1.6	-	-	4.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	1526	105	167	1466	107	127	302	94	264	759	173
Future Volume (veh/h)	95	1526	105	167	1466	107	127	302	94	264	759	173
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	1659	114	182	1593	116	138	328	102	287	825	188
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1850	127	193	1976	144	173	1038	318	348	1377	614
Arrive On Green	0.05	0.25	0.25	0.04	0.13	0.13	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	4879	335	1781	4857	353	556	2680	820	958	3554	1585
Grp Volume(v), veh/h	103	1157	616	182	1116	593	138	216	214	287	825	188
Grp Sat Flow(s),veh/h/ln	1781	1702	1810	1781	1702	1807	556	1777	1723	958	1777	1585
Q Serve(g_s), s	6.8	39.4	39.5	12.2	38.2	38.2	24.3	10.2	10.4	35.9	22.2	9.9
Cycle Q Clear(g_c), s	6.8	39.4	39.5	12.2	38.2	38.2	46.5	10.2	10.4	46.4	22.2	9.9
Prop In Lane	1.00		0.19	1.00		0.20	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	144	1291	686	193	1385	735	173	689	668	348	1377	614
V/C Ratio(X)	0.72	0.90	0.90	0.94	0.81	0.81	0.80	0.31	0.32	0.83	0.60	0.31
Avail Cap(c_a), veh/h	148	1291	686	193	1385	735	173	689	668	348	1377	614
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	42.5	42.5	57.5	47.3	47.4	50.1	25.6	25.7	41.9	29.3	25.5
Incr Delay (d2), s/veh	14.8	9.9	16.8	9.3	0.5	0.9	31.0	1.2	1.3	19.6	1.9	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	25.8	28.8	7.6	19.5	20.8	9.6	8.0	8.0	15.5	14.9	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.2	52.4	59.4	66.8	47.8	48.3	81.1	26.8	27.0	61.5	31.2	26.8
LnGrp LOS	E	D	E	E	D	D	F	C	C	E	C	C
Approach Vol, veh/h		1876			1891			568			1300	
Approach Delay, s/veh		55.7			49.8			40.1			37.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	51.0		52.0	13.7	54.3		52.0
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	13.0	* 46		* 47	10.0	* 49		* 47
Max Q Clear Time (g_c+I1), s	14.2	41.5		48.5	8.8	40.2		48.4
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	6.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	1700	57	187	1668	97	143	401	513	193	549	159
Future Volume (veh/h)	164	1700	57	187	1668	97	143	401	513	193	549	159
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	1848	62	203	1813	105	155	436	558	210	597	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1759	59	193	1753	101	163	989	613	193	1048	468
Arrive On Green	0.20	0.69	0.69	0.11	0.35	0.35	0.09	0.28	0.28	0.11	0.30	0.30
Sat Flow, veh/h	1781	5074	170	1781	4938	285	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	178	1239	671	203	1249	669	155	436	558	210	597	173
Grp Sat Flow(s),veh/h/ln	1781	1702	1840	1781	1702	1819	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.0	41.6	41.6	13.0	42.6	42.6	10.4	12.1	33.4	13.0	17.1	10.4
Cycle Q Clear(g_c), s	12.0	41.6	41.6	13.0	42.6	42.6	10.4	12.1	33.4	13.0	17.1	10.4
Prop In Lane	1.00		0.09	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1180	638	193	1208	646	163	989	613	193	1048	468
V/C Ratio(X)	1.00	1.05	1.05	1.05	1.03	1.04	0.95	0.44	0.91	1.09	0.57	0.37
Avail Cap(c_a), veh/h	178	1180	638	193	1208	646	163	989	613	193	1048	468
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.27	0.27	0.27	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	18.4	18.4	53.5	38.7	38.7	54.2	35.6	34.8	53.5	35.8	33.5
Incr Delay (d2), s/veh	34.8	29.2	33.9	63.6	28.9	36.8	55.4	1.4	20.0	90.3	2.2	2.2
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	8.5	15.0	17.1	13.2	28.4	31.8	11.4	9.1	25.1	16.4	12.1	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.8	47.6	52.3	117.1	67.6	75.5	109.6	37.0	54.8	143.8	38.1	35.7
LnGrp LOS	F	F	F	F	F	F	F	D	D	F	D	D
Approach Vol, veh/h		2088			2121			1149			980	
Approach Delay, s/veh		52.1			74.9			55.5			60.3	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	38.9	17.0	47.1	15.0	40.9	16.0	48.1
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	13.0	* 33	13.0	* 42	11.0	* 35	12.0	* 43
Max Q Clear Time (g_c+I1), s	15.0	35.4	15.0	43.6	12.4	19.1	14.0	44.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2538	13	2	1015	186	1	0	47	418	54	1038
Future Volume (veh/h)	0	2538	13	2	1015	186	1	0	47	418	54	1038
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		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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2759	14	2	1103	202	1	0	51	496	0	1128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	2884	15	41	2896	525	42	9	508	1067	0	1039
Arrive On Green	0.00	0.55	0.55	1.00	1.00	1.00	0.33	0.00	0.33	0.33	0.00	0.33
Sat Flow, veh/h	0	5411	27	1	5266	954	4	26	1549	2707	0	3170
Grp Volume(v), veh/h	0	1790	983	370	613	324	52	0	0	496	0	1128
Grp Sat Flow(s),veh/h/ln	0	1702	1866	1763	1464	1530	1580	0	0	1354	0	1585
Q Serve(g_s), s	0.0	44.9	45.1	1.6	0.0	0.0	0.0	0.0	0.0	10.7	0.0	29.5
Cycle Q Clear(g_c), s	0.0	44.9	45.1	46.7	0.0	0.0	2.0	0.0	0.0	12.8	0.0	29.5
Prop In Lane	0.00		0.01	0.01		0.62	0.02		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	0	1872	1026	1010	1610	842	559	0	0	1067	0	1039
V/C Ratio(X)	0.00	0.96	0.96	0.37	0.38	0.39	0.09	0.00	0.00	0.46	0.00	1.09
Avail Cap(c_a), veh/h	0	1872	1026	1010	1610	842	559	0	0	1067	0	1039
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.60	0.60	0.60	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.2	19.3	0.1	0.0	0.0	21.0	0.0	0.0	24.4	0.0	30.2
Incr Delay (d2), s/veh	0.0	1.7	3.1	0.6	0.4	0.8	0.3	0.0	0.0	1.5	0.0	54.1
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	0.0	18.2	20.4	0.3	0.2	0.3	1.4	0.0	0.0	7.8	0.0	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.9	22.4	0.7	0.4	0.8	21.4	0.0	0.0	25.9	0.0	84.4
LnGrp LOS	A	C	C	A	A	A	C	A	A	C	A	F
Approach Vol, veh/h		2773			1307			52			1624	
Approach Delay, s/veh		21.4			0.6			21.4			66.5	
Approach LOS		C			A			C			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	55.0	35.0	55.0
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 30	* 50	* 30	* 50
Max Q Clear Time (g_c+I1), s	4.0	47.1	31.5	48.7
Green Ext Time (p_c), s	0.2	2.3	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	1139	0	0	1058	18	351	41	204	0	0	150
Future Volume (veh/h)	138	1139	0	0	1058	18	351	41	204	0	0	150
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	150	1238	0	0	1150	20	382	45	222	0	0	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	193	2319	0	0	1557	27	482	48	671	0	0	671
Arrive On Green	0.14	0.60	0.00	0.00	0.30	0.30	0.42	0.42	0.42	0.00	0.00	0.42
Sat Flow, veh/h	1781	5274	0	0	5337	90	958	113	1585	0	0	1585
Grp Volume(v), veh/h	150	1238	0	0	757	413	427	0	222	0	0	163
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1854	1071	0	1585	0	0	1585
Q Serve(g_s), s	7.3	12.8	0.0	0.0	18.0	18.0	29.3	0.0	8.4	0.0	0.0	5.9
Cycle Q Clear(g_c), s	7.3	12.8	0.0	0.0	18.0	18.0	35.3	0.0	8.4	0.0	0.0	5.9
Prop In Lane	1.00		0.00	0.00		0.05	0.89		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	193	2319	0	0	1025	558	530	0	671	0	0	671
V/C Ratio(X)	0.78	0.53	0.00	0.00	0.74	0.74	0.81	0.00	0.33	0.00	0.00	0.24
Avail Cap(c_a), veh/h	218	2319	0	0	1025	558	549	0	696	0	0	696
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	12.3	0.0	0.0	28.3	28.3	28.0	0.0	17.4	0.0	0.0	16.7
Incr Delay (d2), s/veh	2.9	0.2	0.0	0.0	4.8	8.5	8.4	0.0	0.3	0.0	0.0	0.2
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	4.4	5.1	0.0	0.0	12.1	13.7	14.8	0.0	13.7	0.0	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	12.4	0.0	0.0	33.0	36.8	36.4	0.0	17.7	0.0	0.0	16.8
LnGrp LOS	D	B	A	A	C	D	D	A	B	A	A	B
Approach Vol, veh/h		1388			1170			649			163	
Approach Delay, s/veh		15.4			34.3			30.0			16.8	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	46.4		43.6	13.8	32.6		43.6
Change Period (Y+Rc), s	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	* 40		* 40	11.0	* 25		* 40
Max Q Clear Time (g_c+I1), s	14.8		37.3	9.3	20.0		7.9
Green Ext Time (p_c), s	9.3		0.9	0.1	2.7		1.1

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	1351	78	325	1716	103	149	1043	318	82	936	286
Future Volume (veh/h)	245	1351	78	325	1716	103	149	1043	318	82	936	286
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	1468	85	353	1865	112	162	1134	346	89	1017	311
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1489	86	267	1609	96	163	1093	488	141	1048	468
Arrive On Green	0.13	0.30	0.30	0.15	0.33	0.33	0.09	0.31	0.31	0.08	0.29	0.29
Sat Flow, veh/h	1781	4937	286	1781	4926	295	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	266	1012	541	353	1287	690	162	1134	346	89	1017	311
Grp Sat Flow(s),veh/h/ln	1781	1702	1819	1781	1702	1817	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.0	35.5	35.5	18.0	39.2	39.2	10.9	36.9	23.2	5.8	33.9	20.7
Cycle Q Clear(g_c), s	15.0	35.5	35.5	18.0	39.2	39.2	10.9	36.9	23.2	5.8	33.9	20.7
Prop In Lane	1.00		0.16	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1027	549	267	1112	594	163	1093	488	141	1048	468
V/C Ratio(X)	1.19	0.99	0.99	1.32	1.16	1.16	0.99	1.04	0.71	0.63	0.97	0.67
Avail Cap(c_a), veh/h	223	1027	549	267	1112	594	163	1093	488	148	1048	468
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	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	41.6	41.6	51.0	40.4	40.4	54.5	41.5	36.8	53.6	41.8	37.1
Incr Delay (d2), s/veh	122.9	24.6	34.8	164.5	79.6	87.6	68.0	37.4	8.5	7.8	21.5	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	21.9	24.8	28.1	30.1	39.5	43.6	12.5	29.5	15.0	5.2	24.3	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.4	66.3	76.4	215.5	120.0	128.0	122.4	78.9	45.3	61.4	63.2	44.4
LnGrp LOS	F	E	E	F	F	F	F	F	D	E	E	D
Approach Vol, veh/h		1819			2330			1642			1417	
Approach Delay, s/veh		85.2			136.9			76.1			59.0	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	42.5	22.0	42.0	15.0	41.0	19.0	45.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	10.0	* 36	18.0	36.2	11.0	* 35	15.0	39.2
Max Q Clear Time (g_c+I1), s	7.8	38.9	20.0	37.5	12.9	35.9	17.0	41.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	94.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1355	24	5	1913	67	87	5	13	20	1	67
Future Volume (veh/h)	30	1355	24	5	1913	67	87	5	13	20	1	67
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1473	26	5	2079	73	95	5	14	22	1	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	3976	70	317	3897	136	205	12	20	77	17	140
Arrive On Green	0.77	0.77	0.77	1.00	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	185	5167	91	350	5065	177	1192	105	182	249	150	1267
Grp Volume(v), veh/h	33	970	529	5	1395	757	114	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	185	1702	1854	350	1702	1838	1479	0	0	1667	0	0
Q Serve(g_s), s	4.5	8.3	8.3	0.2	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.5	8.3	8.3	8.4	0.0	0.0	6.4	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.10	0.83		0.12	0.23		0.76
Lane Grp Cap(c), veh/h	223	2619	1427	317	2619	1415	237	0	0	233	0	0
V/C Ratio(X)	0.15	0.37	0.37	0.02	0.53	0.53	0.48	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	223	2619	1427	317	2619	1415	364	0	0	376	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.26	0.26	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.9	3.3	3.3	0.5	0.0	0.0	38.4	0.0	0.0	37.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.2	0.1	0.8	1.5	2.2	0.0	0.0	1.6	0.0	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	0.2	2.8	3.0	0.0	0.5	1.0	4.6	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	3.5	3.5	0.6	0.8	1.5	40.5	0.0	0.0	39.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1532			2157			114			96	
Approach Delay, s/veh		3.5			1.0			40.5			39.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.8	15.2	74.8	15.2
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	60.9	* 18	60.9	* 18
Max Q Clear Time (g_c+I1), s	10.4	6.8	10.3	8.4
Green Ext Time (p_c), s	40.3	0.4	28.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1524	7	8	2241	9	41
Future Vol, veh/h	1524	7	8	2241	9	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1657	8	9	2436	10	45

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1665	0	2653	833
Stage 1	-	-	-	-	1661	-
Stage 2	-	-	-	-	992	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	184	-	41	268
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	288	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	184	-	39	268
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	274	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	32.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	184	-	-	184	-
HCM Lane V/C Ratio	0.295	-	-	0.047	-
HCM Control Delay (s)	32.6	-	-	25.5	-
HCM Lane LOS	D	-	-	D	-
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1283	70	123	1826	175	148	548	75	96	490	155
Future Volume (veh/h)	98	1283	70	123	1826	175	148	548	75	96	490	155
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	1395	76	134	1985	190	161	596	82	104	533	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	1985	108	191	1918	182	234	1022	140	207	1157	516
Arrive On Green	0.03	0.13	0.13	0.11	0.40	0.40	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	4956	270	1781	4743	451	745	3139	431	762	3554	1585
Grp Volume(v), veh/h	107	958	513	134	1420	755	161	337	341	104	533	168
Grp Sat Flow(s),veh/h/ln	1781	1702	1822	1781	1702	1789	745	1777	1793	762	1777	1585
Q Serve(g_s), s	5.3	24.2	24.2	6.5	36.4	36.4	18.6	14.2	14.3	11.9	10.7	7.2
Cycle Q Clear(g_c), s	5.3	24.2	24.2	6.5	36.4	36.4	29.3	14.2	14.3	26.1	10.7	7.2
Prop In Lane	1.00		0.15	1.00		0.25	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	184	1364	730	191	1376	723	234	578	584	207	1157	516
V/C Ratio(X)	0.58	0.70	0.70	0.70	1.03	1.04	0.69	0.58	0.58	0.50	0.46	0.33
Avail Cap(c_a), veh/h	198	1364	730	198	1376	723	234	578	584	207	1157	516
HCM Platoon Ratio	0.33	0.33	0.33	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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	33.9	33.9	38.8	26.8	26.8	36.1	25.3	25.3	36.2	24.1	22.9
Incr Delay (d2), s/veh	3.7	3.1	5.6	1.0	17.6	23.8	15.3	4.2	4.2	8.4	1.3	1.7
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	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	17.0	18.6	3.6	19.2	21.8	7.9	10.7	10.8	4.8	8.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	37.0	39.5	39.8	44.4	50.6	51.4	29.5	29.5	44.6	25.4	24.6
LnGrp LOS	D	D	D	D	F	F	D	C	C	D	C	C
Approach Vol, veh/h		1578			2309			839			805	
Approach Delay, s/veh		38.4			46.1			33.7			27.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	41.6		34.8	13.3	41.9		34.8
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	10.0	* 36		* 29	10.0	* 36		* 29
Max Q Clear Time (g_c+I1), s	8.5	26.2		31.3	7.3	38.4		28.1
Green Ext Time (p_c), s	0.0	6.0		0.0	0.1	0.0		0.6

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1462	34	429	2121	79	117	365	690	206	427	167
Future Volume (veh/h)	98	1462	34	429	2121	79	117	365	690	206	427	167
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	1589	37	466	2305	86	127	397	750	224	464	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1433	33	341	1970	73	153	962	733	178	1013	452
Arrive On Green	0.08	0.28	0.28	0.19	0.39	0.39	0.09	0.27	0.27	0.10	0.29	0.29
Sat Flow, veh/h	1781	5133	120	1781	5053	188	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	107	1054	572	466	1549	842	127	397	750	224	464	182
Grp Sat Flow(s),veh/h/ln	1781	1702	1849	1781	1702	1837	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.0	33.5	33.5	23.0	46.8	46.8	8.4	11.0	32.5	12.0	12.9	11.1
Cycle Q Clear(g_c), s	7.0	33.5	33.5	23.0	46.8	46.8	8.4	11.0	32.5	12.0	12.9	11.1
Prop In Lane	1.00		0.06	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	950	516	341	1327	716	153	962	733	178	1013	452
V/C Ratio(X)	0.74	1.11	1.11	1.36	1.17	1.18	0.83	0.41	1.02	1.26	0.46	0.40
Avail Cap(c_a), veh/h	148	950	516	341	1327	716	163	962	733	178	1013	452
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)	0.61	0.61	0.61	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	43.3	43.3	48.5	36.6	36.6	54.0	35.9	32.2	54.0	35.3	34.6
Incr Delay (d2), s/veh	11.2	58.8	65.3	166.0	76.1	80.6	27.8	1.3	39.2	153.2	1.5	2.7
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	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	29.2	32.6	33.4	39.9	44.2	8.5	8.5	37.1	20.4	9.6	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	102.0	108.5	214.5	112.7	117.3	81.8	37.2	71.5	207.2	36.8	37.3
LnGrp LOS	E	F	F	F	F	F	F	D	F	F	D	D
Approach Vol, veh/h		1733			2857			1274			870	
Approach Delay, s/veh		101.9			130.6			61.8			80.8	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	38.0	27.0	39.0	14.3	39.7	13.7	52.3
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	12.0	* 33	23.0	* 34	11.0	* 34	10.0	* 47
Max Q Clear Time (g_c+I1), s	14.0	34.5	25.0	35.5	10.4	14.9	9.0	48.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	103.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2353	16	4	1056	179	0	0	26	296	46	1682
Future Volume (veh/h)	0	2353	16	4	1056	179	0	0	26	296	46	1682
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		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	0	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2558	17	4	1148	195	0	0	28	358	0	1828
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	2239	15	40	2182	367	0	0	713	1377	0	1427
Arrive On Green	0.00	0.43	0.43	0.86	0.86	0.86	0.00	0.00	0.45	0.45	0.00	0.45
Sat Flow, veh/h	0	5402	35	0	5100	857	0	0	1585	2764	0	3170
Grp Volume(v), veh/h	0	1663	912	335	660	352	0	0	28	358	0	1828
Grp Sat Flow(s),veh/h/ln	0	1702	1864	1482	1464	1548	0	0	1585	1382	0	1585
Q Serve(g_s), s	0.0	38.5	38.5	0.0	5.3	5.4	0.0	0.0	0.9	7.5	0.0	40.5
Cycle Q Clear(g_c), s	0.0	38.5	38.5	38.5	5.3	5.4	0.0	0.0	0.9	8.4	0.0	40.5
Prop In Lane	0.00		0.02	0.01		0.55	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1456	797	674	1252	662	0	0	713	1377	0	1427
V/C Ratio(X)	0.00	1.14	1.14	0.50	0.53	0.53	0.00	0.00	0.04	0.26	0.00	1.28
Avail Cap(c_a), veh/h	0	1456	797	674	1252	662	0	0	713	1377	0	1427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.64	0.64	0.64	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.8	25.8	7.9	4.1	4.1	0.0	0.0	13.9	16.2	0.0	24.8
Incr Delay (d2), s/veh	0.0	64.7	66.4	1.7	1.0	2.0	0.0	0.0	0.1	0.5	0.0	132.1
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	0.0	33.7	37.2	3.3	2.1	2.6	0.0	0.0	0.6	4.3	0.0	59.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	90.5	92.2	9.5	5.1	6.1	0.0	0.0	14.0	16.7	0.0	156.9
LnGrp LOS	A	F	F	A	A	A	A	A	B	B	A	F
Approach Vol, veh/h		2575			1347			28			2186	
Approach Delay, s/veh		91.1			6.5			14.0			133.9	
Approach LOS		F			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.0	44.0	46.0	44.0
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 41	* 39	* 41	* 39
Max Q Clear Time (g_c+I1), s	2.9	40.5	42.5	40.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	87.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	641	0	0	1296	4	430	10	165	0	0	42
Future Volume (veh/h)	40	641	0	0	1296	4	430	10	165	0	0	42
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	43	697	0	0	1409	4	467	11	179	0	0	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	130	2497	0	0	1952	6	574	12	616	0	0	616
Arrive On Green	0.15	0.98	0.00	0.00	0.37	0.37	0.39	0.39	0.39	0.00	0.00	0.39
Sat Flow, veh/h	1781	5274	0	0	5425	15	1274	30	1585	0	0	1585
Grp Volume(v), veh/h	43	697	0	0	912	501	478	0	179	0	0	46
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1868	1304	0	1585	0	0	1585
Q Serve(g_s), s	1.9	0.4	0.0	0.0	20.7	20.7	30.4	0.0	7.0	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.9	0.4	0.0	0.0	20.7	20.7	32.1	0.0	7.0	0.0	0.0	1.6
Prop In Lane	1.00		0.00	0.00		0.01	0.98		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	130	2497	0	0	1264	694	586	0	616	0	0	616
V/C Ratio(X)	0.33	0.28	0.00	0.00	0.72	0.72	0.82	0.00	0.29	0.00	0.00	0.07
Avail Cap(c_a), veh/h	198	2497	0	0	1264	694	609	0	643	0	0	643
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.4	0.5	0.0	0.0	24.3	24.3	27.4	0.0	18.9	0.0	0.0	17.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	3.6	6.4	8.2	0.0	0.3	0.0	0.0	0.1
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	1.3	0.2	0.0	0.0	13.1	14.8	16.2	0.0	11.7	0.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	0.5	0.0	0.0	27.9	30.7	35.6	0.0	19.2	0.0	0.0	17.4
LnGrp LOS	D	A	A	A	C	C	D	A	B	A	A	B
Approach Vol, veh/h		740			1413			657			46	
Approach Delay, s/veh		2.6			28.9			31.1			17.4	
Approach LOS		A			C			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	49.5		40.5	10.6	38.9		40.5
Change Period (Y+Rc), s	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	* 43		* 37	10.0	* 29		* 37
Max Q Clear Time (g_c+I1), s	2.4		34.1	3.9	22.7		3.6
Green Ext Time (p_c), s	5.1		0.9	0.0	3.9		0.2

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	1433	129	331	1478	149	195	853	344	187	1029	143
Future Volume (veh/h)	225	1433	129	331	1478	149	195	853	344	187	1029	143
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	1558	140	360	1607	162	212	927	374	203	1118	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	1359	122	267	1501	151	178	1078	481	178	1078	481
Arrive On Green	0.12	0.28	0.28	0.30	0.64	0.64	0.10	0.30	0.30	0.10	0.30	0.30
Sat Flow, veh/h	1781	4769	428	1781	4714	475	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	245	1112	586	360	1160	609	212	927	374	203	1118	155
Grp Sat Flow(s),veh/h/ln	1781	1702	1793	1781	1702	1785	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.0	34.2	34.2	18.0	38.2	38.2	12.0	29.5	25.8	12.0	36.4	9.1
Cycle Q Clear(g_c), s	14.0	34.2	34.2	18.0	38.2	38.2	12.0	29.5	25.8	12.0	36.4	9.1
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	970	511	267	1084	568	178	1078	481	178	1078	481
V/C Ratio(X)	1.18	1.15	1.15	1.35	1.07	1.07	1.19	0.86	0.78	1.14	1.04	0.32
Avail Cap(c_a), veh/h	208	970	511	267	1084	568	178	1078	481	178	1078	481
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	42.9	42.9	42.0	21.8	21.8	54.0	39.4	38.1	54.0	41.8	32.3
Incr Delay (d2), s/veh	119.1	77.9	87.1	176.0	46.3	55.8	127.9	9.0	11.7	110.0	37.5	1.8
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	20.2	35.3	38.6	29.6	21.8	24.7	18.3	19.9	16.8	16.9	29.2	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.1	120.8	130.0	218.0	68.1	77.6	181.9	48.4	49.8	164.0	79.3	34.0
LnGrp LOS	F	F	F	F	F	F	F	D	D	F	F	C
Approach Vol, veh/h		1943			2129			1513			1476	
Approach Delay, s/veh		130.1			96.2			67.4			86.2	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	42.0	22.0	40.0	16.0	42.0	18.0	44.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	12.0	* 36	18.0	34.2	12.0	* 36	14.0	38.2
Max Q Clear Time (g_c+I1), s	14.0	31.5	20.0	36.2	14.0	38.4	16.0	40.2
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	97.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
2: Lockness Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1896	66	21	1678	56	47	4	9	89	31	68
Future Volume (veh/h)	23	1896	66	21	1678	56	47	4	9	89	31	68
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2061	72	23	1824	61	51	4	10	97	34	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	3855	134	204	3861	129	181	17	26	151	46	87
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	241	5066	177	189	5074	170	855	114	176	716	311	580
Grp Volume(v), veh/h	25	1383	750	23	1223	662	65	0	0	205	0	0
Grp Sat Flow(s),veh/h/ln	241	1702	1839	189	1702	1840	1146	0	0	1607	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	14.8	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.09	0.78		0.15	0.47		0.36
Lane Grp Cap(c), veh/h	243	2590	1399	204	2590	1400	224	0	0	284	0	0
V/C Ratio(X)	0.10	0.53	0.54	0.11	0.47	0.47	0.29	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	243	2590	1399	204	2590	1400	335	0	0	409	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	45.9	0.0	0.0	49.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.6	1.1	1.0	0.0	0.0	4.9	0.0	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	0.0	0.0	0.1	0.1	0.4	0.8	3.3	0.0	0.0	10.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.1	0.1	1.1	0.6	1.1	46.9	0.0	0.0	54.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		2158			1908			65			205	
Approach Delay, s/veh		0.1			0.8			46.9			54.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	96.8	23.2	96.8	23.2
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	81.5	* 28	81.5	* 28
Max Q Clear Time (g_c+I1), s	2.0	16.8	2.0	8.2
Green Ext Time (p_c), s	49.2	1.1	56.5	0.4

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1926	28	42	1773	6	26
Future Vol, veh/h	1926	28	42	1773	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2093	30	46	1927	7	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2123	0	2971	1062
Stage 1	-	-	-	-	2108	-
Stage 2	-	-	-	-	863	-
Critical Hdwy	-	-	5.34	-	5.74	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	-	-	3.12	-	3.82	3.92
Pot Cap-1 Maneuver	-	-	108	-	27	189
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	338	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	108	-	15	189
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	194	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	52.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	110	-	-	108	-
HCM Lane V/C Ratio	0.316	-	-	0.423	-
HCM Control Delay (s)	52.2	-	-	60.8	-
HCM Lane LOS	F	-	-	F	-
HCM 95th %tile Q(veh)	1.2	-	-	1.8	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1536	106	170	1445	109	126	308	96	269	774	173
Future Volume (veh/h)	96	1536	106	170	1445	109	126	308	96	269	774	173
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1670	115	185	1571	118	137	335	104	292	841	188
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1850	127	193	1971	148	168	1039	317	344	1377	614
Arrive On Green	0.05	0.25	0.25	0.04	0.13	0.13	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	4878	336	1781	4845	364	548	2681	819	950	3554	1585
Grp Volume(v), veh/h	104	1165	620	185	1103	586	137	220	219	292	841	188
Grp Sat Flow(s),veh/h/ln	1781	1702	1810	1781	1702	1805	548	1777	1723	950	1777	1585
Q Serve(g_s), s	6.9	39.7	39.8	12.4	37.7	37.7	23.7	10.4	10.7	35.8	22.8	9.9
Cycle Q Clear(g_c), s	6.9	39.7	39.8	12.4	37.7	37.7	46.5	10.4	10.7	46.5	22.8	9.9
Prop In Lane	1.00		0.19	1.00		0.20	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	144	1291	686	193	1385	734	168	689	668	344	1377	614
V/C Ratio(X)	0.72	0.90	0.90	0.96	0.80	0.80	0.81	0.32	0.33	0.85	0.61	0.31
Avail Cap(c_a), veh/h	148	1291	686	193	1385	734	168	689	668	344	1377	614
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.11	0.11	0.11	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	42.6	42.6	57.6	47.1	47.2	50.6	25.7	25.8	42.6	29.5	25.5
Incr Delay (d2), s/veh	15.4	10.4	17.5	13.1	0.6	1.1	33.4	1.2	1.3	22.3	2.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	26.1	29.2	8.0	19.5	20.8	9.7	8.2	8.2	16.1	15.2	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	53.0	60.2	70.7	47.7	48.2	84.1	26.9	27.1	64.9	31.5	26.8
LnGrp LOS	E	D	E	E	D	D	F	C	C	E	C	C
Approach Vol, veh/h		1889			1874			576			1321	
Approach Delay, s/veh		56.4			50.1			40.6			38.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	51.0		52.0	13.7	54.3		52.0
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	13.0	* 46		* 47	10.0	* 49		* 47
Max Q Clear Time (g_c+I1), s	14.4	41.8		48.5	8.9	39.7		48.5
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	6.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1717	56	191	1658	99	143	409	523	197	560	159
Future Volume (veh/h)	166	1717	56	191	1658	99	143	409	523	197	560	159
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	1866	61	208	1802	108	155	445	568	214	609	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1756	57	193	1745	104	182	962	601	208	1015	453
Arrive On Green	0.20	0.69	0.69	0.11	0.35	0.35	0.10	0.27	0.27	0.12	0.29	0.29
Sat Flow, veh/h	1781	5079	166	1781	4927	295	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	180	1250	677	208	1244	666	155	445	568	214	609	173
Grp Sat Flow(s),veh/h/ln	1781	1702	1841	1781	1702	1817	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.0	41.5	41.5	13.0	42.5	42.5	10.3	12.5	32.5	14.0	17.7	10.5
Cycle Q Clear(g_c), s	12.0	41.5	41.5	13.0	42.5	42.5	10.3	12.5	32.5	14.0	17.7	10.5
Prop In Lane	1.00		0.09	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1177	637	193	1206	644	182	962	601	208	1015	453
V/C Ratio(X)	1.01	1.06	1.06	1.08	1.03	1.03	0.85	0.46	0.95	1.03	0.60	0.38
Avail Cap(c_a), veh/h	178	1177	637	193	1206	644	193	962	601	208	1015	453
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	18.5	18.5	53.5	38.8	38.8	53.0	36.5	36.0	53.0	37.0	34.4
Incr Delay (d2), s/veh	36.3	33.3	37.6	71.7	28.5	36.4	28.1	1.6	25.4	70.4	2.6	2.4
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	8.6	15.9	18.0	13.9	28.2	31.6	9.9	9.4	26.9	15.6	12.5	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	51.8	56.1	125.2	67.2	75.1	81.1	38.1	61.5	123.4	39.6	36.8
LnGrp LOS	F	F	F	F	F	F	F	D	E	F	D	D
Approach Vol, veh/h		2107			2118			1168			996	
Approach Delay, s/veh		56.0			75.4			55.1			57.1	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	38.0	17.0	47.0	16.2	39.8	16.0	48.0
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	14.0	* 33	13.0	* 42	13.0	* 34	12.0	* 43
Max Q Clear Time (g_c+I1), s	16.0	34.5	15.0	43.5	12.3	19.7	14.0	44.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2572	13	2	1013	190	1	0	48	426	55	1037
Future Volume (veh/h)	0	2572	13	2	1013	190	1	0	48	426	55	1037
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		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	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2796	14	2	1101	207	1	0	52	506	0	1127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	2884	14	41	2863	532	42	8	508	1066	0	1039
Arrive On Green	0.00	0.55	0.55	1.00	1.00	1.00	0.33	0.00	0.33	0.33	0.00	0.33
Sat Flow, veh/h	0	5412	26	1	5205	968	4	26	1550	2705	0	3170
Grp Volume(v), veh/h	0	1814	996	364	619	327	53	0	0	506	0	1127
Grp Sat Flow(s),veh/h/ln	0	1702	1866	1718	1464	1528	1580	0	0	1352	0	1585
Q Serve(g_s), s	0.0	46.2	46.4	2.4	0.0	0.0	0.0	0.0	0.0	11.0	0.0	29.5
Cycle Q Clear(g_c), s	0.0	46.2	46.4	48.8	0.0	0.0	2.1	0.0	0.0	13.1	0.0	29.5
Prop In Lane	0.00		0.01	0.01		0.63	0.02		0.98	1.00		1.00
Lane Grp Cap(c), veh/h	0	1872	1026	985	1610	840	559	0	0	1066	0	1039
V/C Ratio(X)	0.00	0.97	0.97	0.37	0.38	0.39	0.09	0.00	0.00	0.47	0.00	1.08
Avail Cap(c_a), veh/h	0	1872	1026	985	1610	840	559	0	0	1066	0	1039
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.61	0.61	0.61	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.5	19.6	0.2	0.0	0.0	21.0	0.0	0.0	24.5	0.0	30.2
Incr Delay (d2), s/veh	0.0	2.3	4.0	0.7	0.4	0.8	0.3	0.0	0.0	1.5	0.0	53.8
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	0.0	18.8	21.1	0.3	0.2	0.3	1.5	0.0	0.0	8.0	0.0	26.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.8	23.6	0.9	0.4	0.8	21.4	0.0	0.0	26.0	0.0	84.0
LnGrp LOS	A	C	C	A	A	A	C	A	A	C	A	F
Approach Vol, veh/h		2810			1310			53			1633	
Approach Delay, s/veh		22.4			0.7			21.4			66.1	
Approach LOS		C			A			C			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	55.0	35.0	55.0
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 30	* 50	* 30	* 50
Max Q Clear Time (g_c+I1), s	4.1	48.4	31.5	50.8
Green Ext Time (p_c), s	0.2	1.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	1161	0	0	1076	18	339	42	208	0	0	153
Future Volume (veh/h)	141	1161	0	0	1076	18	339	42	208	0	0	153
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	153	1262	0	0	1170	20	368	46	226	0	0	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	194	2362	0	0	1600	27	466	49	658	0	0	658
Arrive On Green	0.22	0.93	0.00	0.00	0.31	0.31	0.42	0.42	0.42	0.00	0.00	0.42
Sat Flow, veh/h	1781	5274	0	0	5338	88	942	118	1585	0	0	1585
Grp Volume(v), veh/h	153	1262	0	0	770	420	414	0	226	0	0	166
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1854	1060	0	1585	0	0	1585
Q Serve(g_s), s	7.3	3.3	0.0	0.0	18.2	18.2	28.5	0.0	8.8	0.0	0.0	6.2
Cycle Q Clear(g_c), s	7.3	3.3	0.0	0.0	18.2	18.2	34.6	0.0	8.8	0.0	0.0	6.2
Prop In Lane	1.00		0.00	0.00		0.05	0.89		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	194	2362	0	0	1054	574	515	0	658	0	0	658
V/C Ratio(X)	0.79	0.53	0.00	0.00	0.73	0.73	0.80	0.00	0.34	0.00	0.00	0.25
Avail Cap(c_a), veh/h	218	2362	0	0	1054	574	531	0	678	0	0	678
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.15	0.15	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	1.9	0.0	0.0	27.7	27.7	28.5	0.0	18.0	0.0	0.0	17.2
Incr Delay (d2), s/veh	2.7	0.1	0.0	0.0	4.5	8.0	8.5	0.0	0.3	0.0	0.0	0.2
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	4.0	1.1	0.0	0.0	12.1	13.7	14.5	0.0	13.9	0.0	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	2.1	0.0	0.0	32.2	35.7	37.0	0.0	18.3	0.0	0.0	17.4
LnGrp LOS	D	A	A	A	C	D	D	A	B	A	A	B
Approach Vol, veh/h		1415			1190			640			166	
Approach Delay, s/veh		5.8			33.4			30.4			17.4	
Approach LOS		A			C			C			B	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	47.1	42.9	13.8	33.4	42.9
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 41	* 39	11.0	* 26	* 39
Max Q Clear Time (g_c+I1), s	5.3	36.6	9.3	20.2	8.2
Green Ext Time (p_c), s	10.8	0.7	0.1	3.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	1358	78	328	1722	107	149	1043	321	85	936	286
Future Volume (veh/h)	245	1358	78	328	1722	107	149	1043	321	85	936	286
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	1476	85	357	1872	116	162	1134	349	92	1017	311
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1490	86	267	1606	99	163	1092	487	142	1048	468
Arrive On Green	0.13	0.30	0.30	0.15	0.33	0.33	0.09	0.31	0.31	0.08	0.29	0.29
Sat Flow, veh/h	1781	4939	284	1781	4916	304	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	266	1017	544	357	1295	693	162	1134	349	92	1017	311
Grp Sat Flow(s),veh/h/ln	1781	1702	1819	1781	1702	1816	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.0	35.7	35.7	18.0	39.2	39.2	10.9	36.9	23.5	6.0	33.9	20.7
Cycle Q Clear(g_c), s	15.0	35.7	35.7	18.0	39.2	39.2	10.9	36.9	23.5	6.0	33.9	20.7
Prop In Lane	1.00		0.16	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1027	549	267	1112	593	163	1092	487	142	1048	468
V/C Ratio(X)	1.19	0.99	0.99	1.34	1.16	1.17	0.99	1.04	0.72	0.65	0.97	0.67
Avail Cap(c_a), veh/h	223	1027	549	267	1112	593	163	1092	487	148	1048	468
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	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	41.7	41.7	51.0	40.4	40.4	54.5	41.6	36.9	53.6	41.8	37.1
Incr Delay (d2), s/veh	122.9	25.8	36.0	170.5	82.3	90.3	68.0	37.8	8.8	9.0	21.5	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	21.9	25.1	28.4	30.8	40.1	44.3	12.5	29.6	15.2	5.4	24.3	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.4	67.5	77.8	221.5	122.7	130.7	122.4	79.4	45.7	62.6	63.2	44.4
LnGrp LOS	F	E	E	F	F	F	F	F	D	E	E	D
Approach Vol, veh/h		1827			2345			1645			1420	
Approach Delay, s/veh		86.3			140.1			76.5			59.1	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	42.5	22.0	42.0	15.0	41.0	19.0	45.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	10.0	* 36	18.0	36.2	11.0	* 35	15.0	39.2
Max Q Clear Time (g_c+I1), s	8.0	38.9	20.0	37.7	12.9	35.9	17.0	41.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	96.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1368	24	5	1926	67	87	5	13	20	1	67
Future Volume (veh/h)	30	1368	24	5	1926	67	87	5	13	20	1	67
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	1487	26	5	2093	73	95	5	14	22	1	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	3976	70	314	3898	136	205	12	20	77	17	140
Arrive On Green	0.77	0.77	0.77	1.00	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	183	5168	90	346	5066	176	1192	105	182	249	150	1267
Grp Volume(v), veh/h	33	979	534	5	1404	762	114	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	183	1702	1854	346	1702	1839	1479	0	0	1667	0	0
Q Serve(g_s), s	4.6	8.4	8.4	0.2	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.6	8.4	8.4	8.5	0.0	0.0	6.4	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.10	0.83		0.12	0.23		0.76
Lane Grp Cap(c), veh/h	221	2619	1427	314	2619	1415	237	0	0	233	0	0
V/C Ratio(X)	0.15	0.37	0.37	0.02	0.54	0.54	0.48	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	221	2619	1427	314	2619	1415	364	0	0	376	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.9	3.4	3.4	0.5	0.0	0.0	38.4	0.0	0.0	37.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.2	0.1	0.8	1.5	2.2	0.0	0.0	1.6	0.0	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	0.2	2.8	3.0	0.0	0.5	1.0	4.6	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	3.5	3.5	0.6	0.8	1.5	40.5	0.0	0.0	39.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1546			2171			114			96	
Approach Delay, s/veh		3.5			1.0			40.5			39.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.8	15.2	74.8	15.2
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	60.9	* 18	60.9	* 18
Max Q Clear Time (g_c+I1), s	10.5	6.8	10.4	8.4
Green Ext Time (p_c), s	40.4	0.4	28.4	0.5

Intersection Summary	
HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	52.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1531	7	8	2248	49	9	0	41	49	0	12
Future Vol, veh/h	12	1531	7	8	2248	49	9	0	41	49	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	65	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	1664	8	9	2443	53	10	0	45	53	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2496	0	0	1672	0	0	2689	4208	836	3180	4186	1248
Stage 1	-	-	-	-	-	-	1694	1694	-	2488	2488	-
Stage 2	-	-	-	-	-	-	995	2514	-	692	1698	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	70	-	-	183	-	-	23	2	267	~ 11	2	141
Stage 1	-	-	-	-	-	-	64	147	-	~ 17	58	-
Stage 2	-	-	-	-	-	-	237	56	-	364	146	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	70	-	-	183	-	-	17	2	267	~ 8	2	141
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	2	-	~ 8	2	-
Stage 1	-	-	-	-	-	-	52	120	-	~ 14	55	-
Stage 2	-	-	-	-	-	-	204	53	-	247	119	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	137.6	$ 3268.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	73	70	-	-	183	-	-	10
HCM Lane V/C Ratio	0.744	0.186	-	-	0.048	-	-	6.63
HCM Control Delay (s)	137.6	67.8	-	-	25.7	-		$ 3268.6
HCM Lane LOS	F	F	-	-	D	-	-	F
HCM 95th %tile Q(veh)	3.5	0.6	-	-	0.1	-	-	9.6

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1332	74	123	1876	175	152	548	75	96	490	158
Future Volume (veh/h)	101	1332	74	123	1876	175	152	548	75	96	490	158
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	1448	80	134	2039	190	165	596	82	104	533	172
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	2000	110	191	1936	179	230	1011	139	204	1145	511
Arrive On Green	0.03	0.13	0.13	0.11	0.41	0.41	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	4952	274	1781	4756	439	743	3139	431	762	3554	1585
Grp Volume(v), veh/h	110	995	533	134	1455	774	165	337	341	104	533	172
Grp Sat Flow(s),veh/h/ln	1781	1702	1821	1781	1702	1791	743	1777	1793	762	1777	1585
Q Serve(g_s), s	5.5	25.2	25.2	6.5	36.6	36.6	18.2	14.3	14.3	11.9	10.8	7.4
Cycle Q Clear(g_c), s	5.5	25.2	25.2	6.5	36.6	36.6	29.0	14.3	14.3	26.3	10.8	7.4
Prop In Lane	1.00		0.15	1.00		0.25	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	185	1375	736	191	1386	729	230	573	578	204	1145	511
V/C Ratio(X)	0.59	0.72	0.72	0.70	1.05	1.06	0.72	0.59	0.59	0.51	0.47	0.34
Avail Cap(c_a), veh/h	198	1375	736	198	1386	729	230	573	578	204	1145	511
HCM Platoon Ratio	0.33	0.33	0.33	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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	34.2	34.2	38.8	26.7	26.7	36.7	25.5	25.5	36.5	24.3	23.2
Incr Delay (d2), s/veh	4.2	3.3	6.1	1.0	24.6	31.3	17.3	4.4	4.4	8.8	1.4	1.8
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	4.7	17.6	19.4	3.6	21.1	23.9	8.3	10.7	10.8	4.8	8.1	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	37.5	40.3	39.8	51.2	58.0	54.0	29.9	29.9	45.3	25.7	25.0
LnGrp LOS	D	D	D	D	F	F	D	C	C	D	C	C
Approach Vol, veh/h		1638			2363			843			809	
Approach Delay, s/veh		39.0			52.8			34.6			28.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	41.9		34.5	13.4	42.1		34.5
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	10.0	* 36		* 29	10.0	* 36		* 29
Max Q Clear Time (g_c+I1), s	8.5	27.2		31.0	7.5	38.6		28.3
Green Ext Time (p_c), s	0.0	5.8		0.0	0.1	0.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1505	37	429	2164	79	121	365	690	206	427	170
Future Volume (veh/h)	101	1505	37	429	2164	79	121	365	690	206	427	170
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	1636	40	466	2352	86	132	397	750	224	464	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	1431	35	327	1928	70	148	992	733	178	1051	469
Arrive On Green	0.08	0.28	0.28	0.18	0.38	0.38	0.08	0.28	0.28	0.10	0.30	0.30
Sat Flow, veh/h	1781	5127	125	1781	5057	184	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	110	1086	590	466	1579	859	132	397	750	224	464	185
Grp Sat Flow(s),veh/h/ln	1781	1702	1848	1781	1702	1837	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.3	33.5	33.5	22.0	45.8	45.8	8.8	10.9	33.5	12.0	12.7	11.2
Cycle Q Clear(g_c), s	7.3	33.5	33.5	22.0	45.8	45.8	8.8	10.9	33.5	12.0	12.7	11.2
Prop In Lane	1.00		0.07	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	950	516	327	1298	701	148	992	733	178	1051	469
V/C Ratio(X)	0.76	1.14	1.14	1.43	1.22	1.23	0.89	0.40	1.02	1.26	0.44	0.39
Avail Cap(c_a), veh/h	148	950	516	327	1298	701	148	992	733	178	1051	469
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)	0.58	0.58	0.58	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	43.3	43.3	49.0	37.1	37.1	54.5	35.1	32.3	54.0	34.2	33.7
Incr Delay (d2), s/veh	12.2	72.2	77.9	193.8	98.1	103.1	43.1	1.2	39.2	153.2	1.3	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	31.7	35.2	35.7	44.9	49.8	9.6	8.4	37.1	20.4	9.4	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	115.4	121.1	242.8	135.2	140.2	97.6	36.3	71.5	207.2	35.6	36.2
LnGrp LOS	E	F	F	F	F	F	F	D	F	F	D	D
Approach Vol, veh/h		1786			2904			1279			873	
Approach Delay, s/veh		114.3			154.0			63.2			79.7	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	39.0	26.0	39.0	14.0	41.0	13.7	51.3
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	12.0	* 34	22.0	* 34	10.0	* 36	10.0	* 46
Max Q Clear Time (g_c+I1), s	14.0	35.5	24.0	35.5	10.8	14.7	9.3	47.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	117.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2396	16	4	1078	179	0	0	26	296	46	1703
Future Volume (veh/h)	0	2396	16	4	1078	179	0	0	26	296	46	1703
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		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	0	1870	1870	1870	1870	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2604	17	4	1172	195	0	0	28	358	0	1851
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	0	2	2	2	2	2
Cap, veh/h	0	2239	15	40	2189	361	0	0	713	1377	0	1427
Arrive On Green	0.00	0.43	0.43	0.86	0.86	0.86	0.00	0.00	0.45	0.45	0.00	0.45
Sat Flow, veh/h	0	5402	34	0	5117	843	0	0	1585	2764	0	3170
Grp Volume(v), veh/h	0	1692	929	340	672	359	0	0	28	358	0	1851
Grp Sat Flow(s),veh/h/ln	0	1702	1864	1482	1464	1550	0	0	1585	1382	0	1585
Q Serve(g_s), s	0.0	38.5	38.5	0.0	5.5	5.6	0.0	0.0	0.9	7.5	0.0	40.5
Cycle Q Clear(g_c), s	0.0	38.5	38.5	38.5	5.5	5.6	0.0	0.0	0.9	8.4	0.0	40.5
Prop In Lane	0.00		0.02	0.01		0.54	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	1456	797	674	1252	663	0	0	713	1377	0	1427
V/C Ratio(X)	0.00	1.16	1.16	0.50	0.54	0.54	0.00	0.00	0.04	0.26	0.00	1.30
Avail Cap(c_a), veh/h	0	1456	797	674	1252	663	0	0	713	1377	0	1427
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.62	0.62	0.62	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.8	25.8	8.0	4.1	4.1	0.0	0.0	13.9	16.2	0.0	24.8
Incr Delay (d2), s/veh	0.0	73.8	75.5	1.7	1.0	2.0	0.0	0.0	0.1	0.5	0.0	139.2
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	0.0	36.3	40.1	3.3	2.2	2.6	0.0	0.0	0.6	4.3	0.0	61.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	99.5	101.2	9.7	5.1	6.1	0.0	0.0	14.0	16.7	0.0	163.9
LnGrp LOS	A	F	F	A	A	A	A	A	B	B	A	F
Approach Vol, veh/h		2621			1371			28			2209	
Approach Delay, s/veh		100.1			6.5			14.0			140.1	
Approach LOS		F			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.0	44.0	46.0	44.0
Change Period (Y+Rc), s	* 5.5	* 5.5	* 5.5	* 5.5
Max Green Setting (Gmax), s	* 41	* 39	* 41	* 39
Max Q Clear Time (g_c+I1), s	2.9	40.5	42.5	40.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	93.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.

HCM 6th Signalized Intersection Summary
7: I-110 NB Ramps/Shopping Center & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	644	0	0	1299	4	449	10	165	0	0	42
Future Volume (veh/h)	40	644	0	0	1299	4	449	10	165	0	0	42
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	43	700	0	0	1412	4	488	11	179	0	0	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	130	2441	0	0	1895	5	590	12	633	0	0	633
Arrive On Green	0.15	0.96	0.00	0.00	0.36	0.36	0.40	0.40	0.40	0.00	0.00	0.40
Sat Flow, veh/h	1781	5274	0	0	5425	15	1278	29	1585	0	0	1585
Grp Volume(v), veh/h	43	700	0	0	914	502	499	0	179	0	0	46
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1868	1307	0	1585	0	0	1585
Q Serve(g_s), s	1.9	0.7	0.0	0.0	21.1	21.1	32.0	0.0	6.9	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.9	0.7	0.0	0.0	21.1	21.1	33.6	0.0	6.9	0.0	0.0	1.6
Prop In Lane	1.00		0.00	0.00		0.01	0.98		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	130	2441	0	0	1227	673	601	0	633	0	0	633
V/C Ratio(X)	0.33	0.29	0.00	0.00	0.75	0.75	0.83	0.00	0.28	0.00	0.00	0.07
Avail Cap(c_a), veh/h	198	2441	0	0	1227	673	609	0	643	0	0	643
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.4	1.0	0.0	0.0	25.2	25.2	27.1	0.0	18.3	0.0	0.0	16.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	4.1	7.3	9.3	0.0	0.2	0.0	0.0	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	1.3	0.4	0.0	0.0	13.4	15.3	17.0	0.0	11.6	0.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	1.1	0.0	0.0	29.3	32.5	36.4	0.0	18.5	0.0	0.0	16.8
LnGrp LOS	D	A	A	A	C	C	D	A	B	A	A	B
Approach Vol, veh/h		743			1416			678			46	
Approach Delay, s/veh		3.1			30.4			31.7			16.8	
Approach LOS		A			C			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	48.5		41.5	10.6	37.9		41.5
Change Period (Y+Rc), s	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	* 43		* 37	10.0	* 29		* 37
Max Q Clear Time (g_c+I1), s	2.7		35.6	3.9	23.1		3.6
Green Ext Time (p_c), s	5.2		0.4	0.0	3.7		0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions

HCM 6th Signalized Intersection Summary
1: Western Avenue & Sepulveda Boulevard

11/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	1440	129	332	1481	150	195	853	347	190	1029	143
Future Volume (veh/h)	225	1440	129	332	1481	150	195	853	347	190	1029	143
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	1565	140	361	1610	163	212	927	377	207	1118	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	1360	122	267	1500	152	178	1078	481	178	1078	481
Arrive On Green	0.12	0.28	0.28	0.30	0.64	0.64	0.10	0.30	0.30	0.10	0.30	0.30
Sat Flow, veh/h	1781	4771	426	1781	4712	476	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	245	1116	589	361	1162	611	212	927	377	207	1118	155
Grp Sat Flow(s),veh/h/ln	1781	1702	1794	1781	1702	1785	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.0	34.2	34.2	18.0	38.2	38.2	12.0	29.5	26.1	12.0	36.4	9.1
Cycle Q Clear(g_c), s	14.0	34.2	34.2	18.0	38.2	38.2	12.0	29.5	26.1	12.0	36.4	9.1
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	970	511	267	1084	568	178	1078	481	178	1078	481
V/C Ratio(X)	1.18	1.15	1.15	1.35	1.07	1.07	1.19	0.86	0.78	1.16	1.04	0.32
Avail Cap(c_a), veh/h	208	970	511	267	1084	568	178	1078	481	178	1078	481
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	42.9	42.9	42.0	21.8	21.8	54.0	39.4	38.2	54.0	41.8	32.3
Incr Delay (d2), s/veh	119.1	79.8	88.9	177.6	47.1	56.7	127.9	9.0	12.1	117.8	37.5	1.8
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	20.2	35.7	39.0	29.8	22.0	24.9	18.3	19.9	17.0	17.5	29.2	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.1	122.7	131.8	219.6	68.9	78.5	181.9	48.4	50.3	171.8	79.3	34.0
LnGrp LOS	F	F	F	F	F	F	F	D	D	F	F	C
Approach Vol, veh/h		1950			2134			1516			1480	
Approach Delay, s/veh		131.6			97.2			67.5			87.5	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	42.0	22.0	40.0	16.0	42.0	18.0	44.0
Change Period (Y+Rc), s	4.0	* 5.6	4.0	5.8	4.0	* 5.6	4.0	5.8
Max Green Setting (Gmax), s	12.0	* 36	18.0	34.2	12.0	* 36	14.0	38.2
Max Q Clear Time (g_c+I1), s	14.0	31.5	20.0	36.2	14.0	38.4	16.0	40.2
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	98.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1909	66	21	1683	56	47	4	9	89	31	68
Future Volume (veh/h)	23	1909	66	21	1683	56	47	4	9	89	31	68
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2075	72	23	1829	61	51	4	10	97	34	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	3856	133	202	3862	129	181	17	26	151	46	86
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	240	5067	175	186	5075	169	855	114	176	716	311	580
Grp Volume(v), veh/h	25	1392	755	23	1226	664	65	0	0	205	0	0
Grp Sat Flow(s),veh/h/ln	240	1702	1839	186	1702	1840	1145	0	0	1607	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	14.8	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.09	0.78		0.15	0.47		0.36
Lane Grp Cap(c), veh/h	242	2590	1399	202	2590	1400	224	0	0	284	0	0
V/C Ratio(X)	0.10	0.54	0.54	0.11	0.47	0.47	0.29	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	242	2590	1399	202	2590	1400	331	0	0	405	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	45.9	0.0	0.0	49.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.6	1.2	1.0	0.0	0.0	5.0	0.0	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	0.0	0.0	0.1	0.1	0.4	0.8	3.3	0.0	0.0	10.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	0.1	0.1	1.1	0.6	1.2	46.9	0.0	0.0	54.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		2172			1913			65			205	
Approach Delay, s/veh		0.1			0.8			46.9			54.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	96.8	23.2	96.8	23.2
Change Period (Y+Rc), s	5.5	* 5.3	5.5	* 5.3
Max Green Setting (Gmax), s	81.8	* 27	81.8	* 27
Max Q Clear Time (g_c+I1), s	2.0	16.8	2.0	8.2
Green Ext Time (p_c), s	49.6	1.1	57.2	0.4

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1929	28	42	1779	49	6	0	26	19	0	5
Future Vol, veh/h	12	1929	28	42	1779	49	6	0	26	19	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	65	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	2097	30	46	1934	53	7	0	28	21	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1987	0	0	2127	0	0	3004	4217	1064	2918	4206	994
Stage 1	-	-	-	-	-	-	2138	2138	-	2053	2053	-
Stage 2	-	-	-	-	-	-	866	2079	-	865	2153	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	6.44	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	7.34	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	6.74	5.54	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	3.82	4.02	3.92
Pot Cap-1 Maneuver	127	-	-	108	-	-	15	2	188	~ 17	2	209
Stage 1	-	-	-	-	-	-	30	88	-	35	97	-
Stage 2	-	-	-	-	-	-	285	94	-	285	86	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	127	-	-	108	-	-	9	1	188	~ 9	1	209
Mov Cap-2 Maneuver	-	-	-	-	-	-	9	1	-	~ 9	1	-
Stage 1	-	-	-	-	-	-	27	79	-	31	56	-
Stage 2	-	-	-	-	-	-	159	54	-	217	77	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.4	255.6	$ 1307.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	40	127	-	-	108	-	-	11
HCM Lane V/C Ratio	0.87	0.103	-	-	0.423	-	-	2.372
HCM Control Delay (s)	255.6	36.6	-	-	60.8	-	-	$ 1307.6
HCM Lane LOS	F	E	-	-	F	-	-	F
HCM 95th %tile Q(veh)	3.3	0.3	-	-	1.8	-	-	4.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	1556	107	170	1494	109	129	308	96	269	774	176
Future Volume (veh/h)	97	1556	107	170	1494	109	129	308	96	269	774	176
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	1691	116	185	1624	118	140	335	104	292	841	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1850	127	193	1976	143	168	1039	317	344	1377	614
Arrive On Green	0.05	0.25	0.25	0.04	0.13	0.13	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1781	4880	334	1781	4858	353	547	2681	819	950	3554	1585
Grp Volume(v), veh/h	105	1179	628	185	1137	605	140	220	219	292	841	191
Grp Sat Flow(s),veh/h/ln	1781	1702	1810	1781	1702	1807	547	1777	1723	950	1777	1585
Q Serve(g_s), s	7.0	40.4	40.5	12.4	39.0	39.1	23.7	10.4	10.7	35.8	22.8	10.1
Cycle Q Clear(g_c), s	7.0	40.4	40.5	12.4	39.0	39.1	46.5	10.4	10.7	46.5	22.8	10.1
Prop In Lane	1.00		0.18	1.00		0.20	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	144	1291	686	193	1384	735	168	689	668	344	1377	614
V/C Ratio(X)	0.73	0.91	0.92	0.96	0.82	0.82	0.83	0.32	0.33	0.85	0.61	0.31
Avail Cap(c_a), veh/h	148	1291	686	193	1384	735	168	689	668	344	1377	614
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	42.8	42.9	57.6	47.7	47.7	50.9	25.7	25.8	42.6	29.5	25.6
Incr Delay (d2), s/veh	16.1	11.4	18.9	11.3	0.5	1.0	36.1	1.2	1.3	22.3	2.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.8	26.6	29.8	7.8	19.9	21.2	9.9	8.2	8.2	16.1	15.2	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	54.2	61.8	68.9	48.2	48.7	87.0	26.9	27.1	64.9	31.5	26.9
LnGrp LOS	E	D	E	E	D	D	F	C	C	E	C	C
Approach Vol, veh/h		1912			1927			579			1324	
Approach Delay, s/veh		57.7			50.4			41.5			38.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.0	51.0		52.0	13.7	54.3		52.0
Change Period (Y+Rc), s	4.0	* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s	13.0	* 46		* 47	10.0	* 49		* 47
Max Q Clear Time (g_c+I1), s	14.4	42.5		48.5	9.0	41.1		48.5
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	5.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	1734	58	191	1701	99	146	409	523	197	560	162
Future Volume (veh/h)	167	1734	58	191	1701	99	146	409	523	197	560	162
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	1885	63	208	1849	108	159	445	568	214	609	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1797	60	193	1789	104	163	962	601	193	1022	456
Arrive On Green	0.20	0.71	0.71	0.11	0.36	0.36	0.09	0.27	0.27	0.11	0.29	0.29
Sat Flow, veh/h	1781	5075	169	1781	4935	288	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	182	1264	684	208	1274	683	159	445	568	214	609	176
Grp Sat Flow(s),veh/h/ln	1781	1702	1840	1781	1702	1819	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.0	42.5	42.5	13.0	43.5	43.5	10.7	12.5	32.5	13.0	17.7	10.7
Cycle Q Clear(g_c), s	12.0	42.5	42.5	13.0	43.5	43.5	10.7	12.5	32.5	13.0	17.7	10.7
Prop In Lane	1.00		0.09	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1206	652	193	1234	659	163	962	601	193	1022	456
V/C Ratio(X)	1.02	1.05	1.05	1.08	1.03	1.04	0.97	0.46	0.95	1.11	0.60	0.39
Avail Cap(c_a), veh/h	178	1206	652	193	1234	659	163	962	601	193	1022	456
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.23	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	17.5	17.5	53.5	38.3	38.3	54.4	36.5	36.0	53.5	36.8	34.3
Incr Delay (d2), s/veh	37.9	27.6	32.0	70.8	28.1	36.0	62.4	1.6	25.4	97.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	14.0	16.0	13.7	28.6	32.1	12.0	9.4	26.9	17.0	12.5	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	45.1	49.5	124.3	66.4	74.2	116.8	38.1	61.5	150.5	39.3	36.7
LnGrp LOS	F	F	F	F	F	F	F	D	E	F	D	D
Approach Vol, veh/h		2130			2165			1172			999	
Approach Delay, s/veh		50.0			74.4			60.1			62.7	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	38.0	17.0	48.0	15.0	40.0	16.0	49.0
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	13.0	* 33	13.0	* 43	11.0	* 35	12.0	* 44
Max Q Clear Time (g_c+I1), s	15.0	34.5	15.0	44.5	12.7	19.7	14.0	45.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	1734	58	191	1701	99	146	409	523	197	560	162
Future Volume (veh/h)	167	1734	58	191	1701	99	146	409	523	197	560	162
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		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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	1885	63	208	1849	108	159	445	568	214	609	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1797	60	193	1789	104	163	962	601	193	1022	456
Arrive On Green	0.20	0.71	0.71	0.11	0.36	0.36	0.09	0.27	0.27	0.11	0.29	0.29
Sat Flow, veh/h	1781	5075	169	1781	4935	288	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	182	1264	684	208	1274	683	159	445	568	214	609	176
Grp Sat Flow(s),veh/h/ln	1781	1702	1840	1781	1702	1819	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.0	42.5	42.5	13.0	43.5	43.5	10.7	12.5	32.5	13.0	17.7	10.7
Cycle Q Clear(g_c), s	12.0	42.5	42.5	13.0	43.5	43.5	10.7	12.5	32.5	13.0	17.7	10.7
Prop In Lane	1.00		0.09	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1206	652	193	1234	659	163	962	601	193	1022	456
V/C Ratio(X)	1.02	1.05	1.05	1.08	1.03	1.04	0.97	0.46	0.95	1.11	0.60	0.39
Avail Cap(c_a), veh/h	178	1206	652	193	1234	659	163	962	601	193	1022	456
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.23	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	17.5	17.5	53.5	38.3	38.3	54.4	36.5	36.0	53.5	36.8	34.3
Incr Delay (d2), s/veh	37.9	27.6	32.0	70.8	28.1	36.0	62.4	1.6	25.4	97.0	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	14.0	16.0	13.7	28.6	32.1	12.0	9.4	26.9	17.0	12.5	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	45.1	49.5	124.3	66.4	74.2	116.8	38.1	61.5	150.5	39.3	36.7
LnGrp LOS	F	F	F	F	F	F	F	D	E	F	D	D
Approach Vol, veh/h		2130			2165			1172			999	
Approach Delay, s/veh		50.0			74.4			60.1			62.7	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	38.0	17.0	48.0	15.0	40.0	16.0	49.0
Change Period (Y+Rc), s	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5	4.0	* 5.5
Max Green Setting (Gmax), s	13.0	* 33	13.0	* 43	11.0	* 35	12.0	* 44
Max Q Clear Time (g_c+I1), s	15.0	34.5	15.0	44.5	12.7	19.7	14.0	45.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	1162	0	0	1079	18	358	42	208	0	0	153
Future Volume (veh/h)	141	1162	0	0	1079	18	358	42	208	0	0	153
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		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	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	153	1263	0	0	1173	20	389	46	226	0	0	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	194	2293	0	0	1530	26	485	48	679	0	0	679
Arrive On Green	0.22	0.90	0.00	0.00	0.30	0.30	0.43	0.43	0.43	0.00	0.00	0.43
Sat Flow, veh/h	1781	5274	0	0	5339	88	956	113	1585	0	0	1585
Grp Volume(v), veh/h	153	1263	0	0	772	421	435	0	226	0	0	166
Grp Sat Flow(s),veh/h/ln	1781	1702	0	0	1702	1854	1069	0	1585	0	0	1585
Q Serve(g_s), s	7.3	4.5	0.0	0.0	18.6	18.6	30.1	0.0	8.6	0.0	0.0	6.0
Cycle Q Clear(g_c), s	7.3	4.5	0.0	0.0	18.6	18.6	36.1	0.0	8.6	0.0	0.0	6.0
Prop In Lane	1.00		0.00	0.00		0.05	0.89		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	194	2293	0	0	1007	549	534	0	679	0	0	679
V/C Ratio(X)	0.79	0.55	0.00	0.00	0.77	0.77	0.81	0.00	0.33	0.00	0.00	0.24
Avail Cap(c_a), veh/h	198	2293	0	0	1007	549	544	0	692	0	0	692
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.12	0.12	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	2.8	0.0	0.0	28.8	28.9	27.9	0.0	17.1	0.0	0.0	16.4
Incr Delay (d2), s/veh	2.6	0.1	0.0	0.0	5.6	9.9	9.2	0.0	0.3	0.0	0.0	0.2
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	8.9	1.4	0.0	0.0	12.5	14.3	15.2	0.0	13.8	0.0	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	2.9	0.0	0.0	34.4	38.7	37.1	0.0	17.4	0.0	0.0	16.6
LnGrp LOS	D	A	A	A	C	D	D	A	B	A	A	B
Approach Vol, veh/h		1416			1193			661			166	
Approach Delay, s/veh		6.5			35.9			30.4			16.6	
Approach LOS		A			D			C			B	

Timer - Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		45.9		44.1	13.8	32.1		44.1
Change Period (Y+Rc), s		* 5.5		* 5.5	4.0	* 5.5		* 5.5
Max Green Setting (Gmax), s		* 40		* 39	10.0	* 26		* 39
Max Q Clear Time (g_c+I1), s		6.5		38.1	9.3	20.6		8.0
Green Ext Time (p_c), s		10.6		0.5	0.0	3.1		1.1

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
SBT Lane is only included to calculate HCM 6th Edition Methodology. The observed approach is right turn only under existing and future conditions.