

# ATTACHMENT NO. 7

## TRANSPORTATION STUDY FOR THE 3800 SEPULVEDA PROJECT CULVER CITY, CALIFORNIA

DECEMBER 2021

PREPARED FOR  
**TGS CC VENTURES, LLC**

PREPARED BY



**TRANSPORTATION STUDY  
FOR THE  
3800 SEPULVEDA PROJECT  
  
CULVER CITY, CALIFORNIA**

December 2021

Prepared for:

**TGS CC VENTURES, LLC**

Prepared by:

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# **Chapter 1**

## **Introduction**

This study presents the transportation assessment for the proposed development of a cannabis dispensary (Project) at 3800 Sepulveda Boulevard (Project Site) in the City of Culver City, California (City). The methodology and base assumptions used in the analysis were established in conjunction with the Culver City Public Works Department (CCPWD) Mobility and Traffic Engineering Division.

### **PROJECT DESCRIPTION**

The Project proposes the development of a 3,802 square foot (sf) cannabis dispensary replacing an existing vacant lot. Surface parking for the Project would be provided on-site, with access via two existing curb cuts, one on Sepulveda Boulevard and one on Venice Boulevard. Pedestrian access to the Project Site would be provided via a separate entrance along Sepulveda Boulevard. Full buildout of the Project is anticipated in Year 2022.

The conceptual Project site plan is illustrated in Figure 1.

### **PROJECT LOCATION**

As shown in Figure 2, the Project Site is located on the border of the City and the City of Los Angeles. The Project Site is comprised of one parcel identified as Assessor Parcel Number 4213-018-014 and is bounded by the Venice Boulevard to the north, a car wash to the east, a fast-food restaurant to the south, and Sepulveda Boulevard to the west. The area surrounding the Project is urbanized with a mixture of housing and commercial uses.

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The Project is located less than 500 feet east of the San Diego Freeway (I-405), which provides regional transportation between Irvine and the San Fernando Valley. The Project Site is primarily served by Sepulveda Boulevard and Venice Boulevard.

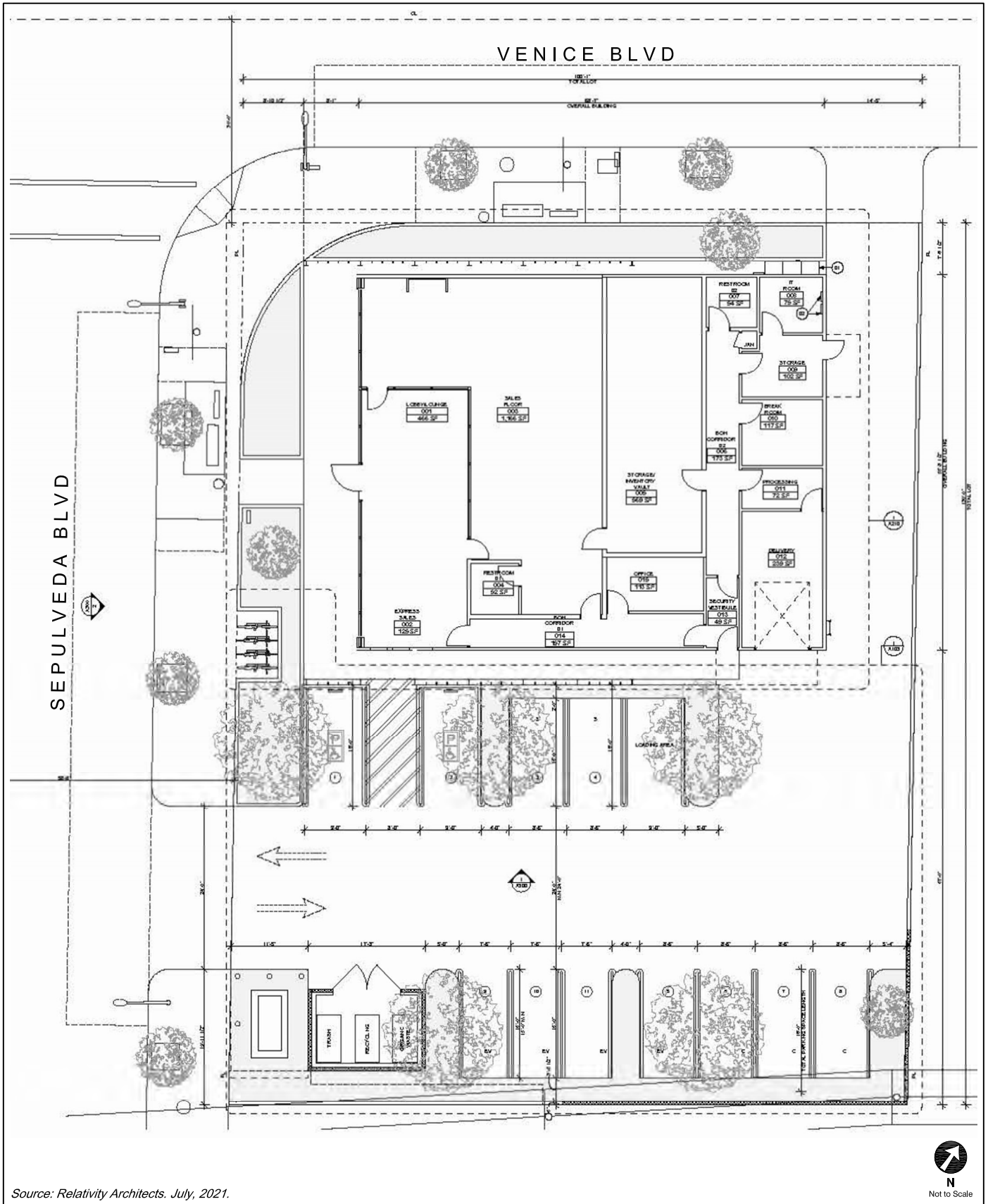
Transit bus service is provided along Sepulveda Boulevard and Venice Boulevard adjacent to the Project Site. Additionally, transit bus service is provided along Sawtelle Boulevard, Palms Boulevard, Overland Avenue, Washington Boulevard, and Culver Boulevard within 1.0 miles of the Project Site.

## **STUDY SCOPE**

The scope of analysis for this study was developed in consultation with the City and is consistent with *Culver City Transportation Study Criteria and Guidelines* (CCPWD, July 2020) (Guidelines) 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) reviewed and approved by CCPWD in September 2021 and is provided in Appendix A.

## **ORGANIZATION OF REPORT**

This report is divided into six chapters, including this introduction. Chapter 2 describes the transportation network 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.



PROJECT SITE PLAN

FIGURE 1





PROJECT SITE LOCATION

FIGURE  
2

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## **Chapter 2**

### **Transportation Network Review**

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 September 2021. Field data (lane configurations, signal phasing, parking restrictions, etc.) for the analyzed intersections was collected in Year 2021.

In addition, this Chapter contains a discussion of the Future Conditions assumptions used to develop the Future without Project Conditions in Year 2022, which corresponds to projected occupancy of the Project, and Cumulative without Project Conditions in Year 2045, which corresponds to the horizon year of the *Culver City General Plan* (City of Culver City, May 1995) (General Plan) update.

#### **STUDY AREA**

The Project's transportation analysis Study Area, shown in Figure 3, includes intersections along Sepulveda Boulevard and Sawtelle Boulevard. This Study Area was established in consultation with CCPWD.

A total of four intersections, listed in Table 1, were identified for detailed analysis during the MOU process. The existing lane configurations at the analyzed intersections are provided in Figure 4.

The list of study intersections was reviewed and approved by the City.

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## 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 four travel lanes and usually allow parking on one or both sides of the street. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and 55 mph on the freeways.

Street classifications for City roadways are designated in *Culver City General Plan Circulation Element* (City of Culver City, adopted May 24, 2004) (Circulation Element). The Circulation Element defines specific street standards in an effort to effectively link and serve local and regional transportation systems. Per the Circulation Element, street classifications are defined as follows:

- Freeways are specialized arterials with limited access and are grade-separated from the City's street system. Their primary function is to carry large volumes of traffic at high speed throughout the region.
- Primary Arteries are major cross-town thoroughfares with desired right-of-way (ROW) widths of 95 feet or more. Traffic flow on Primary Arteries is characterized as high volume and fast-moving. Direct access onto Primary Arteries from private driveways should be limited or prohibited. Where private driveways are prohibited, Primary Arteries are designed as controlled access streets.
- Secondary Arteries provide links between Collectors and Primary Arteries with desired ROW widths of 80 to 94 feet.
- Collectors provide a means for the movement of traffic from Local Streets to larger streets with desired ROW widths between 60 to 79 feet.
- Neighborhood Feeders are generally located within residential neighborhoods and provide direct routes between Local Streets and the adjacent arteries.
- Local Streets provide access for vehicles to travel between private parking and driveways to larger, non-Local Streets. Generally, Local Streets do not exceed 60 feet of ROW widths and are mostly in residential neighborhoods.

---

Primary regional access to the Project Site is provided by I-405. In proximity to the Project Site, the Study Area is served by arterial streets such as Sepulveda Boulevard, Sawtelle Boulevard, and Venice Boulevard. The following is a brief description of the roadways in the Study Area, including their classifications under the Circulation Element:

### **Freeways**

- **I-405** – I-405 generally runs in the north-south direction and is located 500 feet west of the Project Site. In the vicinity of the Project Site, I-405 provides six travel lanes in each direction. Access to and from I-405 is available via interchanges at Sepulveda Boulevard and Sawtelle Boulevard.

### **Roadways**

- **Sepulveda Boulevard** – Sepulveda Boulevard is a designated Primary Artery that runs in the north-south direction and is located adjacent to the western boundary of the Project Site. It provides four travel lanes, two lanes in each direction, with a two-way left-turn lane. Metered on-street parking is generally provided on both sides of the street. Inside lane widths are typically 12 feet wide and the total paved width is typically 50 feet.
- **Sawtelle Boulevard** – Sawtelle Boulevard is a designated Secondary Artery that runs in the north-south direction and is located west of the Project Site. It provides four travel lanes, two lanes in each direction. Unmetered on-street parking is generally provided on both sides of the street. Inside lane widths are typically 12 feet wide and the total paved width is typically 55 feet.
- **Venice Boulevard** – Venice Boulevard is a designated Primary Artery that runs in the east-west direction and is located adjacent to the northern boundary of the Project Site. It provides six travel lanes, three lanes in each direction, with a raised median and Class II bicycle lanes. Metered on-street parking is generally provided on both sides of the street. Inside lane widths are typically 12 feet wide and the total paved width is typically 100-110 feet.

The existing intersection mobility facilities at the study intersections are shown in Figure 5.

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## **Existing Transit System**

Figure 6 illustrates the existing public transit service in the Study Area, which is served by bus lines operated by the Los Angeles County Metropolitan Transportation Authority (Metro), Culver City Bus, and Santa Monica Big Blue Bus.

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 from Year 2021 provided by Metro, Culver City Bus, and Santa Monica Big Blue Bus.

Tables 3A and 3B summarize the total capacity of the nearby Metro, Culver City Bus, and Santa Monica Big Blue Bus transit stops within 0.25 miles of the Project Site during the morning and afternoon peak hours. The total capacity is based on the frequency of service of each line, detailed ridership data provided by Metro and Culver City Bus, and the maximum seated and standing capacity of each bus or train. Ridership data was provided in Year 2019 and reflects ridership conditions prior to COVID-19 and implementation of the Metro NextGen Bus Plan. Data was not available for Culver City Bus Lines 6 and 6R or Santa Monica Big Blue Bus Lines R12 and 17 at the time of this study.

As shown in Tables 3A and 3B, the transit stops located within a 0.25-mile walking distance of the Project Site currently provide additional capacity for 781 transit trips during the morning peak hour and 618 transit trips during the afternoon peak hour.

## **Existing Bicycle System**

The City adopted *Culver City Bicycle & Pedestrian Action Plan* (CCPWD, June 2020), which supersedes *Culver City Bicycle and Pedestrian Master Plan* (Alta Planning and Design, November 2010). As shown in the *Culver City Bicycle & Pedestrian Action Plan*, the existing bicycle system in the Study Area consists of a variety of bicycle facilities.

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*Culver City Bicycle & Pedestrian Action Plan* is comprised of a network of streets that prioritize bicyclists and provide Class I Shared-Use Paths, Class II Bicycle Lanes, Class III Bicycle Routes and Bike Boulevards, which provide sharrows and signage, and Class IV Separated Bikeways.

Within 0.25 miles of the Project Site, Class II bike lanes are provided on Venice Boulevard as shown in Figure 5.

### **Existing Pedestrian Facilities**

Per *Culver City Bicycle & Pedestrian Action Plan*, most streets in the City have existing sidewalks in good condition. Marked crosswalks, including traverse lines and continental crosswalks, are provided at most major intersections throughout the City.

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 access to numerous commercial businesses, residences, and cultural centers, the walkability of the Project Site is approximately 84 points<sup>1</sup>.

The sidewalks that serve as routes to the Project Site provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. The sidewalks provide connectivity to pedestrian crossings at signalized intersections within the Study Area. Pedestrian facilities at the study intersections, such as pedestrian phasing, curb ramps, and crosswalk striping, are shown in Figure 5.

### **Vision Zero**

The City adopted the Vision Zero initiative in 2016. 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

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<sup>1</sup> Walk Score ([www.walkscore.com](http://www.walkscore.com)) rates the Project Site (3800 Sepulveda Boulevard) with a score of 84 out of 100 possible points (scores assessed on November 1, 2021). 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.

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identified the High Injury Network (HIN), a network of streets based on the collision data from *Culver City Bicycle & Pedestrian Action Plan* between Years 2014-2019, where strategic investments would have the biggest impact in reducing death and severe injury. Within the Study Area, Sepulveda Boulevard, Sawtelle Boulevard, and a 600-foot segment of Venice Boulevard west of Sepulveda Boulevard are identified as part of the HIN.

### **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.) However, due to the current traffic conditions related to the State of California and City response to COVID-19, CCPWD has directed transportation studies to utilize traffic counts collected prior to March 2020. Given the uncertainty of the return to typical traffic conditions, CCPWD is allowing the use of historical traffic count data or new traffic count data with application of an adjustment factor.

Weekday peak hour traffic data from May 2019 provided by the City was assessed and utilized to effectively reflect Existing Year 2021 Conditions for two of the four study intersections. Additionally, existing morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak period traffic count data was collected in November 2021 at the remaining study intersections, as well as the nearby intersection of Sawtelle Avenue & Washington Boulevard, to help calibrate traffic volumes for non-pandemic conditions. Weekday peak hour traffic data from May 2019 at the nearby intersection of Sawtelle Boulevard & Washington Boulevard was utilized for comparison purposes to develop an applicable growth factor to account for COVID-19 related traffic disruptions.

After applying the growth factor, the existing intersection peak hour traffic volumes, effectively representing non-pandemic Existing Conditions in Year 2021, are illustrated in Figure 7. Traffic volume data is provided in Appendix B.

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## **FUTURE AND CUMULATIVE TRANSPORTATION CONDITIONS**

The forecast of Future without Project Conditions (Year 2022) and Cumulative without Project Conditions (Year 2045) was prepared in accordance with procedures outlined in the Guidelines. Specifically, two requirements are provided for developing the cumulative traffic volume forecast: (1) projected future volumes and (2) Related Projects.

The ambient growth factor discussed below likely includes some traffic increases resulting from the Related Projects. Therefore, through some inherent double-counting of vehicles in the assignment of ambient growth and Related Projects traffic, this traffic analysis provides a highly conservative estimate of Future without Project and Cumulative without Project traffic volumes.

The forecast base year traffic volumes, therefore, include ambient growth, which reflects increases in traffic due to regional growth and development outside the Study Area, as well as traffic generated by ongoing or entitled projects near or within the Study Area.

### **Ambient Traffic Growth**

Existing traffic levels have historically been projected to increase as a result of regional growth and development; however, the implications of COVID-19 may influence those future rate projections. Nevertheless, to provide a conservative estimate of future background conditions, this analysis used the 1% annual growth precedent as approved in the MOU to simulate anticipated buildout for both Year 2022 and Year 2045 traffic volumes. The total adjustment applied over the one-year and 24-year periods were 1% and 24%, respectively. These growth factors account for increases in traffic due to potential projects not yet proposed and projects located outside the Study Area.

### **Related Projects**

In accordance with the Guidelines, this study also considered the effects of the Project in relation to the Related Projects. Including this analysis step, the potential impact of the Project was evaluated within the context of past, present, and probable future developments capable of



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producing cumulative impacts. The list of Related Projects is based on information provided by the City in November 2021 and the City of Los Angeles in July 2021, as well as recent studies of development projects in the area. Related Projects within 0.50 miles of the Project Site were considered in the analysis and represent development projects most likely to add traffic to the study intersections. The Related Projects are detailed in Table 4 and their approximate locations are shown in Figure 8.

Though the buildout years of many of these Related Projects are uncertain and may be well beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this transportation assessment and conservatively assumed to be completed by the Project buildout year of 2022 and General Plan horizon year of 2045. The traffic growth due to the development of Related Projects considered in this analysis is highly conservative and, by itself, substantially overestimates the actual traffic volume growth in the area that would likely occur prior to Project buildout years. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project Year 2022 and Cumulative without Project Year 2045 Conditions are even more conservative.

Using these conservative assumptions, the potential traffic operations of the Project were evaluated. The development of estimated traffic volumes added to the Study Intersections as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

**Trip Generation.** Trip generation estimates for the Related Projects were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation Manual, 10<sup>th</sup> Edition* (Institute of Transportation Engineers, 2017) or were provided by the respective jurisdiction. The Related Projects trip generation estimates summarized in Table 4 are conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (e.g., transit, bus, bicycling, walking, carpool, etc.) Further, they do not account for the internal capture trips within a multi-use development or for the interaction of trips between multiple Related Projects, in which one Related Project serves as the origin for a trip destined for another Related Project.

**Trip Distribution.** The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These factors include the type and density of the proposed land uses,

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the geographic distribution of population from which the employees / residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors were considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

**Traffic Assignment.** The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. Figure 9 shows the peak hour traffic volumes associated with these Related Projects at the Study Intersections.

### **Future without Project Traffic Volumes**

The Related Projects volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected Project completion year of 2022. As discussed above, this is a conservative approach as many of the Related Projects may be reflected in the ambient growth rate. These volumes represent the Future without Project Conditions (i.e., ambient traffic growth and Related Project traffic added to existing traffic volumes) for Year 2022 at the study intersections and are shown in Figure 10.

### **Cumulative without Project Traffic Volumes**

Similar to the Future without Project Conditions traffic volumes, the Related Projects volumes were added to the existing traffic volumes after adjustment for ambient growth through the projected General Plan horizon year of 2045. These volumes represent the Cumulative without Project Conditions (Year 2045) at the study intersections and are shown in Figure 11.

### **Future Improvements**

The analysis of Future Conditions considered transportation improvements that are funded and expected to be implemented prior to the buildout of the Project. These improvements could result in changes to the physical configuration at the study intersections. Other proposed improvement projects that are not funded and traffic / trip reduction strategies such as Transportation Demand

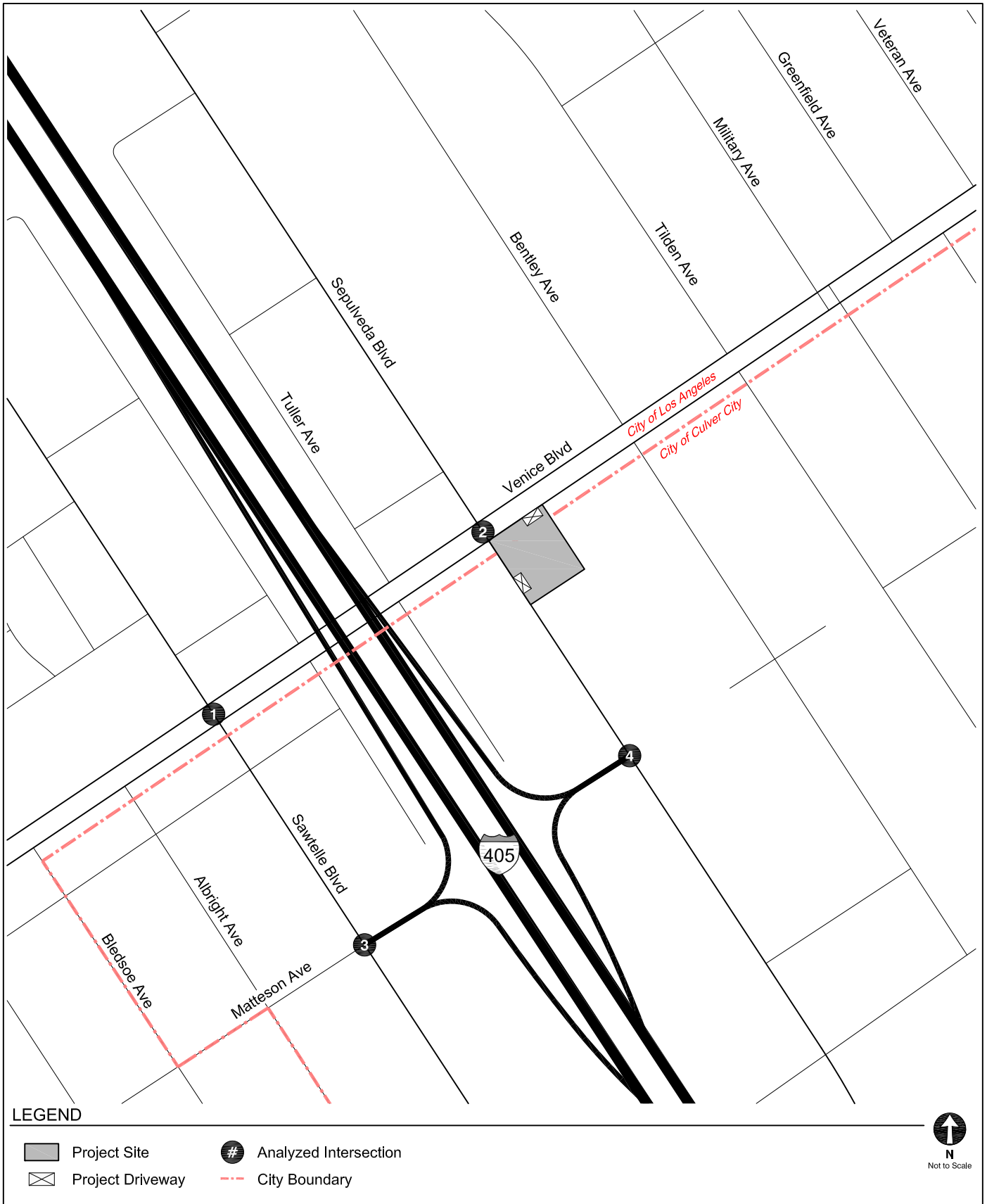
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Management (TDM) programs for individual buildings and developments were conservatively omitted from the Future and Cumulative Conditions analyses. A summary of future improvements is provided below.

**Bicycle and Pedestrian Action Plan.** *Culver City Bicycle & Pedestrian Action Plan* identifies key recommended improvements for corridors throughout the City. The goal of this plan is to improve active forms of transportation by providing accessible, safe, and comfortable environments for all road users. The following summarizes the recommended network upgrades, depicted in Figure 12, planned on corridors within 0.25 miles of the Project Site:

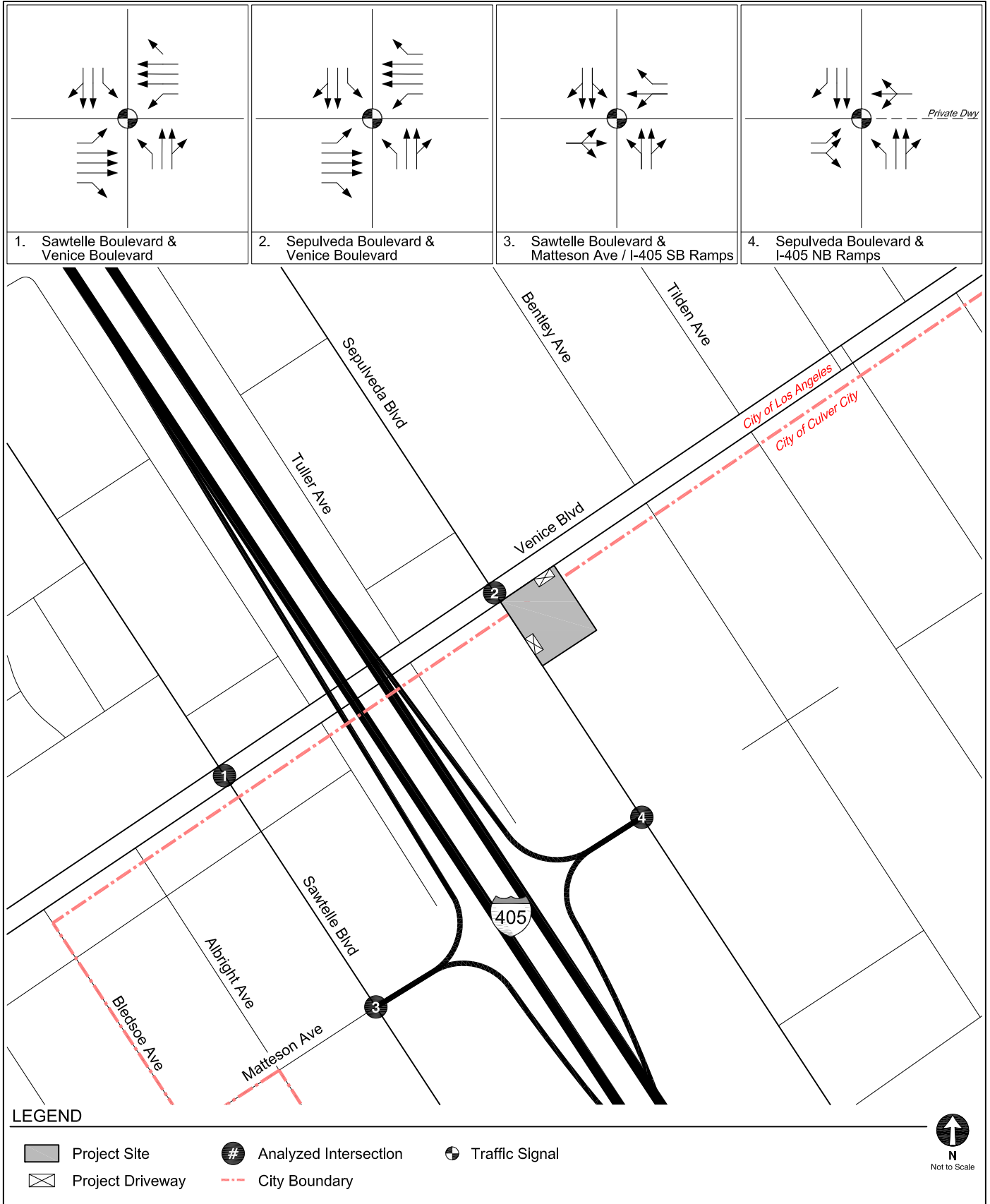
- Recommended Bicycle Facilities: New Class II bicycle lanes have been recommended for installation on Sepulveda Boulevard south of Venice Boulevard.
- Recommended Pedestrian Facilities: New sidewalks have been recommended for installation on Bentley Avenue south of Venice Boulevard.

The specific timeline for implementation of these recommendations has not been identified; therefore, no changes to intersection lane configurations were made as a result of *Culver City Bicycle & Pedestrian Action Plan*.



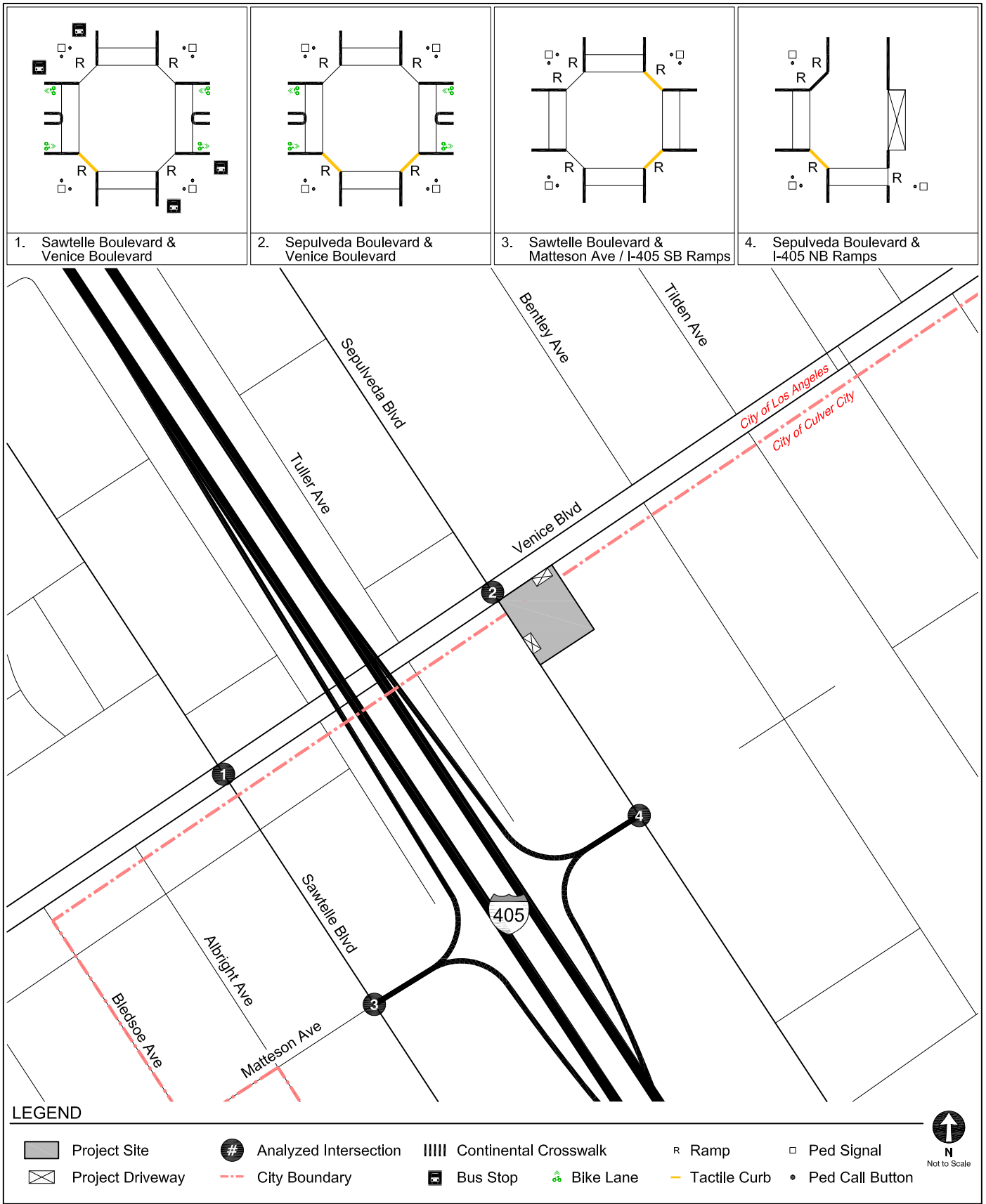
STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 3



INTERSECTION LANE CONFIGURATIONS

FIGURE 4



1. Sawtelle Boulevard & Venice Boulevard
2. Sepulveda Boulevard & Venice Boulevard
3. Sawtelle Boulevard & Matteson Ave / I-405 SB Ramps
4. Sepulveda Boulevard & I-405 NB Ramps

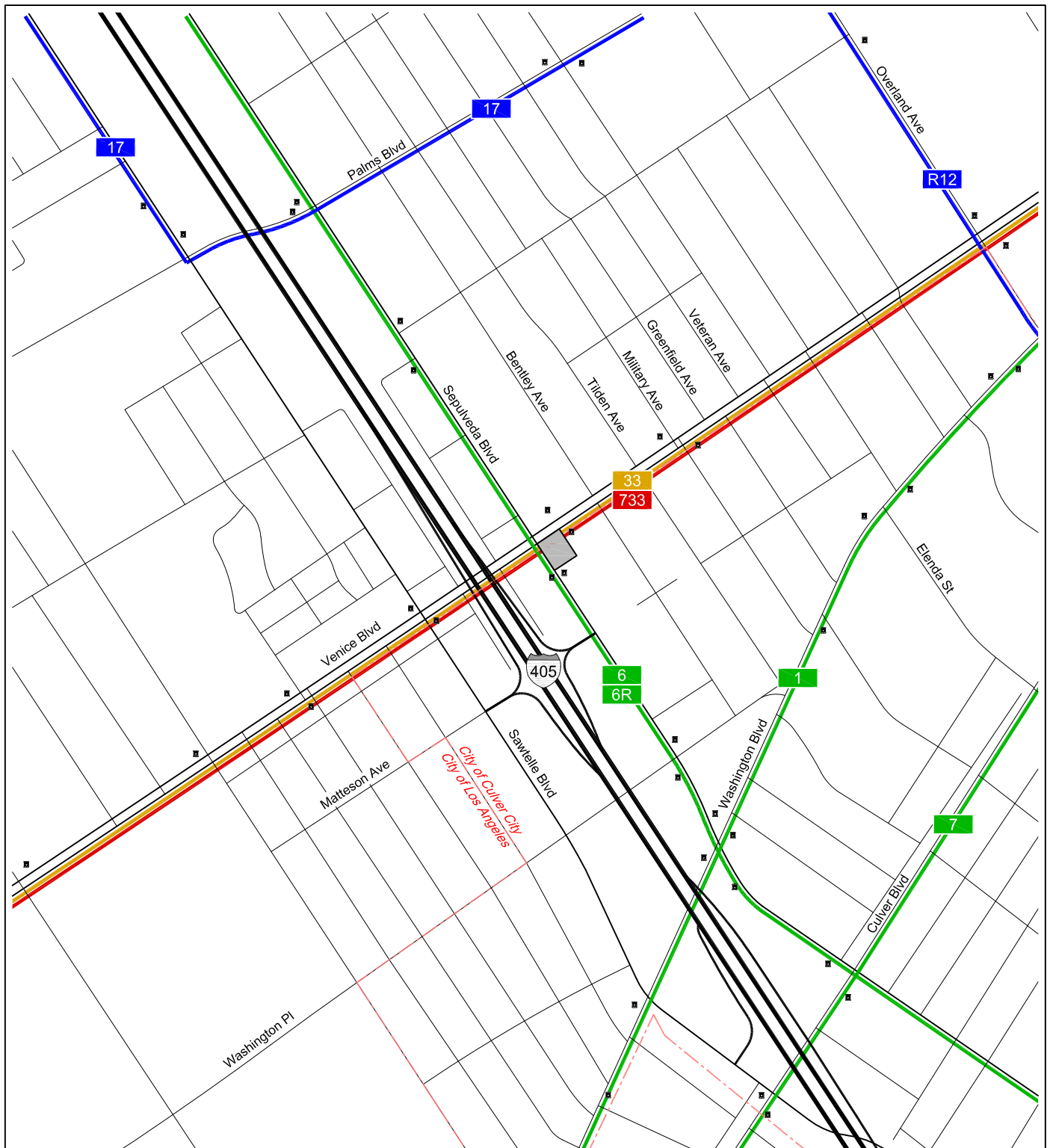
**LEGEND**

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



**EXISTING INTERSECTION MOBILITY FACILITIES**

**FIGURE 5**



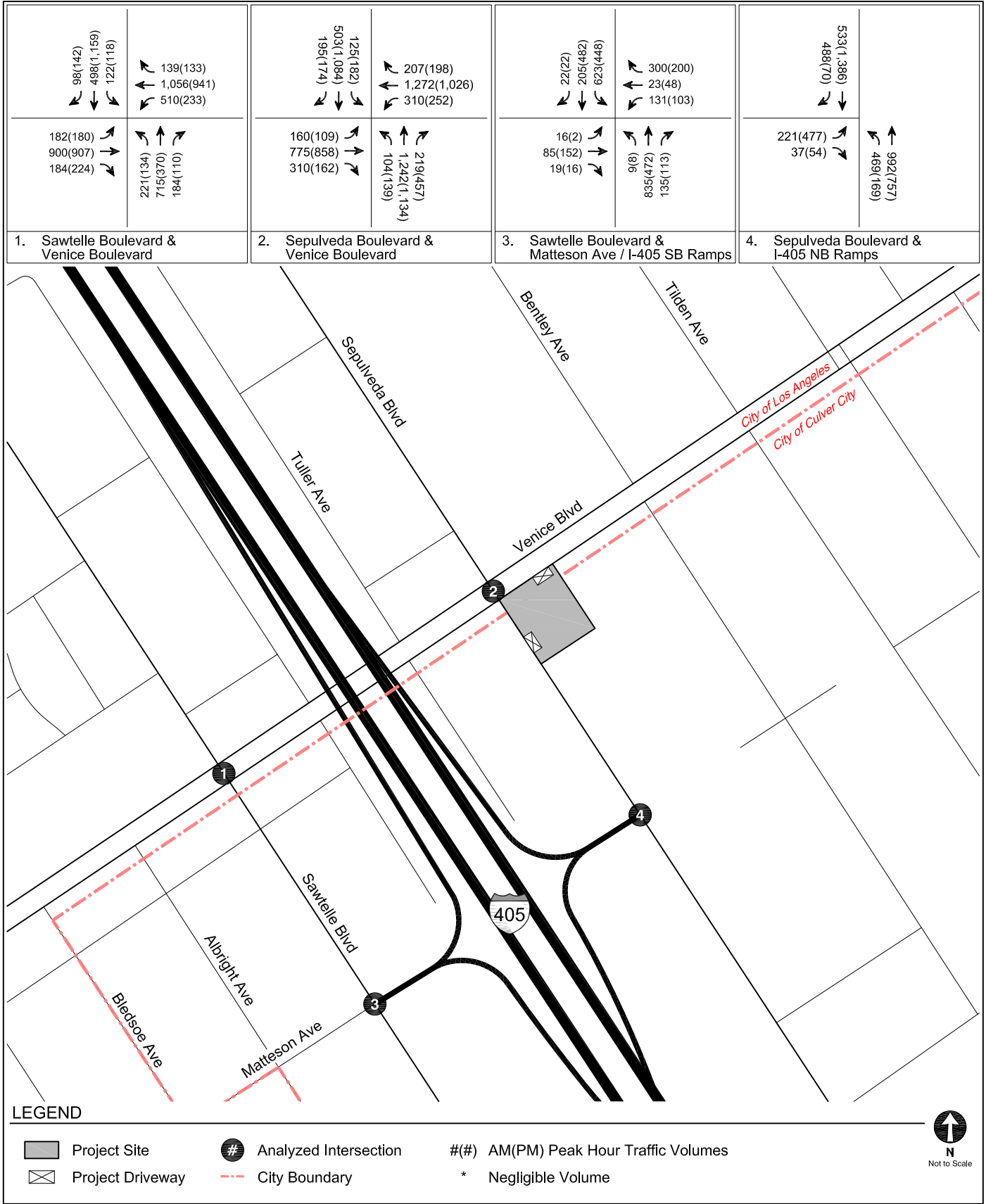
**LEGEND**

- |               |                       |                           |
|---------------|-----------------------|---------------------------|
| Project Site  | Metro Local / Limited | Santa Monica Big Blue Bus |
| Bus Stop      | Metro Rapid           |                           |
| City Boundary | Culver CityBus        |                           |



**EXISTING TRANSIT SERVICE**

**FIGURE 6**



**LEGEND**

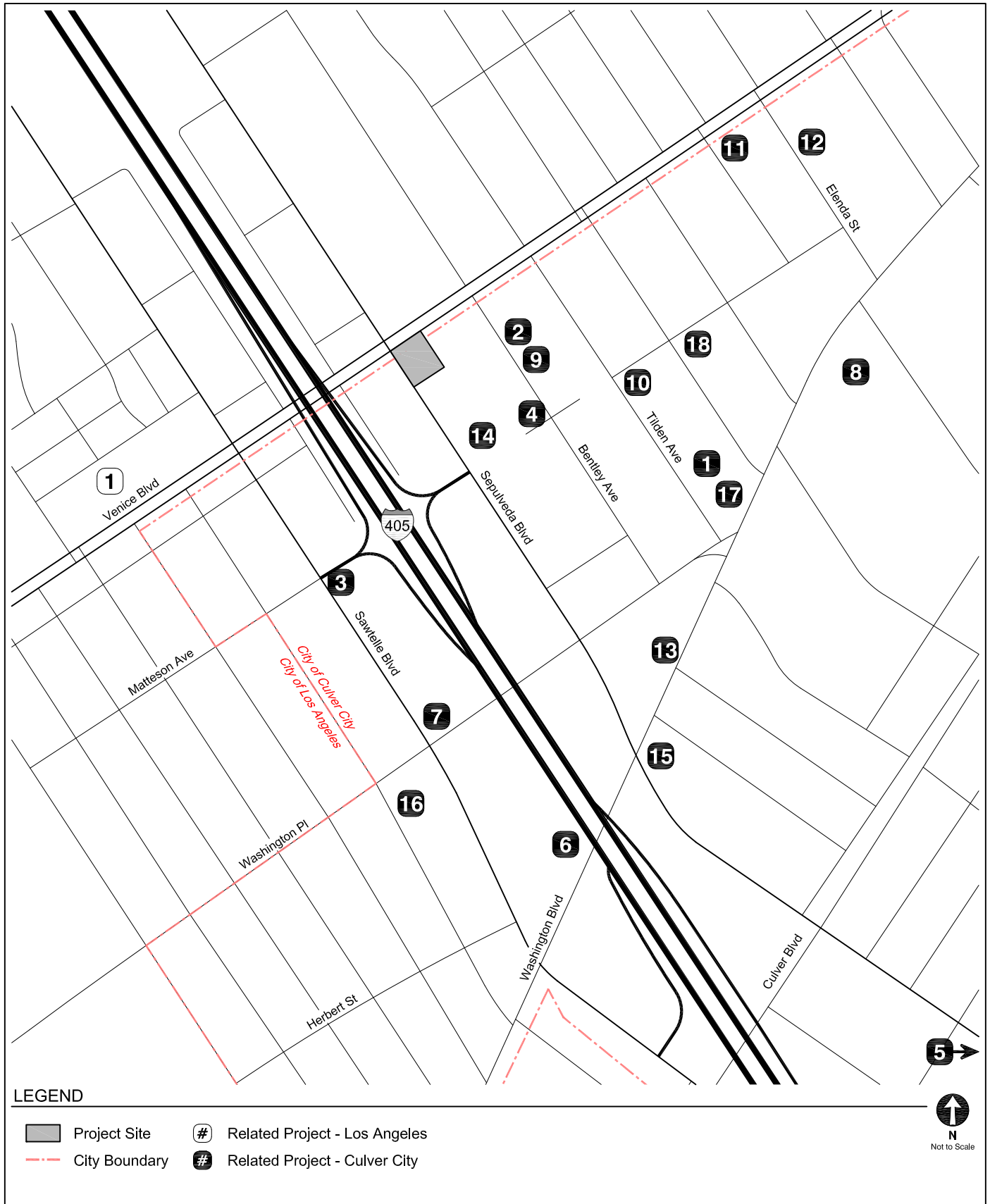
- Project Site
- Project Driveway
- Analyzed Intersection
- City Boundary
- #(#)** AM(PM) Peak Hour Traffic Volumes
- \*** Negligible Volume



**EXISTING CONDITIONS (YEAR 2021)  
PEAK HOUR TRAFFIC VOLUMES**

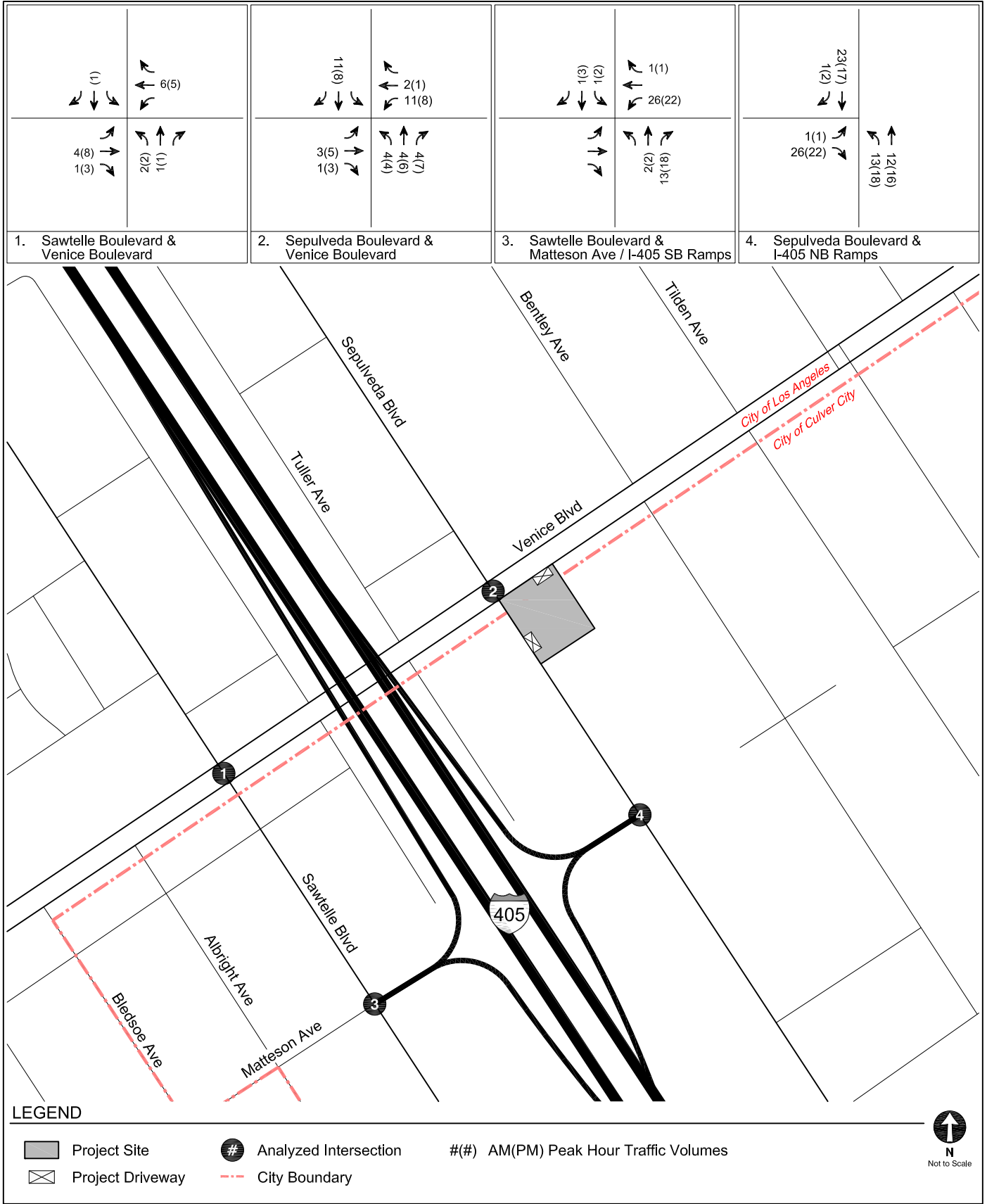
**FIGURE  
7**





LOCATIONS OF RELATED PROJECTS

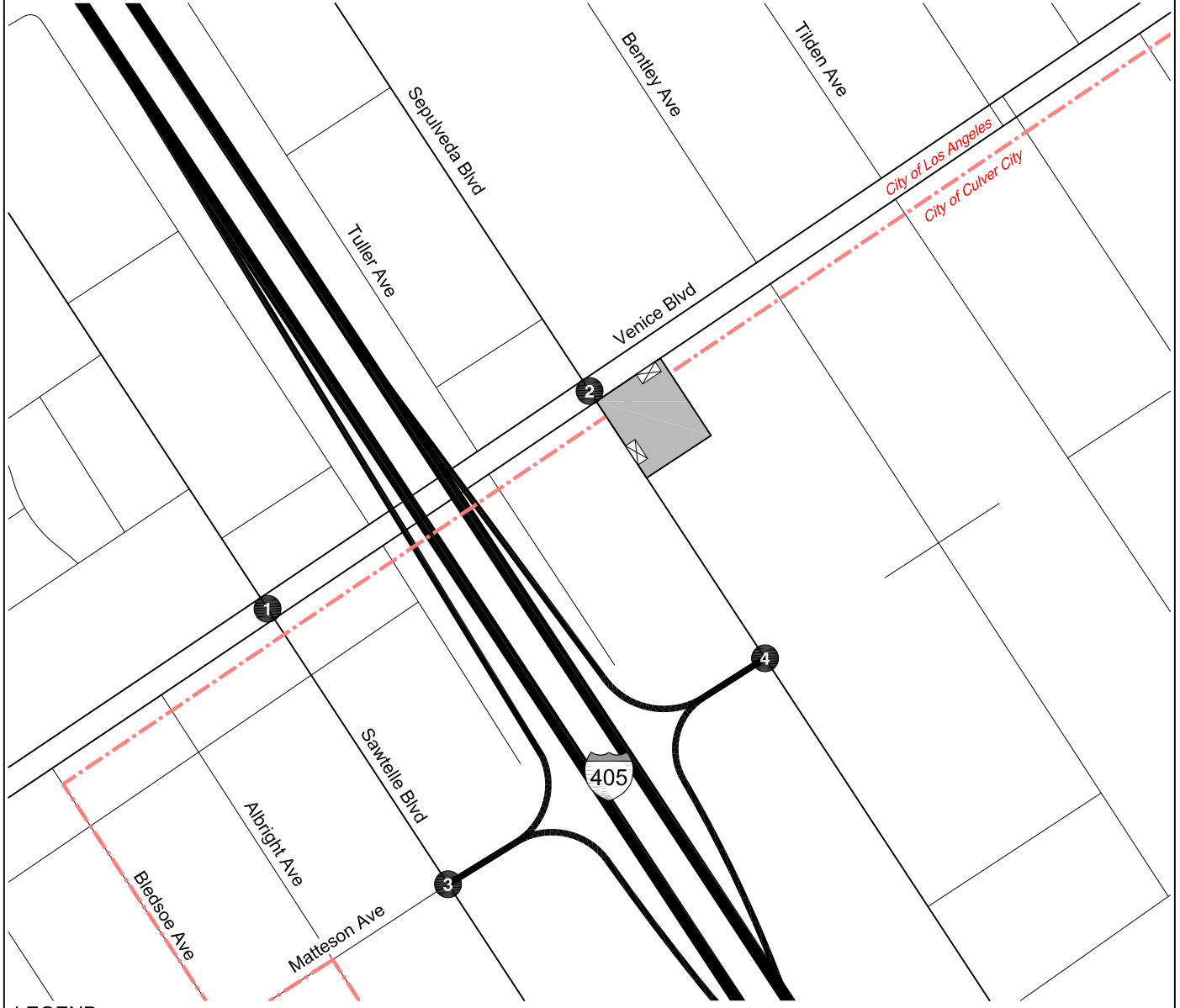
FIGURE  
8



**RELATED PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
9**

<p>99(143) 503(1,172) 123(119)</p> <p>140(134) 1,073(955) 515(235)</p>	<p>126(184) 519(1,103) 197(176)</p> <p>209(200) 1,287(1,037) 324(263)</p>	<p>459(039) 068(802) 22(22)</p> <p>304(203) 23(48) 158(126)</p>	<p>561(1,417) 494(73)</p> <p>224(483) 63(77)</p>
<p>184(182) 913(924) 187(229)</p> <p>225(137) 233(375) 7(7) 186(111) 111(111)</p>	<p>162(110) 786(872) 314(167)</p> <p>225(469) 1,258(1,151) 109(144)</p>	<p>16(2) 86(154) 19(16)</p> <p>9(6) 629(458) 731(841)</p>	<p>1,014(781) 487(189)</p>
1. Sawtelle Boulevard & Venice Boulevard	2. Sepulveda Boulevard & Venice Boulevard	3. Sawtelle Boulevard & Matteson Ave / I-405 SB Ramps	4. Sepulveda Boulevard & I-405 NB Ramps



**LEGEND**

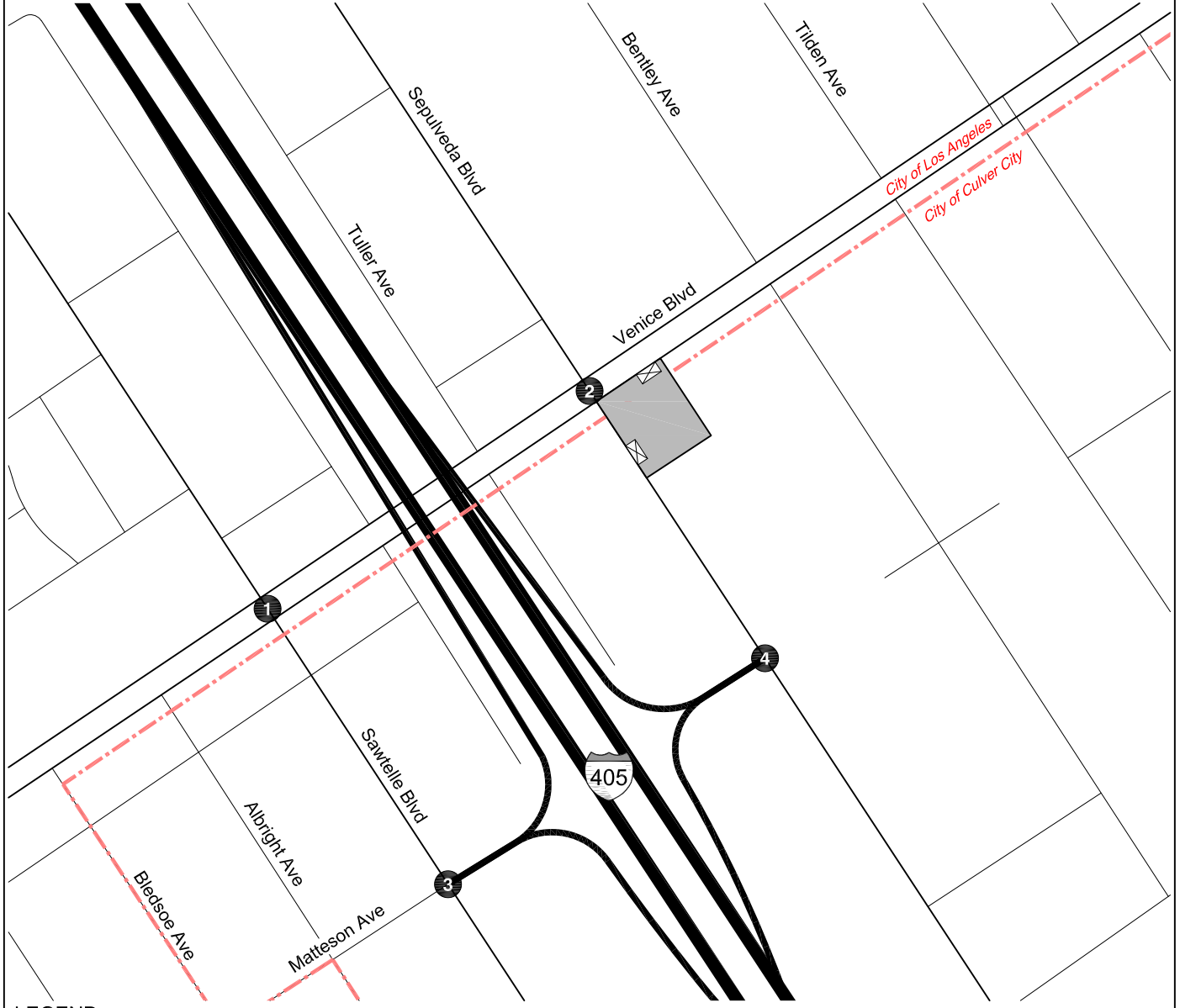
- Project Site
- Project Driveway
- # Analyzed Intersection
- City Boundary
- #(#) AM(PM) Peak Hour Traffic Volumes
- \* Negligible Volume

N  
Not to Scale

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

**FIGURE  
10**

1. Sawtelle Boulevard & Venice Boulevard	2. Sepulveda Boulevard & Venice Boulevard	3. Sawtelle Boulevard & Matteson Ave / I-405 SB Ramps	4. Sepulveda Boulevard & I-405 NB Ramps



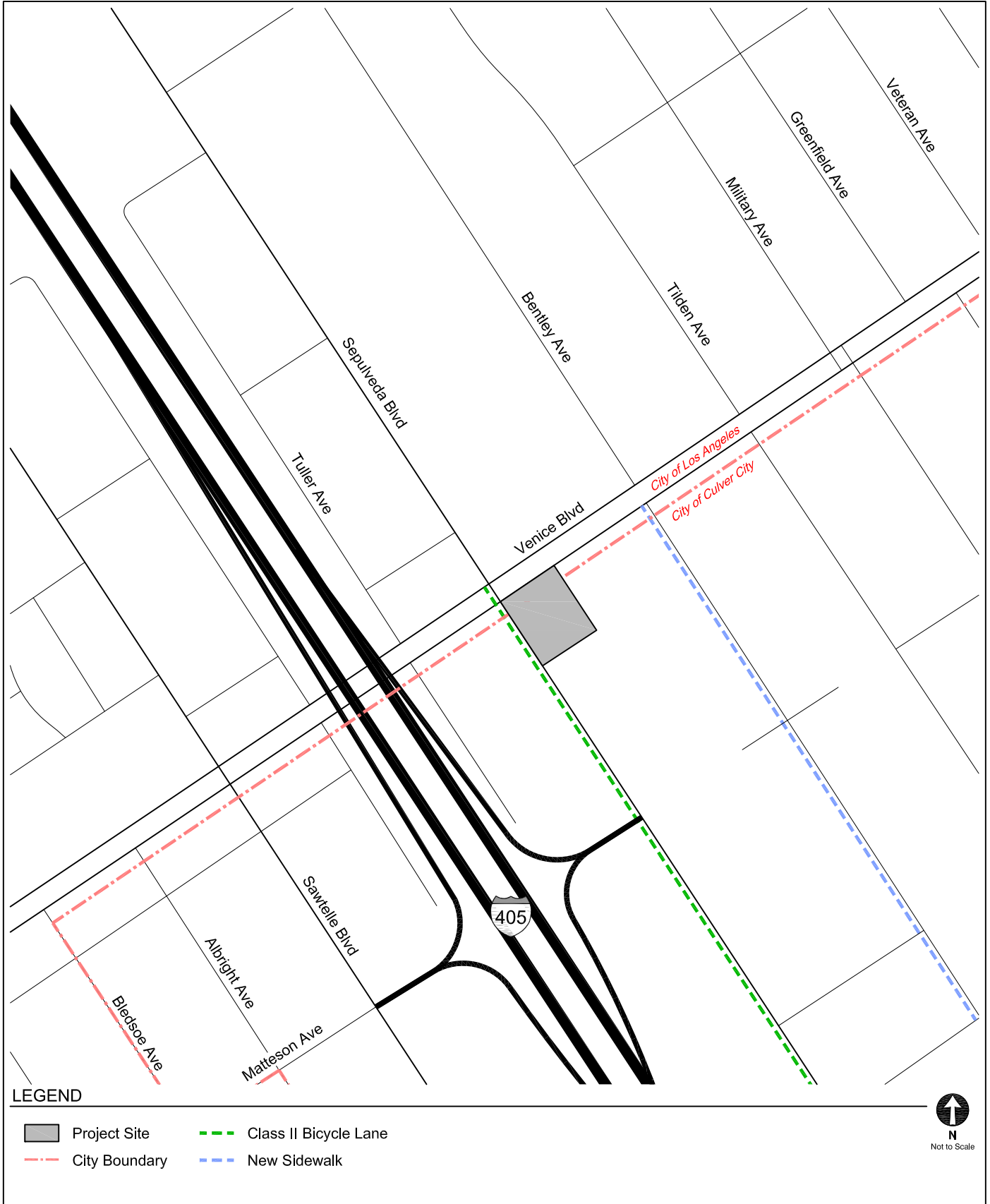
**LEGEND**

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



CUMULATIVE WITHOUT PROJECT CONDITIONS (YEAR 2045)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
11



PROPOSED TRANSPORTATION CIRCULATION SYSTEM

FIGURE 12

**TABLE 1  
STUDY INTERSECTIONS**

<b>No</b>	<b>North/South Street</b>	<b>East/West Street</b>	<b>Existing Traffic Control</b>	<b>Jurisdiction</b>
1.	Sawtelle Boulevard	Venice Boulevard	Signalized	City of Culver City / City of Los Angeles
2.	Sepulveda Boulevard	Venice Boulevard	Signalized	City of Culver City / City of Los Angeles
3.	Sawtelle Boulevard	SB I-405 Freeway Ramp	Signalized	City of Culver City
4.	Sepulveda Boulevard	NB I-405 Freeway Ramp	Signalized	City of Culver City

**TABLE 2  
EXISTING TRANSIT SERVICE**

Provider, Route, and Service Area	Service Type	Hours of Operation [a]	Average Headway (minutes)			
			Morning Peak Period		Afternoon Peak Period	
<b>Metro Bus Service</b>			<b>NB/EB</b>	<b>SB/WB</b>	<b>NB/EB</b>	<b>SB/WB</b>
33 Downtown Los Angeles - Venice	Local	24 Hours	8	8	8	8
<b>Culver City Bus</b>			<b>NB/EB</b>	<b>SB/WB</b>	<b>NB/EB</b>	<b>SB/WB</b>
1 Culver City - Venice	Local	6:00 A.M. - 1:00 P.M.	22	16	16	16
6 Sepulveda Boulevard	Local	5:30 A.M. - 12:00 A.M.	16	17	27	24
[c] 6R Rapid 6 Sepulveda Boulevard	Rapid	6:30 A.M. - 7:30 P.M.	15	15	15	15
7 Culver City - Playa Del Rey	Local	7:00 A.M. - 7:00 P.M.	80	48	60	48
<b>Big Blue Bus</b>			<b>NB/EB</b>	<b>SB/WB</b>	<b>NB/EB</b>	<b>SB/WB</b>
12R Overland Avenue & UCLA/Westwood	Rapid	5:30 A.M. - 10:30 P.M.	11	13	13	11
17 Palms - VA Medical Center - UCLA	Local	5:45 A.M. - 11:00 P.M.	17	24	22	20

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority

LADOT: Los Angeles Department of Transportation

AM Peak from 6 AM - 10 AM

PM Peak from 3 PM - 7 PM

[a] Service routes and frequencies are current as of the time of publishing this Assessment, including recent changes based on the Metro Next Gen Bus Plan.

[b] Route only serves on school days with one morning and two afternoon trips.

[c] Rapid 6 peak hour service provides departure times every 15-20 minutes.

**TABLE 3A  
TRANSIT SYSTEM CAPACITY IN STUDY AREA - MORNING PEAK HOUR**

Provider, Route, and Stop Location		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
			Peak Load		Average Load		NB/EB	SB/WB	NB/EB	SB/WB
			NB/EB	SB/WB	NB/EB	SB/WB				
<b>Metro Bus</b>										
33	Sepulveda/Venice	50	21	36	15	23	35	27	274	211
<b>Culver City Bus</b>										
1		50	N/A	N/A	17	16	33	34	91	128
6	Sepulveda/Venice	50	DATA NOT AVAILABLE							
6R	Sepulveda/Venice	50	DATA NOT AVAILABLE							
7		50	N/A	N/A	14	10	36	40	27	50
<b>Santa Monica Big Blue Bus</b>										
12R	Overland/Venice	50	DATA NOT AVAILABLE							
17	Sepulveda/Palms	50	DATA NOT AVAILABLE							
<b>Total Transit Residual Capacity in Peak Hour</b>									<b>781</b>	

Notes:

[a] Capacity assumptions:

Metro Regular Bus - 40 seated / 50 standing.

Culver City Bus - 40 seated / 50 standing

[b] Ridership capacity based on data from Metro for April 2019, the most recent available prior to the COVID-19 Pandemic and Next Gen Bus Plan updates. Transit ridership data for Culver City Bus based on data from 2019. No data was available for Santa Monica Big Blue Bus.



**TABLE 3B  
TRANSIT SYSTEM CAPACITY IN STUDY AREA - AFTERNOON PEAK HOUR**

Provider, Route, and Stop Location		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
			Peak Load		Average Load		NB/EB	SB/WB	NB/EB	SB/WB
			NB/EB	SB/WB	NB/EB	SB/WB				
<b>Metro Bus</b>										
33	Sepulveda/Venice	50	38	23	26	38	24	12	192	96
<b>Culver City Bus</b>										
1		50	N/A	N/A	18	18	32	32	120	120
6	Sepulveda/Venice	50	DATA NOT AVAILABLE							
6R	Sepulveda/Venice	50	DATA NOT AVAILABLE							
7		50	N/A	N/A	9	11	41	39	41	49
<b>Santa Monica Big Blue Bus</b>										
12R	Overland/Venice	50	DATA NOT AVAILABLE							
17	Sepulveda/Palms	50	DATA NOT AVAILABLE							
<b>Total Transit Residual Capacity in Peak Hour</b>									<b>618</b>	

Notes:

[a] Capacity assumptions:

Metro Regular Bus - 40 seated / 50 standing.

Culver City Bus - 40 seated / 50 standing

[b] Ridership capacity based on data from Metro for April 2019, the most recent available prior to the COVID-19 Pandemic and Next Gen Bus Plan updates. Transit ridership data for Culver City Bus based on data from 2019. No data was available for Santa Monica Big Blue Bus.

**TABLE 4  
RELATED PROJECTS LIST**

No.	Project	Address	Use	Trip Generation						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
<i>City of Los Angeles [a]</i>										
1.	New Assisted Living	11405 W Venice Boulevard	85 guest rooms	204	11	4	15	7	15	22
<i>City of Culver City [b]</i>										
1.	5-unit Condominiums	3961 Tilden Avenue	5 condominiums	37	0	2	2	2	1	3
2.	New 4-unit Condo	3832 Bentley Avenue	4 condominiums	29	0	2	2	1	1	2
3.	3906-3910 Sawtelle Blvd	3906-3910 Sawtelle Boulevard	1 apartment unit	7	0	0	0	1	0	1
4.	3-unit Bentley Condos	3873 Bentley Avenue	3 apartment units	22	0	1	1	1	1	2
5.	WLA Community College Master Plan	LA County	92,000 sf new/renovated campus space	2,529	204	71	275	136	98	234
6.	Office Building	11259 Washington Boulevard	4,022 sf office	39	4	1	5	1	4	5
7.	Mixed-Use with Density Bonus	11281 Washington Place	14 apartments, 4,897 sf retail	287	4	7	11	14	13	27
8.	Stacked Parking - NFL Building	10950 Washington Boulevard	164 parking spaces	--	--	--	--	--	--	--
9.	4-Unit Condominium	3846 Bentley Avenue	4 condominiums	29	0	2	2	1	1	2
10.	5-Unit Condominium	3906 Tilden Avenue	5 condominiums	37	0	2	2	2	1	3
11.	6-Unit Condominium	3808 College Avenue	6 condominiums	44	1	2	3	2	1	3
12.	4-Unit Condominium	3826 Girard Avenue	4 condominiums	29	0	2	2	1	1	2
13.	New Assisted Living Facility	11141 Washington Blvd	117 room assisted living	187	9	5	14	7	12	19
14.	New Hotel	3868-3900 Sepulveda Boulevard	118 hotel rooms, 2,000 sf retail	1,062	33	24	57	40	39	79
15.	4114 Sepulveda Boulevard	4114 Sepulveda Boulevard	350,000 sf office, 50,000 sf retail	5,297	378	75	453	156	438	594
16.	4-Unit Sawtelle Condominiums	4014 Sawtelle Boulevard	4 condominiums	29	0	2	2	1	1	2
17.	Volvo Auto Repair	11039 Washington Boulevard	4 additional auto bays	-	6	3	9	6	6	12
18.	3906 Huron	3906 Huron Avenue	5 condominiums	37	0	2	2	2	1	3

**Notes:**

[a] Related project information provided by the Los Angeles Department of Transportation in July 2021, Department of City Planning, and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 feet) radius of the Project Site.

[b] Related project information provided by the Culver City Department of Transportation in October 2020, as well as the related project list for the Cumulus Mixed Use Development. This list includes known development projects within one-half mile (2,460 feet) radius of the Project Site.

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## **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 vehicle trips expected to be generated by the Project was estimated using rates published for the marijuana dispensary land use in *Trip Generation Manual, 10<sup>th</sup> Edition*. 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 morning and afternoon peak hours relative to the size of development.

An appropriate trip reduction was applied in consultation with CCPWD to account for public transit usage. The Project is located adjacent to Intersection 1, Sepulveda Boulevard & Venice Boulevard, which is identified as a key Transportation Priority Area. Therefore, a 15% transit/walk-in reduction was applied to the trip generation estimates to account for transit usage and walking arrivals from the surrounding neighborhoods and adjacent commercial developments.

As shown in Table 5, after accounting for the adjustment above, the Project is expected to generate 34 net new morning peak hour trips (19 inbound trips, 15 outbound trips) and 71 net new afternoon peak hour trips (36 inbound trips, 35 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

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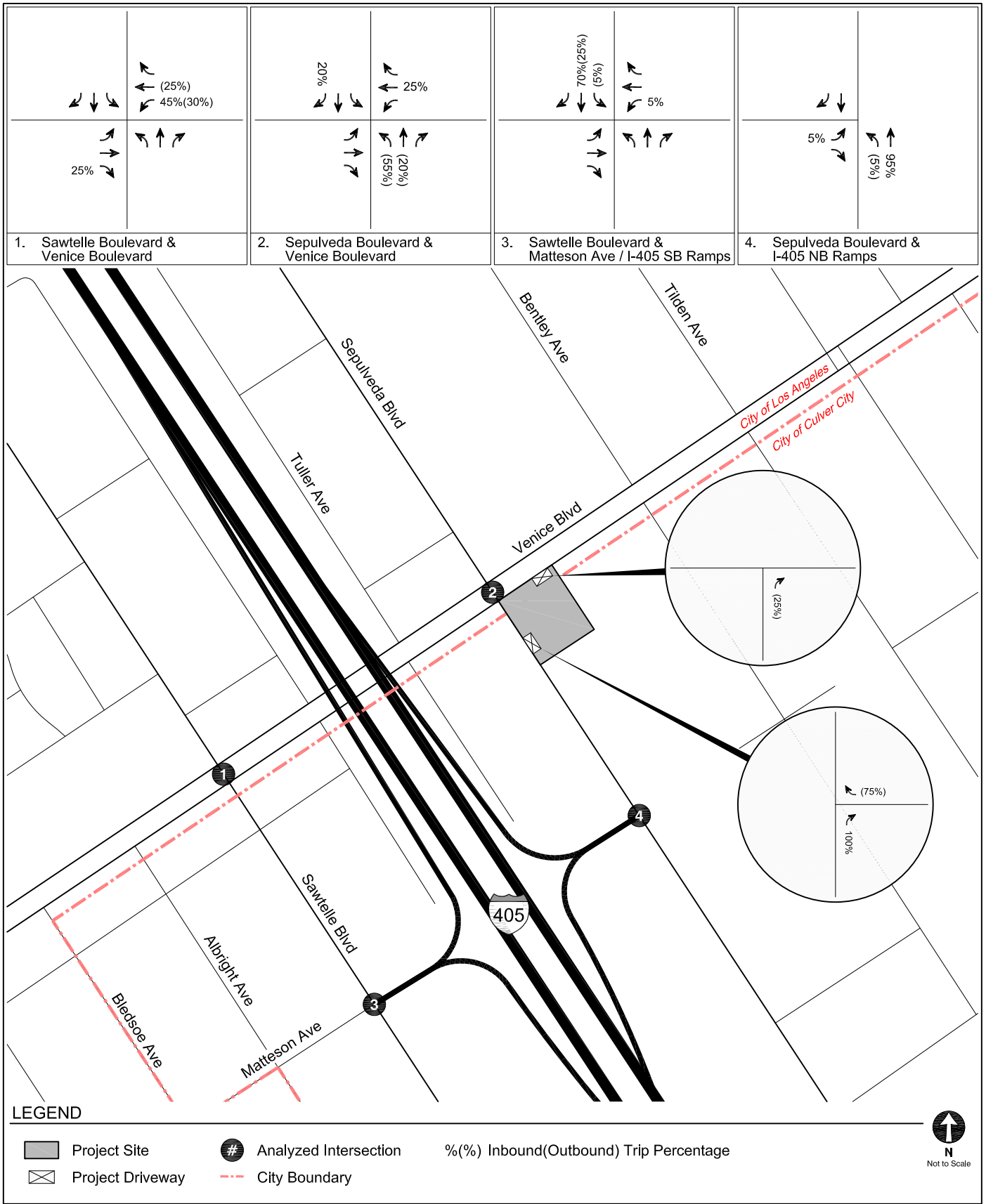
Project would be drawn, characteristics of the street system serving the Project Site, the location of the Project driveways, and existing traffic patterns, as well as input from CCPWD staff.

Vehicular access to the Project Site would be provided via one right-turn-in and right-turn-out driveway on Sepulveda Boulevard and one right-turn-out only driveway on Venice Boulevard. The intersection-level trip distribution pattern at the study intersections is shown in Figure 13. Generally, the regional pattern is as follows:

- 25% to/from the north
- 25% to/from the east
- 25% to/from the south
- 25% to/from the west

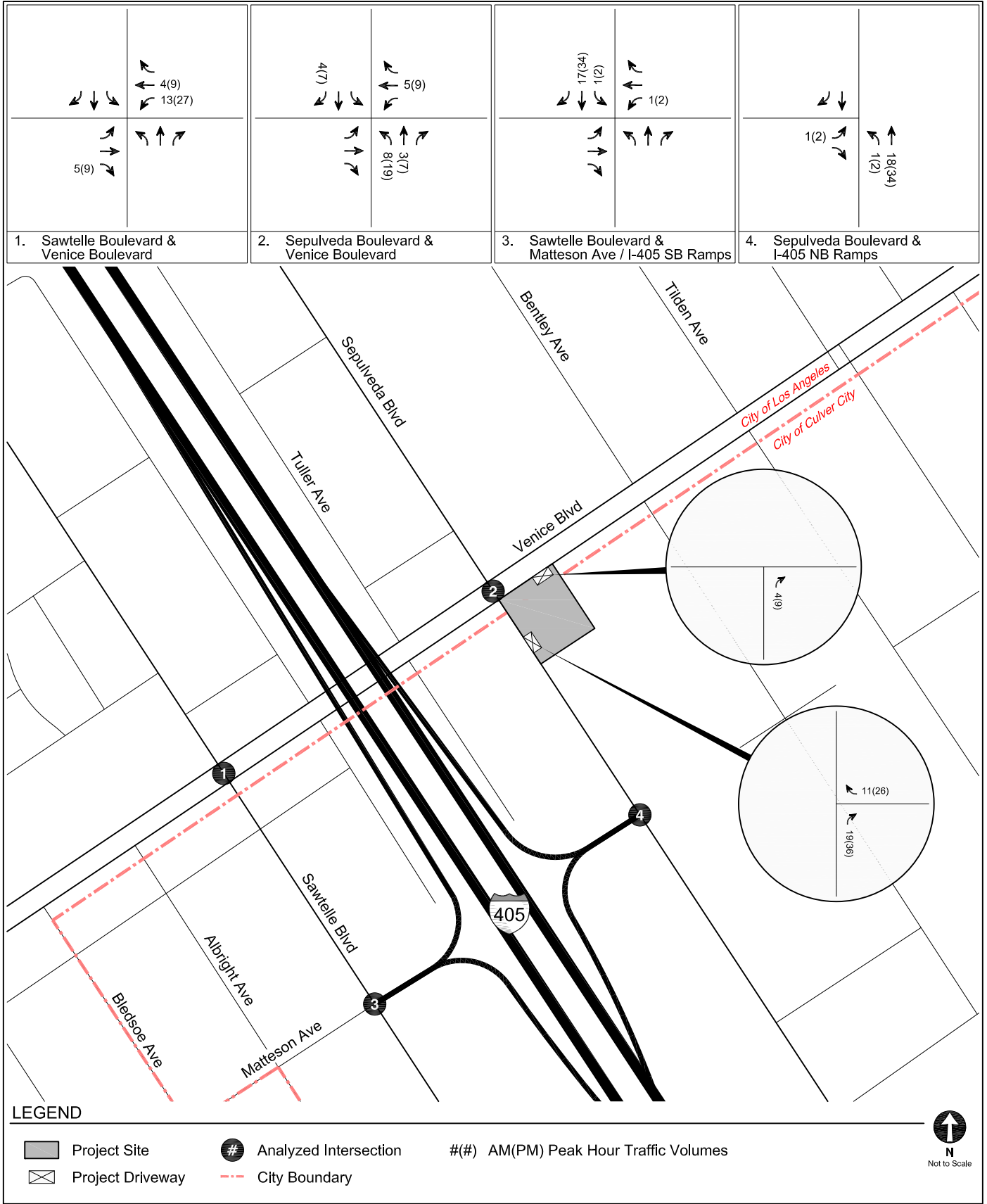
## **PROJECT TRIP ASSIGNMENT**

The Project trip generation estimates summarized in Table 5 and the trip distribution pattern shown in Figure 13 were used to assign the Project-generated traffic through the study intersections. Figure 14 illustrates the Project-only traffic volumes for the Project at the study intersections during typical weekday morning and afternoon peak hours.



PROJECT TRIP DISTRIBUTION

FIGURE  
13



**PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
14**

**TABLE 5  
PROJECT TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour [a]			Afternoon Peak Hour [a]		
				In	Out	Total	In	Out	Total
Marijuana Dispensary	882	per 1,000 sf	252.7	56%	44%	10.44	50%	50%	21.83

TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<b><u>Proposed Project</u></b>									
Marijuana Dispensary <i>Less 15% Transit/Walk-In [b]</i>	882	3.802 ksf	961 (144)	22 (3)	18 (3)	40 (6)	42 (6)	41 (6)	83 (12)
<b>TOTAL - PROJECT TRIPS</b>			<b>817</b>	<b>19</b>	<b>15</b>	<b>34</b>	<b>36</b>	<b>35</b>	<b>71</b>

Notes:

ksf: 1,000 square feet

[a] Source: *Trip Generation, 10th Edition*, Institute of Transportation Engineers, 2017.

[b] The Project Site is located adjacent to the intersection of Sepulveda Boulevard & Venice Boulevard which is identified as a key Transit Priority Area, therefore a 15% adjustment was applied to account for transit/walk-in trips.

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## **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 vehicle miles traveled (VMT) analysis compliant with State 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, creating multimodal networks, and promoting mixed-use developments.

Section 4 of the Guidelines defines the required CEQA methodology of analyzing a project's transportation impacts in accordance with SB 743. Per the Guidelines, the CEQA transportation analysis contains the following thresholds for identifying significant impacts:

- Threshold A: Programs, Plans, Ordinances, and Policies
- Threshold B: VMT – Land Use Projects
- Threshold C: VMT – Transportation Projects
- Threshold D: Geometric Design Hazards

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



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## **Section 4A:**

### **Programs, Plans, Ordinances, and Policies**

Threshold A states that a project will 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 1 of the Guidelines identifies the City programs, plans, ordinances, and policies relevant in determining project consistency. As discussed below, the Project is consistent and does not conflict with the City's adopted programs, plans, ordinances, and policies listed in Table 1 of the Guidelines; therefore, the Project would not result in a significant impact under Threshold 4A. Detailed discussion of the plans, programs, ordinances, or policies related is provided below.

#### **Traffic Code, Chapter 7.05: Motor Vehicle Air Quality Management**

Chapter 7.05 of the Culver City Municipal Code (CCMC), establishes transportation demand and trip reduction measures to reduce vehicular emissions of new developments in excess of 25,000 sf. Though the Project is not greater than 25,000 sf, the Project would adhere to the TDM requirements of the CCMC, including providing bicycle parking and improving Project frontages to encourage walking.

#### **Circulation Element**

The purpose of the Circulation Element is to effectively link both local and regional transportation systems in order to protect and serve the City's residents and businesses. As specified in Chapter 2, the Circulation Element consists of a series of roadway and bikeway classifications, as well as

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pedestrian access objectives and policies. The Project does not propose to modify or make any modifications to the street classifications, nor would it preclude the City from making improvements to the transportation network.

The City is currently working on a General Plan Update that is anticipated to be released to the public in the summer of Year 2022.

### **General Plan Land Use Element**

The purpose of *Culver City General Plan Land Use Element* (City of Culver City, adopted May 24, 2004) is to provide for the physical, social, and economic needs of the City and its people. The Project is located within the Northern-Central Sub-Area where specific issues include a variety of old and new structures that make up the northern entry corridors to the City and the discordant visual image of the area due to different uses across City boundaries. The Project proposes a desirable new development that will enhance the character and promote a more unified and positive image of the Northern-Central Sub-Area. The Project is also consistent with the allowable non-residential uses of retail located primarily along Sepulveda Boulevard corridor within the Northern-Central Sub-Area. Thus, the commercial uses of the Project would be compatible with the existing land uses in the area and are consistent with the designation of the Northern-Central Sub-Area.

As noted above, the City is currently working on a General Plan Update which is anticipated to be released to the public in the summer of Year 2022.

### **Neighborhood Traffic Management Program (NTMP)**

The City adopted a series of procedures for the implementation of NTMPs, as defined in *Neighborhood Traffic Management Program (NTMP) Procedures Manual* (City of Culver City, November 22, 2004). The program requires a series of actions by the neighborhood and City to determine the traffic issues, study them, develop a plan, test proposed improvements, and finalize the plan. As later detailed in Section 5A, neither Sepulveda Boulevard nor Venice Boulevard would be considered significantly affected with the addition of Project-related traffic. Furthermore, the

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Project is not projected to lead to significant trip diversion along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arteries that could potentially cause a shift to residential Local Streets. Therefore, the Project would not be required to propose an NTMP for the surrounding residential neighborhoods.

### **Gateway Neighborhood Design Guidelines**

The City's *Multi-Family Neighborhood Residential Design Guidelines – Gateway Neighborhood* (Adopted March 24, 2010) is intended to encourage new residential projects to be compatible with, maintain the integrity of, and preserve the unique character and best features of the Gateway Neighborhood by promoting desirable design qualities, guiding change in ways that are compatible with the existing neighborhood development pattern, and respecting the diversity and vitality of the neighborhood. The Project is not a residential project located within the Gateway Neighborhood and, therefore, *Multi-Family Neighborhood Residential Design Guidelines – Gateway Neighborhood* would not apply to the Project.

### **Gateway Adjacent Neighborhood Design Guidelines**

The City's *Multi-Family Neighborhood Residential Design Guidelines – Gateway Adjacent Neighborhood* (July 13, 2011) is intended to encourage new residential projects to be compatible with, maintain the integrity of, and preserve the unique character and best features of the Gateway Adjacent Neighborhood by promoting desirable design qualities, guiding change in ways that are compatible with the existing neighborhood development pattern, and respecting the diversity and vitality of the neighborhood. The Project is not a residential project located within the Gateway Adjacent Neighborhood and, therefore, *Multi-Family Neighborhood Residential Design Guidelines – Gateway Adjacent Neighborhood* would not apply to the Project.

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### **Residential Parkway Guidelines**

The City's *Culver City Residential Parkway Guidelines* (2016) informs the general public about parkway regulations and provides guidance on planning, creating, and maintaining a parkway landscape. Property owners are expected to maintain the parkway space adjacent to their properties, with the exception of street trees, which are maintained by the City. Sidewalk access and step-out strips are to be installed and maintained along all residential parkways in the City. The Project is not a residential project nor is the Project along a residential parkway. Therefore, *Culver City Residential Parkway Guidelines* would not apply to the Project. Nevertheless, the Project will maintain the surrounding landscaping and sidewalks adjacent to the Project Site.

### **Short-Range Transit Plan**

*Short-Range Transit Plan* (Culver City Bus, FY 2019-2020) provides a strategic blueprint designed to maintain a forward-thinking focus on improved mobility services with a continued dedication to customer service and fiscal responsibility. The plan provides an overview of the City's existing mobility services and policies that further improve mobility in the City, such as transit-oriented development and complete streets projects. Further, the plan proposes a variety of measures to improve mobility services, implement physical changes to transit facilities and roadways, and upgrade existing buses with fully electric vehicles. The Project would not conflict with any of the proposed changes in *Short-Range Transit Plan*, and improvements made in the plan would likely enhance transit alternatives for employees and visitors to the site.

Further, there are currently two bus stops in the vicinity of the Project Site: a northbound Sepulveda Boulevard & Venice Boulevard bus stop in front of the neighboring Carl's Jr. restaurant (3816 Sepulveda Boulevard) and an eastbound Venice Boulevard & Sepulveda Boulevard bus stop in front of the neighboring Culver City Express Hand Car Wash and Detail (11166 Venice Boulevard). The Project is required to relocate both bus stops to be in front of the Project Site and upgrade the bus stops to include amenities as required by the City. The relocated bus stops will be designed in line with the goals and objectives of the Short-Range Transit Plan.

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## **Bicycle and Pedestrian Action Plan**

*Culver City Bicycle & Pedestrian Action Plan* seeks to promote a long-term vision for the City that would “ensure comfortable, safe, and attractive places to bike and walk so that these forms of active transportation become first choices for travelling around our city.” As part of *Culver City Bicycle & Pedestrian Action Plan*, new Class II bicycle lanes have been recommended for installation on Sepulveda Boulevard south of Venice Boulevard. The Project would not interfere with the improvements proposed as part of the *Culver City Bicycle & Pedestrian Action Plan*, and the Project would support active modes of transportation by providing bicycle parking and improving the pedestrian facilities adjacent to the Project frontage.

## **Complete Streets Policy**

The City's *City of Culver City Complete Streets Policy* (Adopted January 13, 2020) intends to “promote healthy and sustainable mobility for Culver City residents and visitors by providing safe, convenient, and comfortable access to destinations throughout the City by walking, bicycling, transit, and autos.” The policy sets a variety of goals and standards in the application of complete streets principles including improving mobility for all road users, enhancing safety, and creating a standard set of criteria applicable to all city departments and private developers who construct within the public ROW. The Project would incorporate the complete streets principles into the Project design to encourage multi-modal transportation options within the community.

## **Local Road Safety Plan**

The City is currently developing the Local Roadway Safety Plan (LRSP) that will enable the City to determine potential traffic safety projects. In an effort to eliminate fatal and severe injury collisions, the City is conducting a comprehensive collisions analysis through the LRSP to identify high-risk corridors and intersections with the highest collision frequency and severity. The Project would not preclude the City from implementing improvements to eliminate fatal and severe injury collisions as part of the LRSP.

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## **Vision Zero**

The City adopted the Vision Zero initiative in 2016 and has incorporated policies and infrastructure improvements into *Culver City Bicycle & Pedestrian Action Plan*.

As discussed in Chapter 2, Sepulveda Boulevard, Sawtelle Boulevard, and a 600-foot segment of Venice Boulevard west of Sepulveda Boulevard within the Study Area are identified as part of the HIN. As of December 2021, no Vision Zero improvements have been proposed adjacent to the Project Site. Nevertheless, the Project would not preclude future Vision Zero Safety Improvements by the City. Thus, the Project does not conflict with Vision Zero.

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## Section 4B: VMT Analysis – Land Use Projects

Threshold B of the Guidelines analyzes whether a project causes substantial VMT and is generally applied to land use projects. Specifically, Threshold 4B 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.

Per the Guidelines, a “no impact” determination can be made for a project if any of the following screening criteria are met:

1. *Small projects that result in less than 250 daily or 25 peak hour trips*
2. *Projects within 0.50 miles from these key Transit Priority Areas (TPAs): Metro E (Expo) Line Culver City Station, Metro E (Expo) Line La Cienega Station, Westfield-Culver City Transit Center or Sepulveda/Venice Boulevard intersection may be screened*
3. *Projects located within any TPA where at least 15% of the on-site residential units are affordable*
4. *Affordable housing projects where 100% of the dwelling units are affordable*
5. *Local serving retail projects having less than 50,000 sf in size at a single store*

If none of the above screening criteria are met, the Guidelines provide guidance for the further analysis of VMT, as discussed in the following section.

### PROJECT VMT ANALYSIS

*City of Culver City VMT Calculator Version 0.9* (June 2020) (VMT Calculator) was used to conduct the VMT screening evaluation. Based on guidance from the City, the VMT Calculator was modeled for the Project’s land uses and density as the primary input.



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

As shown in Appendix C, the Project is located adjacent to the Sepulveda Boulevard & Venice Boulevard intersection, a key TPA as identified in the Guidelines. Thus, no further VMT analysis is required, and the Project is presumed to result in a less than significant VMT impact. As such, no mitigation measures are required to address VMT.



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## **Section 4C: VMT Analysis – Transportation Projects**

The intent of Threshold C 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 C and further evaluation is not required.

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## **Section 4D: Geometric Design Hazards Analysis**

Section 4D of the Guidelines requires that potential on-street hazards be reviewed for all projects. This analysis focuses on the off-site conditions affected by the Project.

The analysis involved the review of existing vehicle-vehicle, vehicle-bicycle, and vehicle-pedestrian interactions on transportation infrastructure adjacent to the Project Site and the potential impacts and hazards of the Project on those interactions based on the following factors in Threshold D:

- Bicycle, pedestrian, auto and public transit network and facilities surrounding the Project Site and crossing project driveways
- Relative bicycle, pedestrian, auto, and public transit activity levels
- Existing environment and roadway conditions, such as slopes, curves, connectivity, proximity to intersections, and barriers
- Safety of vehicles accessing the Project driveways
- Sight lines at the driveways and surrounding the site
- Safety of pedestrians and bicyclists when crossing Project driveways
- Proximity of incompatible uses that could cause a transportation hazard

### **DRIVEWAY DESIGN FEATURES**

Vehicular access to the Project Site would be provided via one right-turn-in and right-turn-out driveway on Sepulveda Boulevard and one right-turn-out only driveway on Venice Boulevard. Both driveways would utilize two existing curb cuts and would remove a third existing curb cut on Sepulveda Boulevard north of the remaining driveway. Pedestrian access to the Project would be provided via a separate entrance along Sepulveda Boulevard.

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The section of Sepulveda Boulevard along which one of the Project driveways is situated provides four travel lanes, two in each direction, and metered street parking on both sides of the street. The section of Venice Boulevard along which the other Project driveway is situated provides six travel lanes, three in each direction, and metered street parking on the north side of the street opposite the Project. Sidewalks are provided on Sepulveda Boulevard and Venice Boulevard adjacent to the Project Site, and no exceptional horizontal or vertical curvatures exist along this section of roadway that would create sight distance issues for Project traffic utilizing the proposed driveways. Furthermore, the Project would not affect the existing Class II bicycle lanes that are provided on Venice Boulevard adjacent to the Project Site, nor would it affect the proposed Class II bicycle lanes along Sepulveda Boulevard adjacent to the Project Site in *Culver City Bicycle & Pedestrian Action Plan*.

No unusual obstacles are presented in the Project design that would be considered hazardous to motorized vehicles, non-motorized vehicles, bicycles, or pedestrians. Further, the Project would keep one existing curb cut along each Project frontage and remove a third existing curb cut in order to consolidate vehicular access and minimize any new potential hazards to pedestrians, bicyclists, and motorists.

All driveways will be subject to review by the City, and the Project driveways would be designed to remain clear of hardscapes, vegetation, or signage that would impede sight lines.

### **Pedestrian, Bicycle, and Transit Activity**

Adequate sight distance would be provided at the Project driveways to ensure safety for all road users, including pedestrians and bicyclists.

Based on the trip generation estimates detailed in Table 5, the Project would generate fewer than two vehicles per minute at any driveway. Thus, pedestrians and bicyclists would have adequate gaps in vehicular traffic at the driveways to safely cross, and the Project is unlikely to result an increase in vehicle-pedestrian and vehicle-bicycle conflicts.

There are currently two bus stops in the vicinity of the Project Site: a northbound Sepulveda Boulevard & Venice Boulevard bus stop in front of the neighboring Carl's Jr. restaurant (3816

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Sepulveda Boulevard) and an eastbound Venice Boulevard & Sepulveda Boulevard bus stop in front of the neighboring Culver City Express Hand Car Wash and Detail (11166 Venice Boulevard). The Project is required to relocate both bus stops to be in front of the Project Site and upgrade the bus stops to include amenities as required by the City. The relocated bus stops will be designed in accordance with the bus stop standards of Culver City Bus and would not present any geometric design hazards that would affect the safety of all users accessing the Project Site.

### **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. The driveways are designed to intersect the public ROW at right angles to the extent possible, with adequate building setback to allow pedestrians and bicyclists to observe vehicles within the driveways.

### **Incompatible Uses**

The Project would be compatible with the surrounding commercial uses. Furthermore, no elements of the Project's uses or design would be considered incompatible.

### **Summary**

Based on the site plan review and design, 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.

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## ***Chapter 5***

### ***Supplemental Transportation Analysis***

This chapter summarizes the supplemental transportation analysis of the Project, including Project traffic, access, safety, and circulation, as well as the Project's effect on nearby pedestrian, bicycle, and transit facilities. This chapter also summarizes the evaluation of the Project's operational conditions, parking supply and requirements, and potential effects due to Project construction.

Section 5 of the Guidelines identifies the following supplemental transportation analyses for reviewing potential transportation deficiencies that may result from a development project:

- Traffic Operations
- Transit Operations
- Driveways
- Parking
- Curb Space Allocation
- Safety Analysis

The supplemental transportation analyses were reviewed in detail in Sections 5A-5F. In addition, a review of the construction activities of the Project is provided in Section 5G.

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## Section 5A Traffic Operations

This section assesses the ability of the circulation system to accommodate the addition of vehicular traffic generated by the Project and Related Projects.

### OPERATIONAL ANALYSIS METHODOLOGY

Intersection peak hour operations were evaluated for typical weekday morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) periods. A total of four 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 2021): 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 Year 2022.
- Cumulative with Project Conditions (Year 2045): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were occupied in the horizon year of the General Plan. In this analysis, the Project-generated traffic is added to Cumulative without Project Conditions in Year 2045.

### Operational Evaluation

In accordance with the Guidelines, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6<sup>th</sup> Edition* (Transportation Research Board, 2016) (HCM) methodology, which was implemented using Synchro software

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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. Table 6 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 intersections. The queue lengths were estimated using Synchro, which reports the 95<sup>th</sup> percentile queue length, in vehicles for each approach lane, which can be converted to linear feet by multiplying by 25 feet per vehicle. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

LOS and queuing worksheets for each scenario are provided in Appendix D.

## **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 D.

### **Existing with Project Conditions**

**Traffic Volumes.** The Project-only morning and afternoon peak hour traffic volumes, described in Chapter 3 and shown in Figure 14, were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 7. The resulting volumes are illustrated in Figure 15 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

**Intersection LOS.** Table 7 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 7, Sawtelle Boulevard & Venice Boulevard would operate at LOS F during both the morning and afternoon peak hours under Existing and Existing with Project Conditions. Sepulveda Boulevard & Venice Boulevard would operate at LOS F during the morning peak hour and LOS E during the afternoon peak hour under both Existing and Existing with Project Conditions. Sawtelle Boulevard & Southbound I-405 Freeway Ramp would operate at LOS E during the morning peak hour and LOS C during the afternoon peak hour under both Existing and

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Existing with Project Conditions. Sepulveda Boulevard & Northbound I-405 Freeway Ramp would operate at LOS C during both the morning and afternoon peak hours under Existing and Existing with Project Conditions.

### **Future with Project Conditions**

All future cumulative traffic growth (i.e., ambient and Related Project traffic growth) and transportation infrastructure improvements through Year 2022 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 14, were added to the Future without Project (Year 2022) morning and afternoon peak hour traffic volumes shown in Figure 10. The resulting volumes are illustrated in Figure 16 and represent Future with Project Conditions after development of the Project in Year 2022.

**Intersection LOS.** Table 8 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 8, Sawtelle Boulevard & Venice Boulevard would operate at LOS F during both the morning and afternoon peak hours under Future without and Future with Project Conditions. Sepulveda Boulevard & Venice Boulevard would operate at LOS F during the morning peak hour and LOS E during the afternoon peak hour under both Future without and Future with Project Conditions. Sawtelle Boulevard & Southbound I-405 Freeway Ramp would operate at LOS F during the morning peak hour and LOS C during the afternoon peak hour under both Future without and Future with Project Conditions. Sepulveda Boulevard & Northbound I-405 Freeway Ramp would operate at LOS C during both the morning and afternoon peak hours under Future without and Future with Project Conditions.



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## **Cumulative with Project Conditions**

All future cumulative traffic growth (i.e., ambient and Related Project traffic growth) and transportation infrastructure improvements through the General Plan horizon year of 2045 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 14, were added to the Cumulative without Project (Year 2045) morning and afternoon peak hour traffic volumes shown in Figure 11. The resulting volumes are illustrated in Figure 17 and represent Cumulative with Project Conditions after development of the Project in Year 2045.

**Intersection LOS.** Table 9 summarizes the results of the Cumulative without Project (Year 2045) and Cumulative with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 9, Sawtelle Boulevard & Venice Boulevard and Sepulveda Boulevard & Venice Boulevard would operate at LOS F during both the morning and afternoon peak hours under Cumulative without and Cumulative with Project Conditions. Sawtelle Boulevard & Southbound I-405 Freeway Ramp would operate at LOS F during the morning peak hour and LOS E during the afternoon peak hour under both Cumulative without and Cumulative with Project Conditions. Sepulveda Boulevard & Northbound I-405 Freeway Ramp would operate at LOS D during both the morning and afternoon peak hours under Cumulative without and Cumulative 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 95<sup>th</sup> percentile queue length, in feet, for each approach lane. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology. Detailed queuing analysis worksheets are provided in Appendix D.

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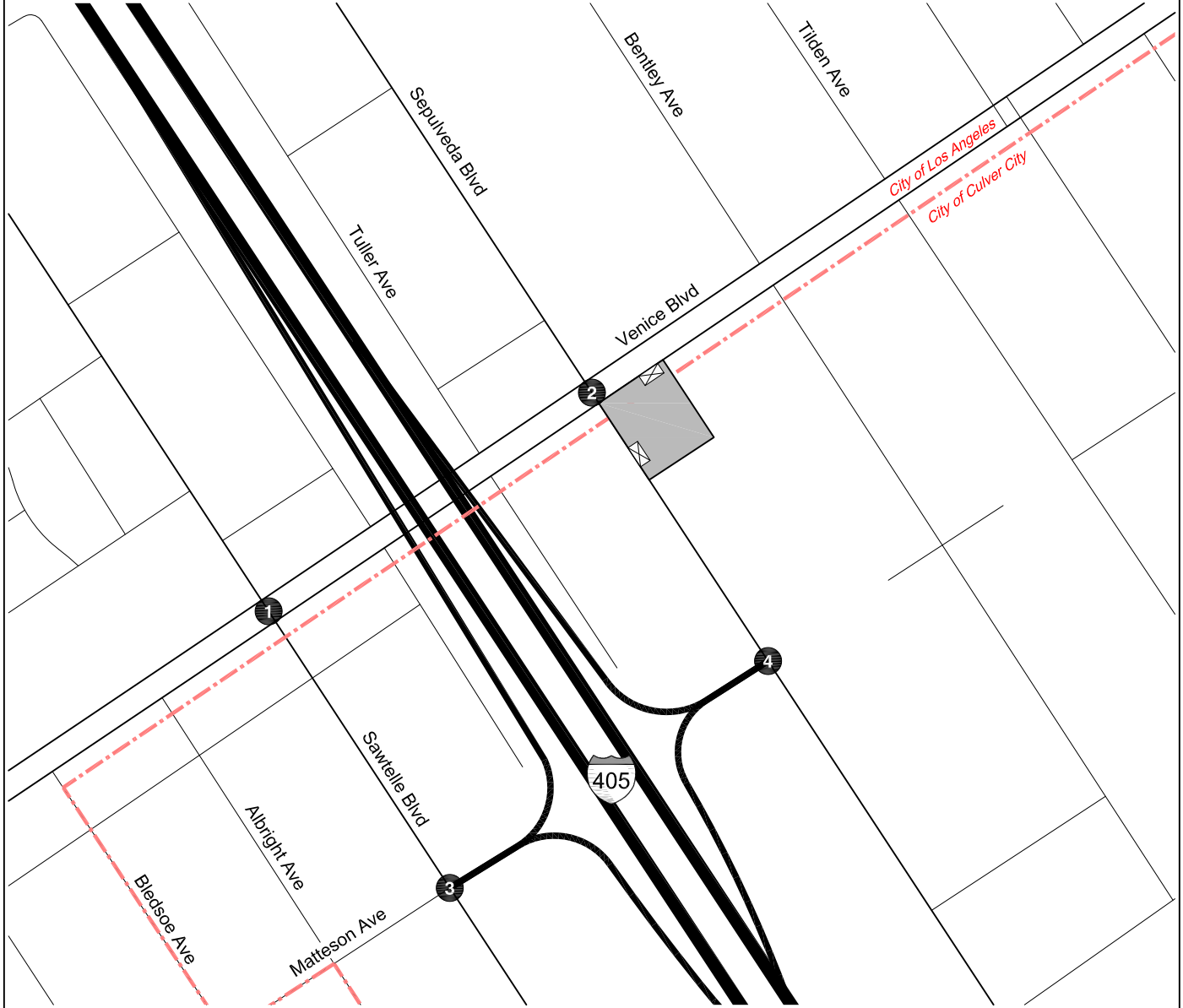
## **DRIVEWAY ANALYSIS**

Utilizing the same methodology for the intersection analyses, a driveway queuing analysis was conducted to determine whether the driveway and adjacent streets could accommodate vehicle queue lengths. The queue lengths were estimated using Synchro software, which reports the 95<sup>th</sup> percentile queue length, in feet, for each approach lane. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology. Detailed queuing analysis worksheets are provided in Appendix D.

## **RESIDENTIAL STREET CUT-THROUGH ANALYSIS**

A residential street cut-through analysis may be conducted to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the Circulation Element, which can be identified as cut-through trips generated by the Project and that can adversely affect the character and function of those streets. The Project is not projected to lead to significant trip diversion along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets. Should some Project trips be required to utilize neighborhood streets to orient toward destinations, the impacts would be negligible based on the thresholds established by the City. Therefore, no residential street cut-through analysis is deemed necessary, and no improvement measures to address residential neighborhood traffic are required.

<p>98(142) 498(1,159) 122(118)</p> <p>139(133) 1,060(950) 523(260)</p>	<p>125(182) 503(1,084) 199(181)</p> <p>207(198) 1,277(1,035) 310(252)</p>	<p>059(729) 915(516) 22(22)</p> <p>300(200) 23(48) 132(105)</p>	<p>533(1,386) 488(70)</p> <p>222(479) 37(54)</p>
<p>182(180) 900(907) 189(233)</p> <p>221(134) 715(370) 184</p>	<p>160(109) 775(858) 310(162)</p> <p>219(457) 1,245(1,141) 112(158)</p>	<p>16(2) 85(152) 19(16)</p> <p>611(531) 274(38) 9(6)</p>	<p>1,010(791) 470(171)</p>
1. Sawtelle Boulevard & Venice Boulevard	2. Sepulveda Boulevard & Venice Boulevard	3. Sawtelle Boulevard & Matteson Ave / I-405 SB Ramps	4. Sepulveda Boulevard & I-405 NB Ramps



**LEGEND**

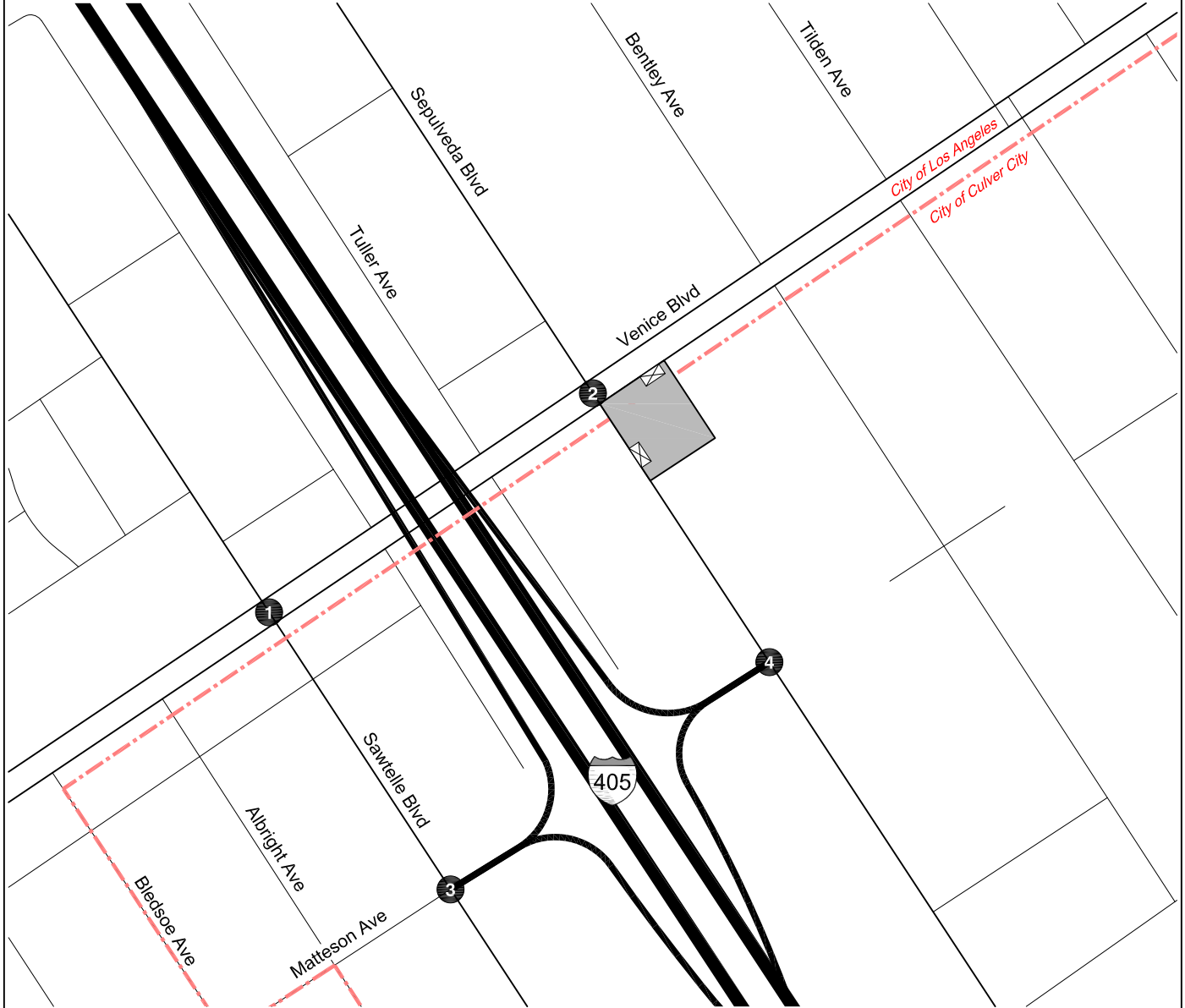
- Project Site
- # Analyzed Intersection
- City Boundary
- Project Driveway
- #(#) AM(PM) Peak Hour Traffic Volumes
- \* Negligible Volume



**EXISTING WITH PROJECT CONDITIONS (YEAR 2021)  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
15**

<p>99(143) 503(1,172) 123(119)</p> <p>140(134) 1,077(964) 528(262)</p>	<p>126(184) 519(1,103) 201(183)</p> <p>209(200) 1,292(1,046) 324(263)</p>	<p>959(1,139) 425(524) 22(22)</p> <p>304(203) 23(48) 159(128)</p>	<p>561(1,417) 494(73)</p> <p>225(485) 63(77)</p>
<p>184(182) 913(924) 192(238)</p> <p>225(137) 233(375) 186(111)</p>	<p>162(110) 786(872) 314(167)</p> <p>225(469) 1,261(1,158) 117(163)</p>	<p>16(2) 86(154) 19(16)</p> <p>9(6) 629(458) 731(841)</p>	<p>1,032(815) 488(191)</p>
1. Sawtelle Boulevard & Venice Boulevard	2. Sepulveda Boulevard & Venice Boulevard	3. Sawtelle Boulevard & Matteson Ave / I-405 SB Ramps	4. Sepulveda Boulevard & I-405 NB Ramps



**LEGEND**

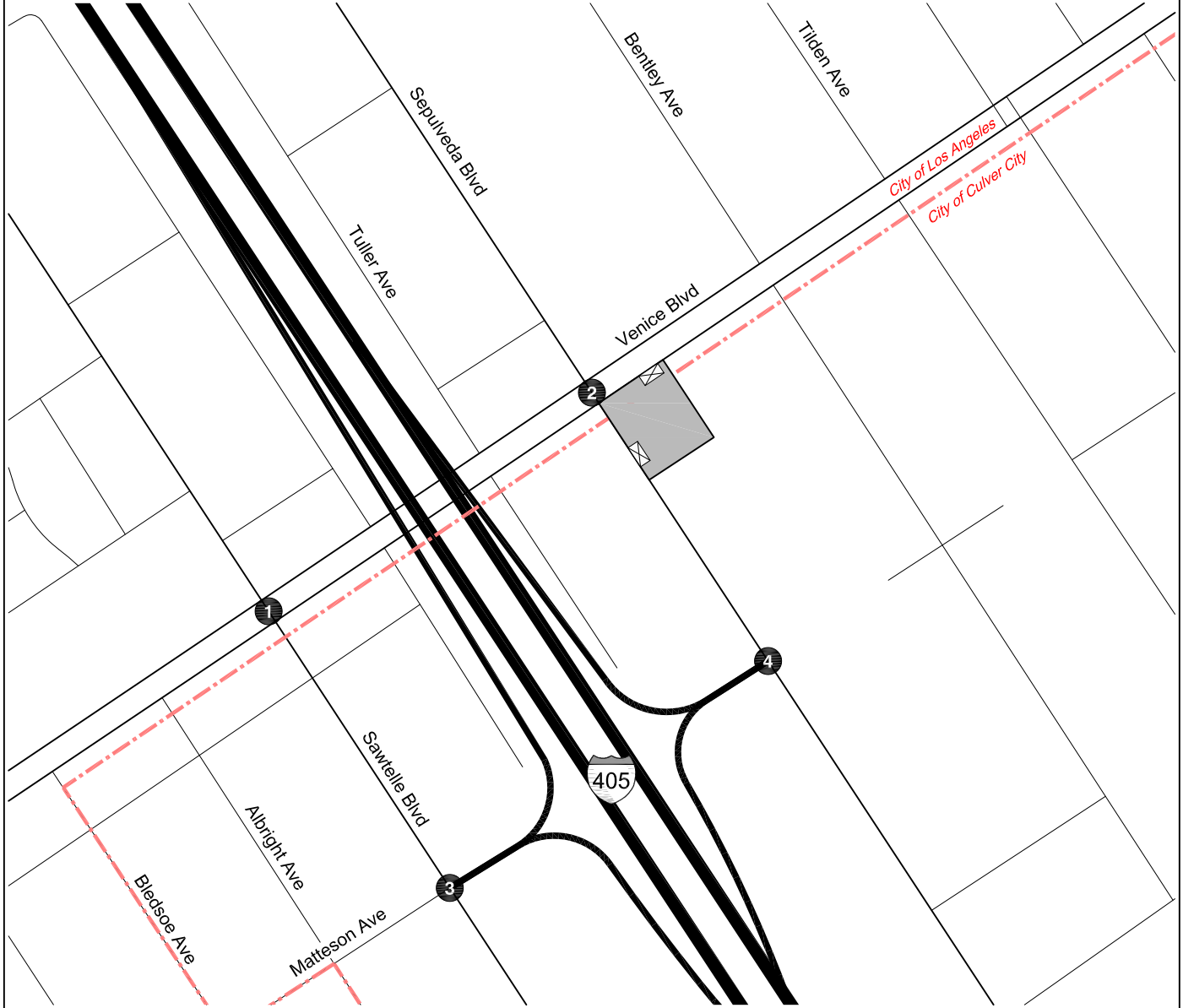
- Project Site
- Project Driveway
- # Analyzed Intersection
- City Boundary
- #(#) AM(PM) Peak Hour Traffic Volumes
- \* Negligible Volume



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

FIGURE  
16

1. Sawtelle Boulevard & Venice Boulevard	2. Sepulveda Boulevard & Venice Boulevard	3. Sawtelle Boulevard & Matteson Ave / I-405 SB Ramps	4. Sepulveda Boulevard & I-405 NB Ramps



**LEGEND**

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



**CUMULATIVE WITH PROJECT CONDITIONS (YEAR 2045)  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
17**

**TABLE 6  
LEVEL OF SERVICE DEFINITIONS FOR INTERSECTIONS**

Level of Service	Definition	Delay [a]
		Signalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	0.0 - 10.0
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	10.1 - 20.0
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	20.1 - 35.0
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.	35.1 - 55.0
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	55.1 - 80.0
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.	> 80.0

Notes:

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

[a] Measured in seconds.

**TABLE 7  
EXISTING WITH PROJECT CONDITIONS (YEAR 2021)  
INTERSECTION LEVELS OF SERVICE**

No	Intersection	Peak Hour	Existing		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Sawtelle Boulevard & Venice Boulevard	AM	80.3	F	81.8	F
		PM	87.7	F	89.7	F
2.	Sepulveda Boulevard & Venice Boulevard	AM	84.7	F	85.1	F
		PM	65.5	E	66.1	E
3.	Sawtelle Boulevard & SB I-405 Freeway Ramp	AM	76.1	E	79.1	E
		PM	28.8	C	29.3	C
4.	Sepulveda Boulevard & NB I-405 Freeway Ramp	AM	23.4	C	23.3	C
		PM	23.9	C	23.8	C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11 (HCM 6th Edition Methodology)

**TABLE 8  
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)  
INTERSECTION LEVELS OF SERVICE**

No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Sawtelle Boulevard & Venice Boulevard	AM	84.1	F	86.1	F
		PM	91.1	F	93.2	F
2.	Sepulveda Boulevard & Venice Boulevard	AM	88.2	F	88.7	F
		PM	70.0	E	71.0	E
3.	Sawtelle Boulevard & SB I-405 Freeway Ramp	AM	89.3	F	88.1	F
		PM	29.7	C	31.9	C
4.	Sepulveda Boulevard & NB I-405 Freeway Ramp	AM	26.6	C	26.6	C
		PM	24.7	C	24.6	C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11 (HCM 6th Edition Methodology)



**TABLE 9  
 CUMULATIVE WITH PROJECT CONDITIONS (YEAR 2045)  
 INTERSECTION LEVELS OF SERVICE**

No	Intersection	Peak Hour	Cumulative without Project Conditions		Cumulative with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Sawtelle Boulevard & Venice Boulevard	AM	169.5	F	172.3	F
		PM	169.9	F	174.0	F
2.	Sepulveda Boulevard & Venice Boulevard	AM	185.8	F	186.5	F
		PM	135.0	F	136.4	F
3.	Sawtelle Boulevard & SB I-405 Freeway Ramp	AM	158.6	F	156.8	F
		PM	62.0	E	70.7	E
4.	Sepulveda Boulevard & NB I-405 Freeway Ramp	AM	41.4	D	41.5	D
		PM	38.6	D	38.7	D

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 11 (HCM 6th Edition Methodology)

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## Section 5B Transit Operations

This section reviews the Project's potential effect on existing transit capacity of transit routes and stops that serve the Project area.

### TRAVEL DEMAND ANALYSIS

Although the Project (and other Related Projects) will cumulatively add transit ridership, as detailed in Table 2, the Project Site and the Study Area are served by multiple bus lines along Sepulveda Boulevard and Venice Boulevard. As shown in Tables 3A and 3B, the total residual capacity of the bus and rail lines within 0.25 miles walking distance of the Project Site during the morning and afternoon peak hours is approximately 781 and 618 transit trips, respectively.

As shown in Table 5, the Project trips expected to use transit during the morning peak hour trip are projected at six vehicle-transit trips, and the Project trips expected to use transit during afternoon peak hour trips are projected at 12 vehicle-transit trips. Based on the average vehicle occupancy factor of 1.55 for all trip purposes in Los Angeles County, as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (Southern California Association of Governments, March 2016), the total vehicle-transit trips correspond to approximately 10 person-transit trips in the morning and 19 person-transit trips in the afternoon peak hours. As such, the adjacent transit capacity can easily accommodate the intensification of transit usage attributable to the Project without significantly absorbing excess capacity.

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## **Section 5C**

### **Driveways**

This section provides a qualitative evaluation of the Project vehicle, pedestrian, and bicycle access per Section 5C of the Guidelines.

#### **VEHICLES**

Vehicular access to the Project Site would be provided via one right-turn-in and right-turn-out driveway on Sepulveda Boulevard and one right-turn-out only driveway on Venice Boulevard. Both driveways would utilize existing curb cuts and remove a third existing curb cut to consolidate vehicular access. Pedestrian and bicycle access to the Project would be provided via a separate entrance along Sepulveda Boulevard. The driveways would be designed to safely accommodate all anticipated vehicle types generated by the Project. Adequate internal circulation and queuing area would be provided on-site to limit vehicle spillover into the public ROW.

#### **PEDESTRIANS AND BICYCLES**

Pedestrian and bicycle access to the Project Site would be provided separately from the vehicular driveways via a separate entrance along Sepulveda Boulevard to reduce potential vehicle-pedestrian and vehicle-bicycle conflicts. As discussed above, an existing curb cut on Sepulveda Boulevard north of the remaining driveway would be removed to further reduce potential conflict points.

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## **Section 5D**

### **Parking**

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

#### **PARKING SUPPLY**

The Project would provide vehicle and bicycle parking spaces on the ground level of the Project Site.

There is no existing on-street parking along Sepulveda Boulevard or Venice Boulevard adjacent to the Project Site.

#### **VEHICLE PARKING CODE REQUIREMENTS**

The parking requirement of the Project was calculated by applying the following parking rates from Section 17.320.020 of the CCMC:

- Retail and personal service uses, general – 1 space per 350 sf

Based on the parking ratios detailed above and shown in Table 10, the Project would require a total of 11 parking spaces.

#### **BICYCLE PARKING CODE REQUIREMENTS**

CCMC Section 17.320.045 details the bicycle parking requirements for new developments. The bicycle parking requirement of the Project is based on the following rates:

- 
- Retail Commercial Uses – minimum of 5% of required vehicular spaces

Based on the bicycle parking ratios detailed above and shown in Table 11, the Project would require a minimum of one bicycle parking space.

**TABLE 10  
VEHICLE PARKING CODE REQUIREMENTS**

<b>Land Use</b>	<b>Size</b>	<b>Code Parking Rate</b>	<b>Parking Required</b>
Retail and personal services, general	3,802 sf	1.0 space(s) / 350 sf	11 spaces
<b>Total Parking Required</b>			<b>11 spaces</b>

Notes:

sf: square feet

Parking requirements per City of Culver City Municipal Code Chapter 17.320.020.

**TABLE 11  
BICYCLE PARKING CODE REQUIREMENTS**

<b>Land Use</b>	<b>Size</b>	<b>Code Bicycle Parking Rate</b>	<b>Requirement</b>
Retail	3,802 sf	5% of 11 vehicle parking spaces	1 sp
<b>Total Bicycle Parking Requirements</b>			1 sp

Notes:

sf: square feet

sp: bicycle parking spaces

[a] Bicycle parking requirements per City of Culver City Municipal Code Chapter 17.320. Retail uses must provide 5% of the total required vehicles spaces for bicycle parking.

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## **Section 5E**

### **Curb Space Allocation**

This section details our review of the management of curb space adjacent to the Project Site between passenger and commercial loading and parking areas, bus stop facilities, and bicycle and other alternative transportation mode parking while maintaining visibility at driveways.

#### **ON-STREET PARKING**

As previously detailed, there is no existing on-street parking along Sepulveda Boulevard or Venice Boulevard adjacent to the Project Site. Two existing curb cuts would be used to avoid disrupting existing visibility for vehicles exiting the Project Site.

#### **PASSENGER AND COMMERCIAL LOADING**

All passenger and commercial loading would be provided on-site and would not affect the adjacent curb space adjacent to the Project Site.

#### **TRANSIT FACILITIES**

As noted above, there are currently two bus stops in the vicinity of the Project Site: a northbound Sepulveda Boulevard & Venice Boulevard bus stop in front of the neighboring Carl's Jr. restaurant (3816 Sepulveda Boulevard) and an eastbound Venice Boulevard & Sepulveda Boulevard bus stop in front of the neighboring Culver City Express Hand Car Wash and Detail (11166 Venice Boulevard). The Project is required to relocate both bus stops to be in front of the Project Site and upgrade the bus stops to include amenities as required by the City. The relocated bus stops will be designed in accordance with Metro and/or Culver City Bus bus stop standards and would not affect visibility at the Project driveways.



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## **BICYCLE PARKING FACILITIES**

Class II bike lanes are provided on Venice Boulevard adjacent to the Project Site, and new Class II bicycle lanes have been recommended for installation on Sepulveda Boulevard south of Venice Boulevard adjacent to the Project Site. However, the Project does not propose the installation of bicycle parking within the public ROW. Therefore, no bicycle parking facilities are anticipated to affect visibility at the Project driveways.

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## **Section 5F**

### **Safety Analysis**

This section details the Project's potential effects on corridors within the HIN identified in *Culver City Bicycle & Pedestrian Action Plan*, as well as the Project's proximity to high-risk corridors and intersections where pedestrian and bicycle involved collisions have been recorded by the City as part of the LRSP, which is currently under development.

#### **VEHICULAR SAFETY**

The Project Site is located adjacent to Sepulveda Boulevard, which has been identified as part of the HIN in *Culver City Bicycle & Pedestrian Action Plan*. However, as previously discussed, the driveways on Sepulveda Boulevard and Venice Boulevard would utilize two existing curb cuts and be designed in accordance with City standards to maximize sight lines and limit potential vehicle-vehicle, vehicle-pedestrian, and vehicle-bicycle conflicts. Further, the vehicular access to the Project Site would be provided via one right-turn-in and right-turn-out driveway on Sepulveda Boulevard and one right-turn-out only driveway on Venice Boulevard. The turning restrictions serve to further protect from vehicle collisions adjacent to the Project Site.

#### **PEDESTRIAN AND BICYCLE SAFETY**

As previously detailed, Sepulveda Boulevard is identified as part of the HIN. However, the adjacent Project area along Sepulveda Boulevard and Venice Boulevard have not been identified in the LRSP as an area with high levels of collisions involving pedestrians and bicyclists. Nevertheless, the Project would utilize two existing curb cuts, remove a third existing curb cut to reduce potential conflict points, and provide a separate pedestrian and bicycle entrance along Sepulveda Boulevard to increase pedestrian and bicycle safety.

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## **Section 5G**

### **Construction Impact Analysis**

This section summarizes the construction schedule and construction activities associated with the Project. The quantities for trucks and worker activity are preliminary estimates and these values may change once the construction program is finalized.

#### **PROPOSED CONSTRUCTION SCHEDULE**

The Project is anticipated to be constructed over an approximately eight-month period, with completion anticipated in Year 2022. Peak haul truck activity occurs during the Site Work phase and peak worker activity occurs during the Building phase. These two phases of construction were studied in greater detail.

#### **SITE WORK PHASE**

With the implementation of the Construction Management Plan, which is described in more detail below, it is anticipated that almost all haul truck activity to and from the Project Site would occur outside of the morning and afternoon peak hours. In addition, as discussed in more detail in the following section, worker trips to and from the Project Site would also occur outside of the peak hours. Therefore, no peak hour construction traffic constraints are expected during the Site Work phase of construction.

Haul trucks would travel on approved truck routes designated within the City and take the most direct route to the appropriate freeway ramps. The haul route will be reviewed and approved by the City.

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Based on preliminary projections compiled for the Project, a conservative maximum of 5,000 cubic yards (CY) of material may be excavated and removed from the Project Site. It is anticipated that a maximum of two truckloads per workday, based on an anticipated haul truck capacity of 10 to 16 CY, would be required during this phase. Thus, up to four daily truck trips (two inbound, two outbound) are forecasted to occur during the Site Work phase, with no more than four trips per hour (two inbound, two outbound) over a typical six-hour off-peak hauling period.

In addition, a maximum of 20 daily construction worker trips are anticipated during all phases of construction, including the Site Work phase. The 20 construction worker trips would result in 40 one-way vehicle trips (20 inbound, 20 outbound) to and from the Project Site on a daily basis. It is anticipated that the majority of workers would arrive on-site prior to the weekday morning commuter peak hour and leave prior to or after the afternoon commuter peak hour. Construction-related peak hour trip generation from trucks and workers would be substantially less than the Project peak hour trip generation estimates in Table 5. Therefore, no peak hour construction traffic constraints are expected during the Site Work phase of construction.

## **BUILDING PHASE**

During the Building phase, parking for construction workers would be provided on-site. 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. Construction materials storage and truck staging would also be contained on-site.

The traffic constraints associated with construction workers depends on the number of construction 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.

As discussed above, according to preliminary projections prepared for the Project, the maximum number of construction workers employed during all phases of construction, including the Building

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phase, would be 20 workers per day. The estimated number of daily vehicle trips associated with the construction workers is approximately 40 one-way trips (20 inbound and 20 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. As such, the Building phase of Project construction is not expected to cause traffic constraints at any of the study intersections.

## **POTENTIAL CONSTRAINTS ON ACCESS, TRANSIT, AND PARKING**

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.) have been incorporated into the Construction Management Plan.

### **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. The adjacent curb lanes on Sepulveda Boulevard and Venice Boulevard may be temporarily closed throughout the construction period, however, two-way operations would be maintained. Temporary traffic controls would be provided to direct traffic around any closures as required in the Construction Management Plan and emergency access would not be impeded.

The use of the public ROW would require temporary re-routing of pedestrian and bicycle traffic. The Construction Management Plan would include measures to ensure pedestrian and bicycle safety along the affected sidewalks, bicycle facilities, and temporary walkways (e.g., use of light-duty barriers and cones, use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering).

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## **Transit**

There are currently two bus stops in the vicinity of the Project Site: a northbound Sepulveda Boulevard & Venice Boulevard bus stop in front of the neighboring Carl's Jr. restaurant (3816 Sepulveda Boulevard) and an eastbound Venice Boulevard & Sepulveda Boulevard bus stop in front of the neighboring Culver City Express Hand Car Wash and Detail (11166 Venice Boulevard). The Project is required to relocate both bus stops to be in front of the Project Site and upgrade the bus stops to include amenities as required by the City. The relocation of the bus stops is anticipated to take place after construction of the Project and, thus, Project construction itself will have no impact on existing transit stops.

## **Parking**

There is no street parking adjacent to the Project Site along Sepulveda Boulevard or Venice Boulevard. Thus, construction activities would not result in the potential temporary loss of any 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.
- Temporary pedestrian, bicycle, and vehicular traffic controls during all construction activities on Sepulveda Boulevard and Venice Boulevard to ensure traffic safety on the public ROW. These controls shall include, but not be limited to, flag people trained in pedestrian and bicycle safety.

- 
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
  - Spacing of trucks so as to discourage a convoy effect.
  - Containment of construction activity within the Project Site boundaries to the extent feasible.
  - Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate.
  - Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours.
  - Maintenance of a log, available on the job site at all times, documenting the dates of hauling and the number of trips (i.e., trucks) per day.
  - Identification of a construction manager and provision of a telephone number for any inquiries or complaints from residents regarding construction activities. The telephone number shall be posted at the site readily visible to any interested party during site preparation, grading, and construction.

It is likely that construction management plans would also be submitted for approval to the City by the Related Projects prior to the start of construction activities. As part of the City's established review process of construction management plans, potential overlapping construction activities and proposed haul routes would be reviewed to minimize the impacts of cumulative construction activities on any particular roadway.

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## **Chapter 6**

### **Summary and Conclusions**

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

- The Project is located at 3800 Sepulveda Boulevard.
- The Project proposes the development of a 3,802 sf cannabis dispensary. The Project would replace an existing vacant lot. Full buildout of the Project is anticipated in Year 2022.
- The Project is estimated to generate 34 net new morning peak hour trips (19 inbound trips, 15 outbound trips) and 71 net new afternoon peak hour trips (36 inbound trips, 35 outbound trips).
- The Project is consistent with the City programs, plans, ordinances, and policies and would not result in geometric design hazard impacts.
- The Project is located within 0.50 miles of the Sepulveda Boulevard & Venice Boulevard intersection, a key TPA as identified in the Guidelines, and, thus, would not meet the screening thresholds for further VMT analysis. Therefore, the Project is not anticipated to result in a significant VMT impact and 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 Project driveways does not introduce safety hazards for pedestrians, bicyclists, or motorists.
- The Project will incorporate pedestrian and bicycle-friendly designs, such as a bicycle parking and improved sidewalks.
- All construction activities would occur outside of the commuter morning and afternoon peak hours to the extent feasible and will not result in significant traffic impacts. A Construction Management Plan will ensure that construction impacts are less than significant.
- The Project's proposed parking supply would satisfy the CCMC vehicle and bicycle parking requirements.



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## References

California Environmental Quality Act (CEQA) Guidelines, California Code of Regulations, Title 14, Section 15000 and following.

*City of Culver City Complete Streets Policy*, City of Culver City, Adopted January 13, 2020.

*City of Culver City VMT Calculator Version 0.9*, June 2020.

*Culver City Bicycle & Pedestrian Action Plan*, Culver City Public Works Department, June 2020.

*Culver City Bicycle and Pedestrian Master Plan*, Alta Planning and Design, November 2010.

*Culver City General Plan*, City of Culver City, May 1995.

*Culver City General Plan Circulation Element*, City of Culver City, adopted May 24, 2004.

*Culver City General Plan Land Use Element*, City of Culver City, adopted May 24, 2004.

*Culver City Municipal Code*, City of Culver City.

*Culver City Residential Parkway Guidelines*, City of Culver City, 2016.

*Culver City Transportation Study Criteria and Guidelines*, Culver City Public Works Department, July 2020.

*Highway Capacity Manual, 6<sup>th</sup> Edition*, Transportation Research Board, 2016.

*Multi-Family Neighborhood Residential Design Guidelines - Gateway Adjacent Neighborhood*, City of Culver City, July 13, 2011.

*Multi-Family Neighborhood Residential Design Guidelines - Gateway Neighborhood*, City of Culver City, Adopted March 24, 2010.

*Neighborhood Traffic Management Program (NTMP) Procedures Manual*, City of Culver City, November 22, 2004.

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

*Short-Range Transit Plan*, Culver City Bus, FY 2019-2020.

*State of California Senate Bill 743*, Steinberg, 2013.

*Trip Generation Manual, 10<sup>th</sup> Edition*, Institute of Transportation Engineers, 2017.

***Appendix A***

***Memorandum of Understanding***

# Memorandum of Understanding for Transportation Study

This Memorandum of Understanding (MOU) acknowledges and agrees to all the City of Culver City requirements and fees for the review of a transportation study for the following project.

Date Submitted: \_\_\_\_\_ MOU Version # 2  
 Project Name: TGS CC Ventures, LLC dba Beyond/Hello  
 Project Address: 3800 Sepulveda Boulevard, Culver City, CA 90230  
 Project Description: The Project proposes a 3,802 sf cannabis dispensary with vehicular access via existing curb cuts on Sepulveda Blvd and Venice Blvd (egress only).

Land Use	Gross Floor Area (sq. ft.) <i>Defined per latest ITE publication</i>	Residential Units (#)
Cannabis Dispensary	3,802 sf	

Project Horizon Year: 2022 Ambient Growth Rate (% per year): 1.0  
 Directional Distribution (%): N: 25% S: 25% E: 25% W: 25%

Trip Generation Rates: Show AM, PM and daily trip generation rates for each land use and attach total daily trips generation calculations. Indicate ITE Latest Edition/Other ITE 10th Ed

Land Use	ITE Code#	AM Trips		PM Trips		Daily Totals	
		In	Out	In	Out	In	Out
See Table 2							

Study Intersections: Show all study intersections, intersections subject to capacity analysis credit for advanced traffic signal control synchronization, whether intersections are signalized or non-signalized, and use the same numbering system for all lists of intersections and figures in the study.

No.	Intersection	Signalized/Non-Signalized	Jurisdiction
	See Table 3		

Residential Streets: Show all residential streets to be studied.

No.	Street Name	Limits	Jurisdiction
	N/A		

**Trip Credits:** Indicate trip credits to be requested (subject to City approval)

	Trip Credits	Yes/No
Existing Uses		N
Pass-By Trips		N
Internal Trip Capture		N
Transit-Oriented Development (TOD)	15%	Y
Transportation Demand Management (TDM)		N

**Related Projects:** Before the start of any proposed project analysis, consultants shall:

1. Obtain a list of related projects from the Culver City Current Planning Division and other affected jurisdictions.
2. Prepare a draft list of "related projects specific to the proposed project."
3. Obtain written approval from the City of the "related projects specific to the proposed project."

**Maps:** The following maps shall be attached to the MOU:

1. A map showing the study intersections and street segments to be analyzed, including City limit lines where applicable.
2. A map showing the project's trip distribution percentages for each land use (inbound and outbound) on the area's road network.
3. A map showing the project's trip assignments at the study intersections and project driveways, as well as road segments when applicable.
4. A site plan of the project showing property lines, alleys, project's driveways and nearby driveways and intersections on both sides of the street including dimensions.

**Proposed Mitigation and Transportation Improvements:** Any proposed transportation improvement(s) or mitigation measure(s) shall be listed and accompanied by plans of the existing and proposed improvements, including city limit lines and existing and proposed property lines. The City may initially accept conceptual plans to be included in the Transportation Study. Detailed design of such improvements will be part of the project's plans submittals.

**Post-Occupancy Traffic Counts:** By signing below, the Property Owner/ Developer/Applicant hereby agrees to pay for and submit to the City a post-occupancy traffic count analysis of the development to the satisfaction of the City. The analysis shall determine the amount of actual traffic (motor vehicle, bicycle, and pedestrian) generated by the development compared to the ITE trip generation rates. The analysis shall include a traffic count of all onsite driveways taken upon reaching eighty-five percent (85%) occupancy of the total building gross floor area or within one (1) year of the issuance of the first Temporary Certificate of Occupancy (TCO), as determined by the City. The data shall be used to confirm the findings in the approved study and not result in any additional traffic mitigation measures and/or conditions of approval on the subject project.

**Fees:** Payment of a fee to the City's PWD for the City's processing of the MOU shall be required before the City approves the MOU. Payment for review of the Transportation Study shall be paid before the City's PWD completes its review of the Transportation Study. Said fees shall be per the most recent Fee Schedule as approved by the City Council.


**Applicant Information:**

	Property Owner/Applicant	Developer/Applicant	Traffic Consultant
Name	Andrew Kaplan	Trent Woloveck	Lauren Mullarkey-Williams
Title			Associate
Company	PV Culver City, LLC	Jushi Holdings, Inc.	Gibson Transportation Consulting, Inc.
Street Address			555 W. 5th Street #3375
City, State, Zip			
Office	(858) 625-0100	(614) 271-4349	(213) 683-0088
Cell			
Fax			
Email	akaplan@pacventures.com	trent@jushico.com	lmullarkey-williams@gibsontrans.com

**Public Agency Information:** If any of the intersection(s) to be studied as part of this study are located within the City of Los Angeles, the unincorporated areas of Los Angeles County and/or impact any other public agency (i.e., Caltrans), then this MOU shall also be approved by the reviewing staff representative from each agency:

	City of Los Angeles	County of Los Angeles	Other Public Agency
Name			
Title			
Company			
Street Address			
City, State, Zip			
Office			
Cell			
Fax			
Email			

**Signatures/Expiration:** This MOU shall become valid as of the date of the City's signature and expire one year thereafter. If the administrative draft of the study has not been filed with the City by the expiration date, the MOU shall expire and a new MOU filing, fee, review, and approval process shall be required.

Approved By:  Date: 9/22/2021

Property Owner/Applicant \_\_\_\_\_ Date: 9/27/21  
 Traffic Consultant Lauren Mullarkey-Williams DocuSigned by: \_\_\_\_\_ Date: 9/23/21  
 Developer/Applicant Trent Woloveck \_\_\_\_\_  
 City of Culver City 1E14023B593242B... \_\_\_\_\_ Date: 9/30/21

**TABLE 1  
CULVER CITY TRANSPORTATION STUDY SCREENING REVIEW**

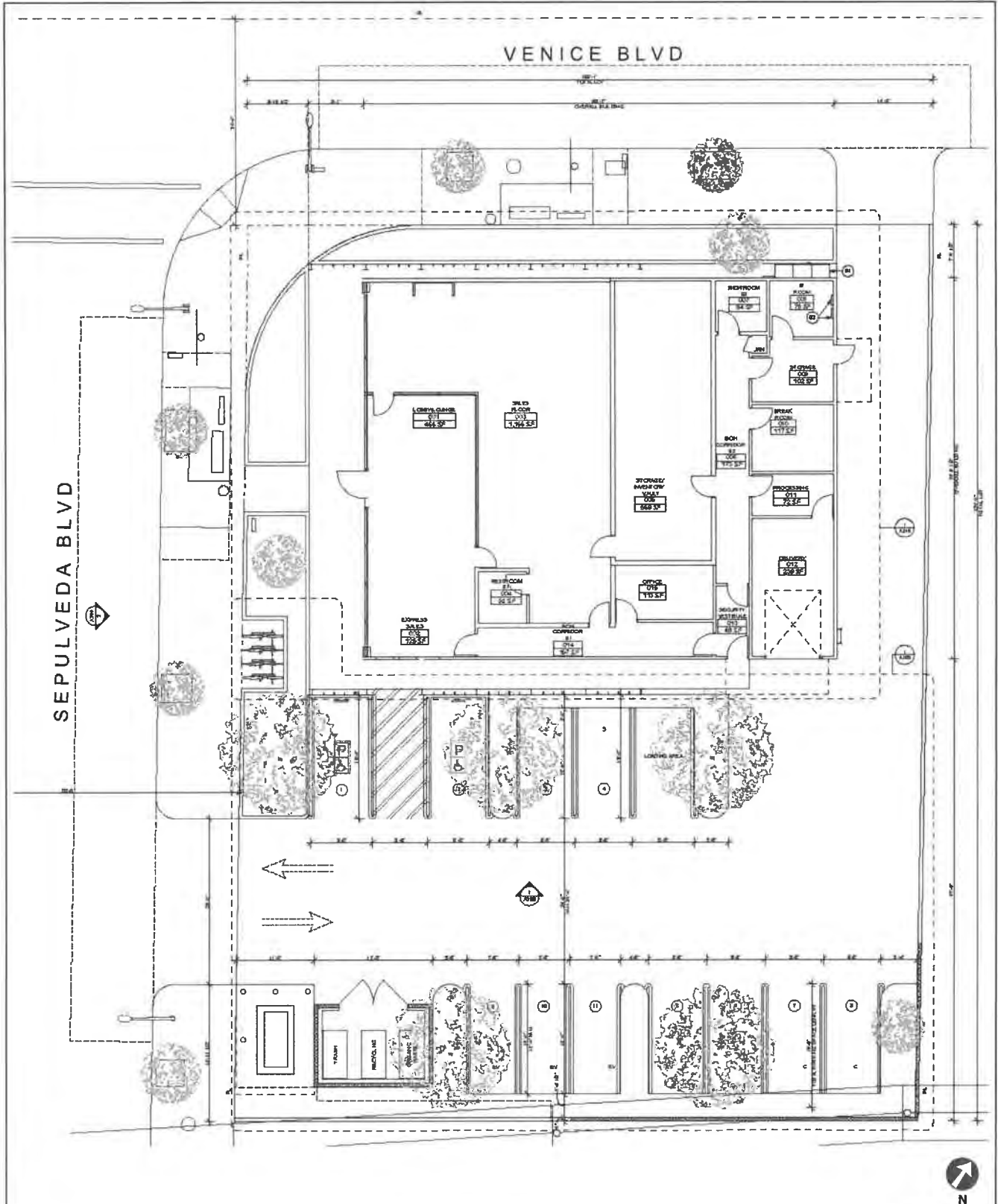
Analysis [a]	Required?	Analysis to be Provided in Transportation Study
<b>Transportation Study Contents</b>		
Site Plan Review	Yes	A site plan will be provided which provides existing and proposed on-site and off-site Project details and improvements as specified in the Traffic Study Guidelines.
Existing Transportation Network Review	Yes	<p>The existing transportation network review will establish the bicycle, pedestrian, transit, and auto traffic conditions in which the project is proposed, which shall be illustrated in the following maps:</p> <ul style="list-style-type: none"> <li>▪ Study Area Circulation Map</li> <li>▪ Traffic Routes Map</li> <li>▪ Base Year Traffic Volumes Map</li> <li>▪ Project Trip Generation and Future Traffic Volumes Map</li> <li>▪ Site Vicinity Map</li> <li>▪ Lane Configurations Map</li> </ul>
Existing Transit Network Review	Yes	<p>For transit analysis, the study will provide a visual analysis with recorded observations conducted on a weekday during the extended PM peak period (3-7 PM) for all transit stops/stations within a quarter mile of the project site, including:</p> <ul style="list-style-type: none"> <li>▪ Photo(s) showing the conditions of the existing transit stop(s) / station(s);</li> <li>▪ Confirmation of transit features listed in the Project Description and Existing Transportation Network Review</li> <li>▪ Weather conditions on the day of observation; and</li> <li>▪ Any existing operational conflicts or hazards to transit operations in the study area, especially along travel lanes where transit vehicles operate and at transit stop/station locations</li> </ul>
<b>CEQA Transportation Analysis and Mitigations</b>		
Programs, Plans, Ordinances, and Policies	Yes	The Transportation study will review the City's programs, plans, ordinances and policies addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as specified in Table 1 of the Culver City Transportation Study Criteria and Guidelines.
VMT - Land Use Projects	No	The proposed development project does not meet the screening thresholds for a VMT analysis. The Project is located adjacent to the Sepulveda Boulevard & Venice Boulevard Intersection identified as a key Transit Priority Area. Additionally, the Project proposes local serving retail uses of less than 50,000 sf. The study will discuss the VMT screening thresholds and the Project's consistency with the guidelines.
VMT - Transportation Projects	No	The proposed development is not considered a "Transportation Project" and therefore, it is not conflicting or inconsistent with CEQA Guideline Section 15064.3(b)(2).
Geometric Design Hazards	Yes	The study will provide a review of potentially hazardous conditions due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., oversized vehicles)

**TABLE 1 (CONTINUED)**  
**CULVER CITY TRANSPORTATION STUDY SCREENING REVIEW**

Analysis [a]	Required?	Analysis to be Provided in Transportation Study
<b>Supplemental Transportation Analysis Requirements</b>		
Traffic Operations	Yes	<p>The study will assess the ability of the circulation system to accommodate extra vehicular traffic generated by the related projects and the subject project, including:</p> <ul style="list-style-type: none"> <li>• Intersection LOS and queuing including trip generation, distribution under Existing, Existing with Project, Future without Project, and Future with Project Conditions per all scenarios contained in the City's Transportation Study Criteria and Guidelines</li> <li>• Driveway LOS and queuing including potential vehicular conflicts and motorists' visibility at project driveways, potential conflicts with pedestrians and bicyclists, and the ability of left- and right-turn lanes to accommodate additional project generated traffic</li> <li>• Project improvements associated with any adverse effects on intersection LOS, queuing, public parking, safety, etc.</li> <li>• Ability to conduct loading operations on the site and maneuver into parking stalls</li> </ul>
Pedestrian and Bicycle Facilities	Yes	<p>The study will review existing and proposed pedestrian and bicycle facilities, as well as any improvements that may be offered by the project to encourage walking and cycling to/from the site.</p>
Transit Operations	Yes	<p>The study will identify regional and local fixed-route transit operators providing service to the project and obtain relevant ridership data. The study will document potential project trip impact on transit demand and capacity for routes servicing the project.</p>
Driveways	Yes	<p>The study will provide a review of the Project driveways and consult with the City Mobility &amp; Traffic Engineering and Current Planning Divisions to determine if vehicle access is limited on certain streets where the City is focusing on efforts to enhance the pedestrian-oriented environment. A pedestrian and bicyclist access assessment would also be included to ensure the project avoids unsafe conflicts between pedestrians, cyclists, and autos.</p>
Parking	Yes	<p>The study will review the on-street parking conditions near the Project Site and ensure they are compliant with the PWD's guidelines.</p>
Curb Space Allocation	Yes	<p>The study will review the proposed curb space allocation to ensure that the curb space is managed appropriately between passenger and commercial loading and parking, bus stop facilities, and bike and other alternative transportation mode parking while maintaining visibility at driveways.</p>
Safety Analysis	Yes	<p>The Project is located on the high injury network (HIN) (Venice Boulevard and Sepulveda Boulevard), as identified in the Local Road Safety Plan (LRSP) or other analysis. The study will evaluate the adverse effect of the project and associated measures to enhance safety conditions. If it is determined that the project would have an adverse effect on a HIN corridor including intersections and road segments, the applicant shall work with the City's PWD to improve roadway safety at impacted locations for all users, including the design and construction of engineering measures and possibly safety education measures. The applicant shall also work with the City to confirm that the project does not inhibit future implementation of projects identified by the City in the LRSP.</p> <p>The LRSP will also be reviewed to determine if the project is located near a hot spot of collisions that involve people walking and bicycling. If this is the case, the applicant shall demonstrate how project features will not worsen the issue per the LRSP.</p>

**Notes:**

[a] Based on *Culver City Transportation Study Criteria and Guidelines*, City of Culver City, June 2020.



Source: Relativity Architects. July, 2021.



PROJECT SITE PLAN

FIGURE 1





PROJECT SITE LOCATION

FIGURE  
2

**TABLE 2  
PROJECT TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour [a]			Afternoon Peak Hour [a]		
				In	Out	Total	In	Out	Total
Marijuana Dispensary	882	per 1,000 sf	252.7	56%	44%	10.44	50%	50%	21.83
TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<b>Proposed Project</b>									
Marijuana Dispensary	882	3,802 ksf	961 (144)	22 (3)	18 (3)	40 (6)	42 (6)	41 (6)	83 (12)
<b>TOTAL - PROJECT TRIPS</b>			<b>817</b>	<b>19</b>	<b>15</b>	<b>34</b>	<b>36</b>	<b>35</b>	<b>71</b>

**Notes:**

ksf: 1,000 square feet

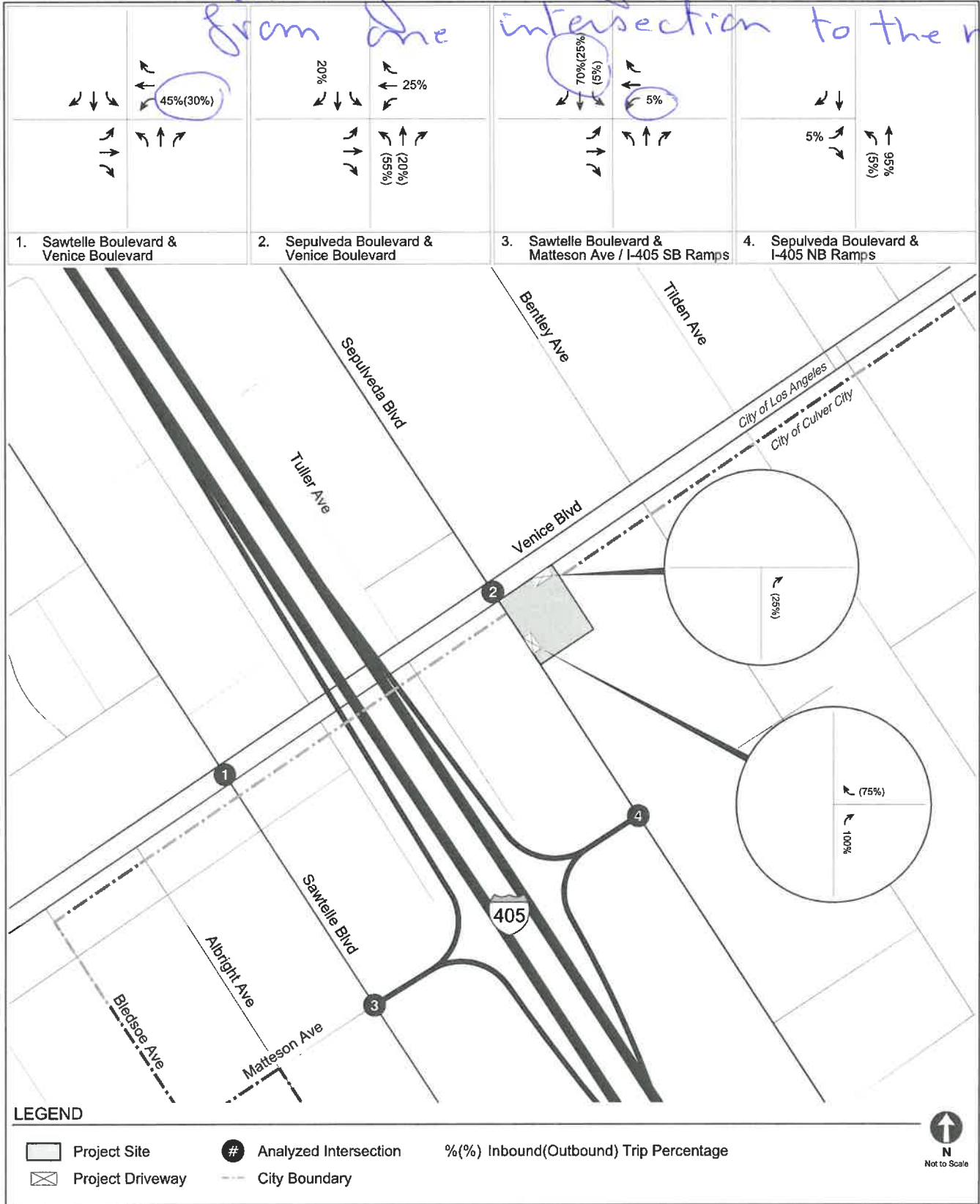
[a] Source: *Trip Generation, 10th Edition*, Institute of Transportation Engineers, 2017.

[b] The Project Site is located adjacent to the intersection of Sepulveda Boulevard & Venice Boulevard which is identified as a key Transit Priority Area, therefore a 15% adjustment was applied to account for transit/walk-in trips.

**TABLE 3  
STUDY INTERSECTIONS**

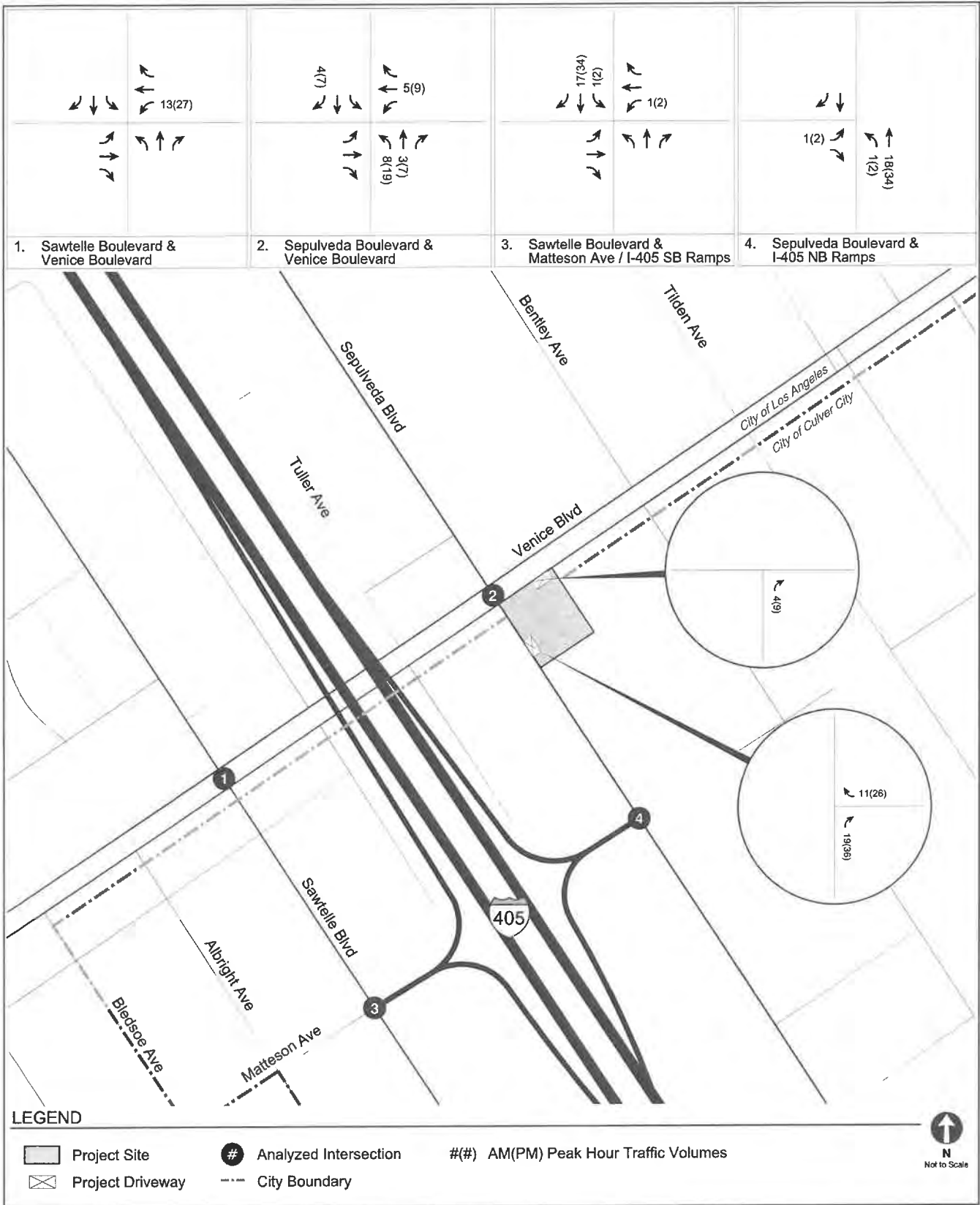
No	North / South Street	East / West Street	Control Type	Jurisdiction
1.	Sawtelle Boulevard	Venice Boulevard	Signalized	Culver City / Los Angeles
2.	Sepulveda Boulevard	Venice Boulevard	Signalized	Culver City / Los Angeles
3.	Sawtelle Boulevard	SB I-405 Freeway Ramp	Signalized	Culver City / Caltrans
4.	Sepulveda Boulevard	NB I-405 Freeway Ramp	Signalized	Culver City / Caltrans

Please double check the distribution in traveling to and from the site and from one intersection to the next



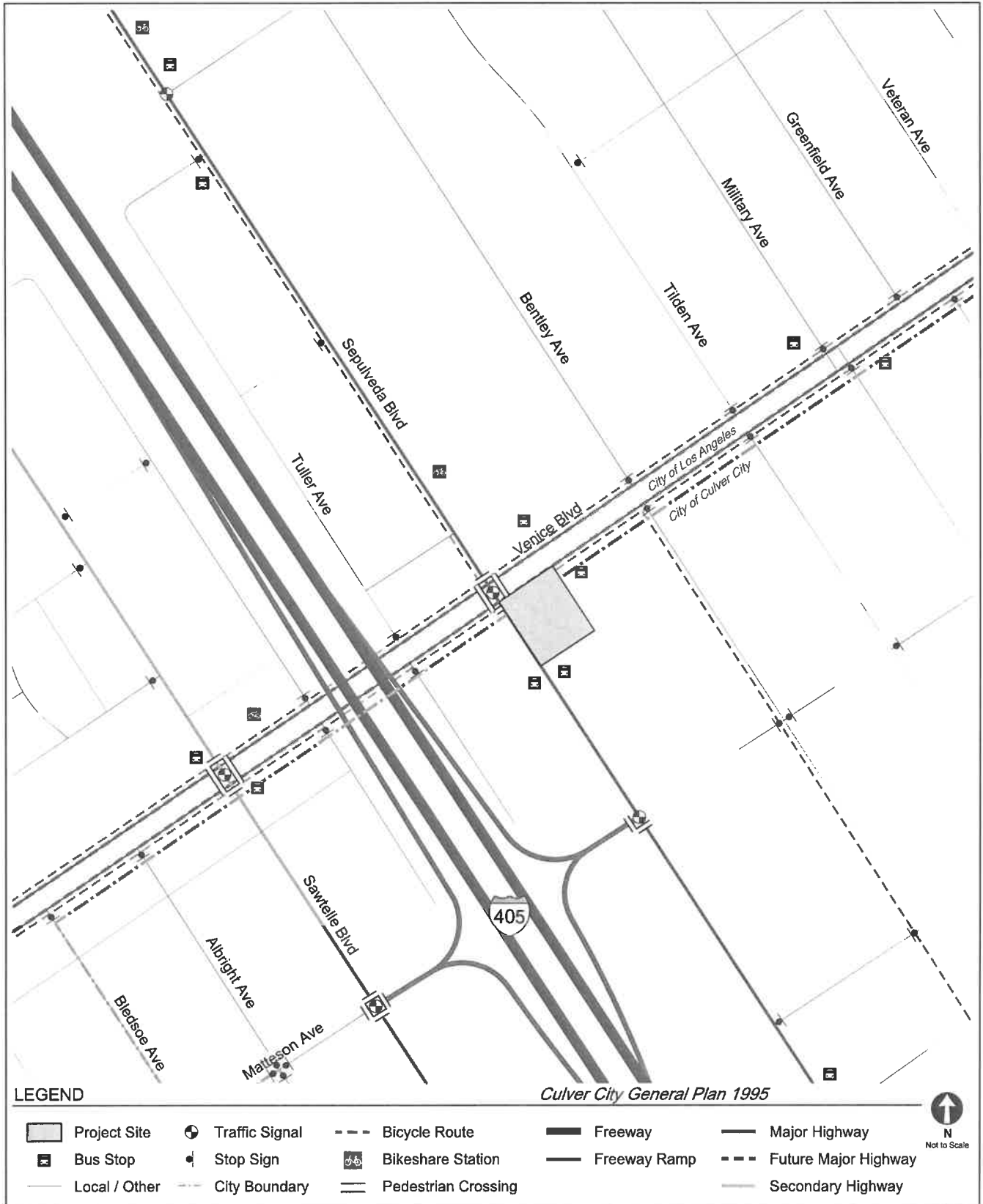
PROJECT TRIP DISTRIBUTION

FIGURE 3



**PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
4**



EXISTING STUDY AREA CIRCULATION

FIGURE  
5



EXISTING TRANSIT ROUTES MAP

FIGURE  
6

TABLE 4  
PRELIMINARY RELATED PROJECTS LIST

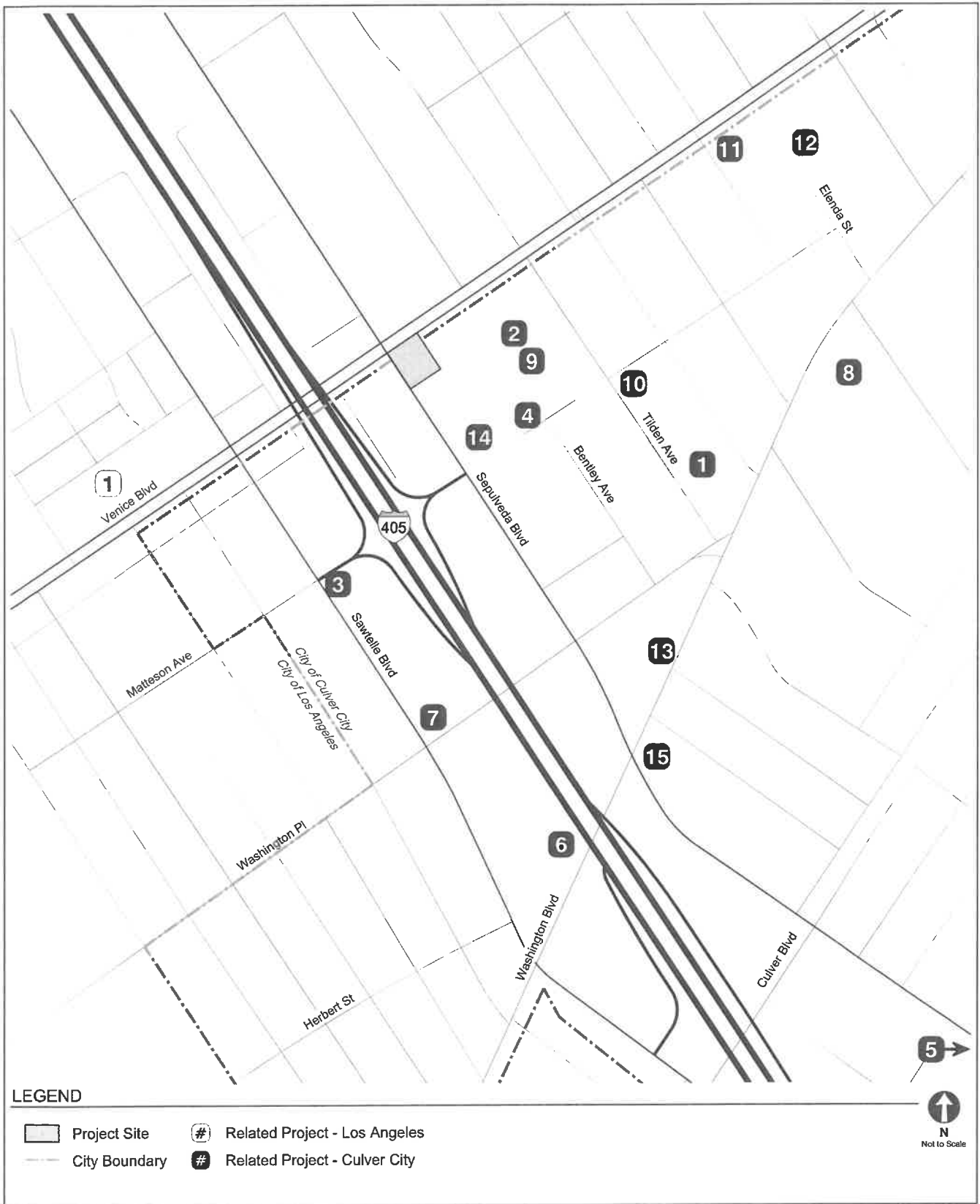
No.	Project	Address	Use	Daily	Trip Generation					
					Morning Peak Hour		Afternoon Peak Hour			
				In	Out	Total	In	Out	Total	
<b>City of Los Angeles [a]</b>										
1.	New Assisted Living	11405 W Venice Boulevard	85 guest rooms	204	11	4	15	7	15	22
<b>City of Culver City [b]</b>										
1.	5-unit Condominiums	3861 Tilden Avenue	5 condominiums	12	0	1	1	1	0	1
2.	New 4-unit Condo	3832 Bentley Avenue	4 condominiums	17	0	1	1	1	1	2
3.	3905-3910 Sawtelle Blvd	3905-3910 Sawtelle Boulevard	1 apartment unit	7	0	1	1	1	0	1
4.	3-unit Bentley Condos	3873 Bentley Avenue	3 apartment units	12	0	1	1	1	0	1
5.	WLA Community College Master Plan	LA County	92,000 sf new/renovated campus space	2529	204	71	275	138	98	234
6.	Office Building	11259 Washington Boulevard	4,022 sf office	39	4	1	5	1	4	5
7.	Mixed-Use with Density Bonus	11281 Washington Place	14 apartments, 4,897 sf retail	302	4	8	12	15	12	27
8.	Stacked Parking - NFL Building	10550 Washington Boulevard	164 parking spaces	-	-	-	-	-	-	-
9.	4-Unit Condominium	3846 Bentley Avenue	4 condominiums	17	0	1	1	1	1	2
10.	5-Unit Condominium	3906 Tilden Avenue	5 condominiums	12	0	1	1	1	0	1
11.	6-Unit Condominium	3808 College Avenue	6 condominiums	17	0	1	1	1	1	2
12.	4-Unit Condominium	3826 Glend Avenue	4 condominiums	17	0	1	1	1	1	2
13.	New Assisted Living Facility	11141 Washington Blvd	117 room assisted living	187	9	5	14	7	12	19
14.	New Hotel	3858-3900 Sepulveda Boulevard	118 hotel rooms, 2,000 sf retail	1,062	33	24	57	40	39	79
69.	4114 Sepulveda Boulevard	4114 Sepulveda Boulevard	350,000 sf office, 50,000 sf retail	5,297	378	75	453	156	438	594

Notes:

[a] Related project information provided by the Los Angeles Department of Transportation in July 2019, Department of City Planning, and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 feet) radius of the Project Site.

[b] Related project information provided by the Culver City Department of Transportation in October 2020, as well as the related project list for the Cumulus Mixed Use Development. This list includes known development projects within one-half mile (2,460 feet) radius of the Project Site.





LOCATIONS OF RELATED PROJECTS

FIGURE  
7

***Appendix B***  
***Traffic Volume Data***

## Turning Movement Count Report AM

Location ID: 1  
 North/South: Sawtelle Blvd  
 East/West: Venice Blvd

Date: 11/16/21  
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	12	48	16	22	141	81	26	81	46	23	92	18	606
7:15	11	70	11	27	160	71	37	101	32	34	143	20	717
7:30	15	101	20	28	216	128	36	145	47	31	154	38	959
7:45	28	107	18	32	210	101	41	188	31	31	157	38	982
8:00	17	104	28	30	234	95	36	91	55	37	178	26	931
8:15	19	90	32	22	192	87	35	153	45	49	237	45	1006
8:30	14	87	32	23	170	89	43	122	47	34	206	37	904
8:45	17	98	16	27	220	97	28	110	42	30	183	34	902
9:00	13	78	25	29	168	62	39	99	32	15	138	20	718
9:15	15	52	9	19	174	75	25	84	38	18	163	20	692
9:30	8	70	16	20	160	51	29	48	40	27	168	17	654
9:45	14	63	17	23	165	69	36	62	56	18	116	17	656

Total Volume:	183	968	240	302	2210	1006	411	1284	511	347	1935	330	9727
Approach %	13%	70%	17%	9%	63%	29%	19%	58%	23%	13%	74%	13%	

Peak Hr Begin:	7:30												
PHV	79	402	98	112	852	411	148	577	178	148	726	147	3878
PHF	0.946			0.924			0.868			0.771			0.964

## Turning Movement Count Report PM

Location ID: 1  
 North/South: Sawtelle Blvd  
 East/West: Venice Blvd

Date: 11/16/21  
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	28	229	30	36	191	60	26	72	28	39	206	36	981
15:15	27	257	25	27	192	56	26	77	28	36	185	30	966
15:30	37	260	21	18	219	40	24	87	28	41	191	44	1010
15:45	26	220	22	30	182	38	16	72	28	71	174	40	919
16:00	19	251	29	26	196	42	14	57	30	50	174	24	912
16:15	17	241	27	22	195	50	21	55	26	38	209	23	924
16:30	18	254	29	24	210	60	32	63	22	44	201	35	992
16:45	18	278	23	20	205	24	24	51	27	30	172	41	913
17:00	26	213	28	26	231	34	18	53	23	40	200	24	916
17:15	24	229	26	21	230	65	19	67	22	32	217	26	978
17:30	24	256	25	23	220	41	18	72	24	35	172	30	940
17:45	35	262	16	28	206	22	20	58	24	62	174	39	946

Total Volume:	299	2950	301	301	2477	532	258	784	310	518	2275	392	11397
Approach %	8%	83%	8%	9%	75%	16%	19%	58%	23%	16%	71%	12%	

Peak Hr Begin:	15:00												
PHV	118	966	98	111	784	194	92	308	112	187	756	150	3876
PHF	0.929			0.949			0.921			0.959			0.959

## Pedestrian/Bicycle Count Report

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

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	0	1	1	0	4	2	4	1
15:15	1	0	4	0	5	2	3	1
15:30	1	0	2	0	6	1	4	0
15:45	1	1	0	1	5	0	3	1
16:00	4	1	5	0	7	1	7	1
16:15	2	0	2	1	5	0	3	0
16:30	0	1	3	0	9	0	1	0
16:45	2	1	2	0	6	2	6	1
17:00	3	1	1	0	1	2	4	0
17:15	3	0	4	0	5	1	1	0
17:30	4	2	5	0	6	1	1	1
17:45	2	0	4	0	2	1	4	0

## Turning Movement Count Report AM

Location ID: 2  
 North/South: Sepulveda Blvd  
 East/West: Venice Blvd

Date: 11/16/21  
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	16	52	16	27	200	36	38	246	14	47	77	17	786
7:15	25	53	11	33	254	51	31	236	22	57	86	33	892
7:30	36	66	27	50	275	49	32	272	16	54	124	32	1033
7:45	54	78	25	49	297	51	30	277	17	38	141	24	1081
8:00	42	108	25	44	258	64	45	259	21	55	149	32	1102
8:15	45	105	24	39	269	64	44	207	18	69	171	31	1086
8:30	40	107	24	45	223	50	45	253	29	79	163	38	1096
8:45	30	86	28	39	276	72	43	283	16	47	142	28	1090
9:00	18	79	31	28	207	46	54	281	11	40	130	18	943
9:15	24	75	23	41	209	45	41	220	26	57	96	25	882
9:30	23	62	20	38	188	44	32	181	21	59	121	23	812
9:45	27	70	21	27	210	38	53	203	22	48	122	17	858

Total Volume:	380	941	275	460	2866	610	488	2918	233	650	1522	318	11661
Approach %	24%	59%	17%	12%	73%	15%	13%	80%	6%	26%	61%	13%	

Peak Hr Begin:	8:00												
PHV	157	406	101	167	1026	250	177	1002	84	250	625	129	4374
PHF	0.949			0.932			0.923			0.896			0.992

## Turning Movement Count Report PM

Location ID: 2  
 North/South: Sepulveda Blvd  
 East/West: Venice Blvd

Date: 11/16/21  
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	44	206	40	45	224	43	101	216	31	48	196	29	1223
15:15	35	219	50	43	211	54	110	251	30	40	168	19	1230
15:30	27	224	27	31	226	57	79	207	24	21	190	20	1133
15:45	39	254	35	46	194	56	91	271	31	26	161	23	1227
16:00	41	248	67	43	170	68	87	232	29	30	159	25	1199
16:15	52	178	64	36	194	46	93	197	28	47	166	20	1121
16:30	39	199	46	32	217	31	96	189	21	34	200	24	1128
16:45	54	202	72	32	178	68	78	214	18	34	160	24	1134
17:00	40	188	68	43	206	42	88	207	42	38	181	24	1167
17:15	41	258	104	45	207	45	74	196	26	27	178	22	1223
17:30	24	212	61	34	222	57	82	191	35	23	184	25	1150
17:45	37	240	70	30	192	64	84	201	29	25	157	20	1149

Total Volume:	473	2628	704	460	2441	631	1063	2572	344	393	2100	275	14084
Approach %	12%	69%	19%	13%	69%	18%	27%	65%	9%	14%	76%	10%	

Peak Hr Begin:	15:00												
PHV	145	903	152	165	855	210	381	945	116	135	715	91	4813
PHF	0.915			0.979			0.917			0.862			0.978

## Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	5	0	10	2	2	0	1	1
7:15	8	0	9	0	3	0	7	0
7:30	4	0	10	0	3	0	4	1
7:45	4	1	13	1	8	0	3	1
8:00	2	0	12	1	2	0	1	1
8:15	11	2	13	0	4	0	2	1
8:30	8	1	11	0	7	0	2	1
8:45	7	2	2	0	7	0	3	0
9:00	7	1	11	0	9	0	4	0
9:15	4	0	14	0	8	2	1	0
9:30	5	0	10	0	8	0	1	0
9:45	6	0	8	0	6	0	3	1

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	5	0	7	0	9	4	4	0
15:15	6	2	15	1	6	1	5	0
15:30	5	0	6	0	6	1	8	1
15:45	3	3	8	1	12	1	4	0
16:00	6	1	9	0	7	0	7	0
16:15	9	0	6	2	7	0	4	0
16:30	7	1	22	1	11	1	3	0
16:45	8	0	7	0	8	3	5	1
17:00	5	0	17	2	10	2	3	0
17:15	3	0	12	0	8	1	4	1
17:30	4	0	10	1	10	3	2	0
17:45	2	0	7	0	3	1	2	0

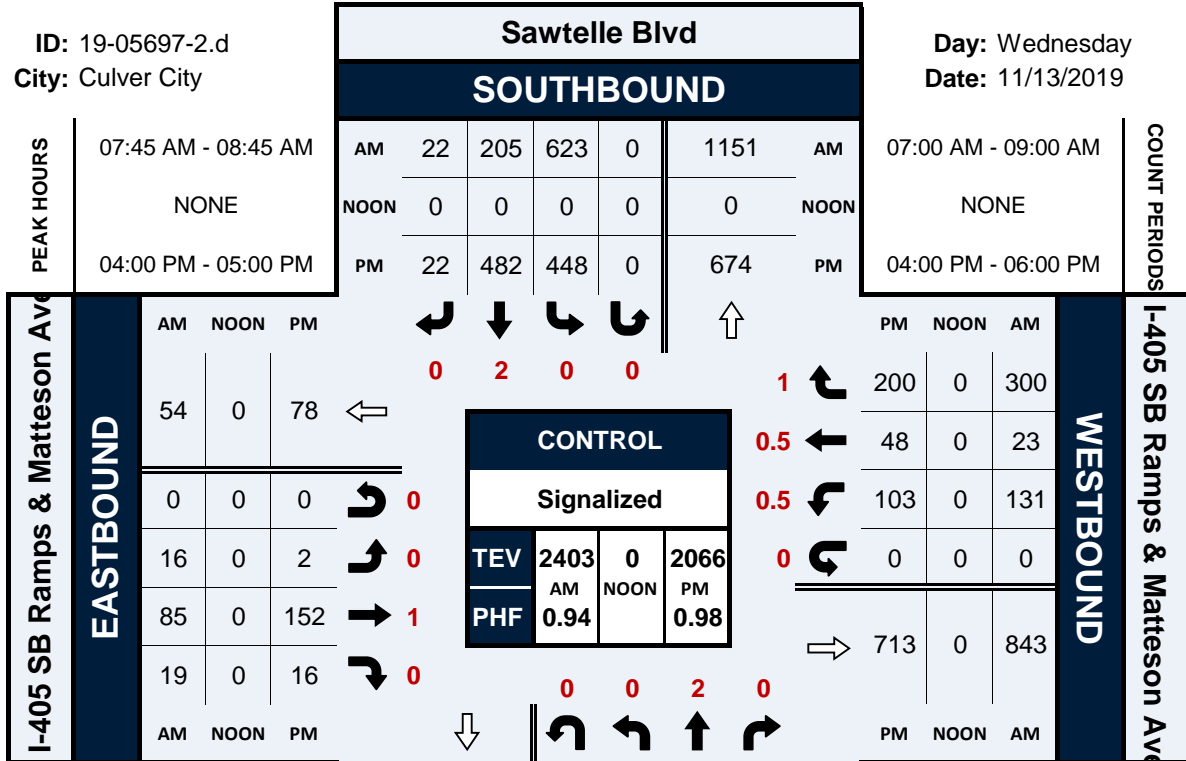


# Sawtelle Blvd & I-405 SB Ramps & Matteson Ave

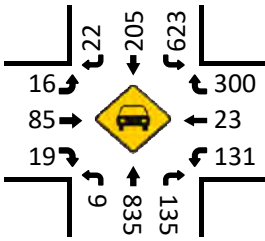
## Peak Hour Turning Movement Count

ID: 19-05697-2.d  
City: Culver City

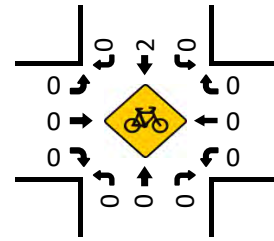
Day: Wednesday  
Date: 11/13/2019



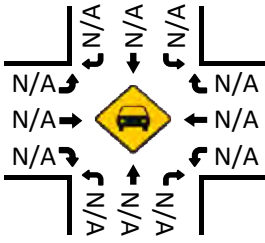
Total Vehicles (AM)



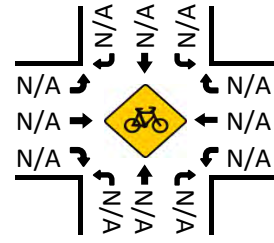
Bikes (AM)



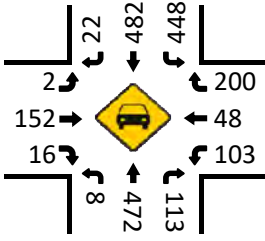
Total Vehicles (Noon)



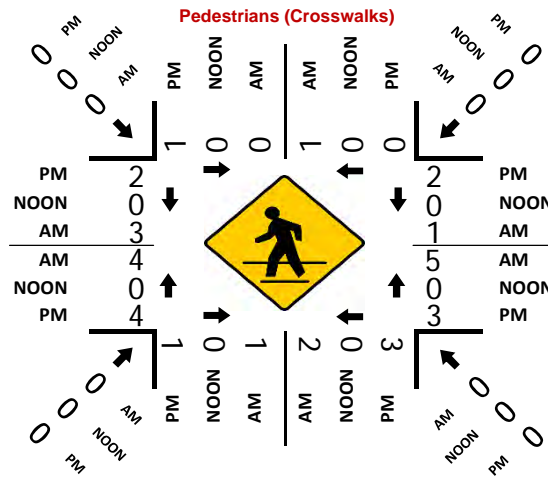
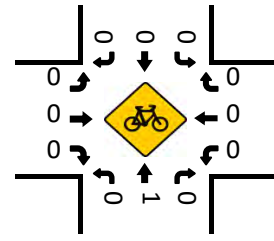
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

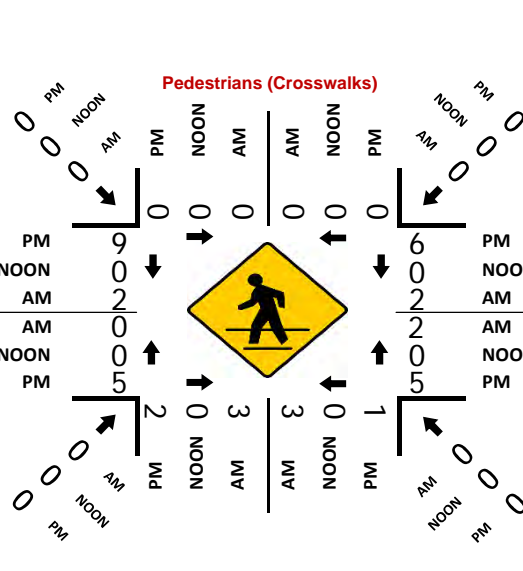
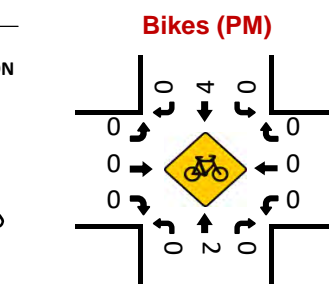
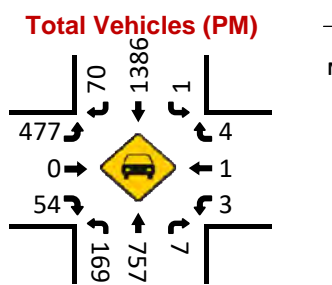
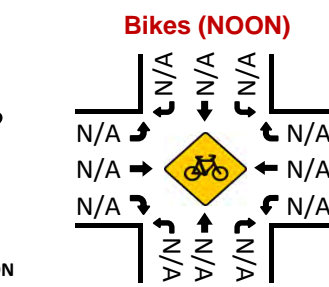
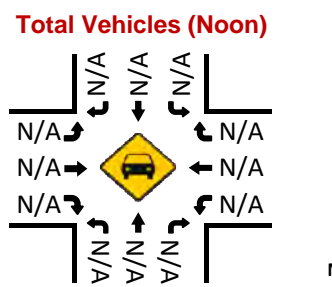
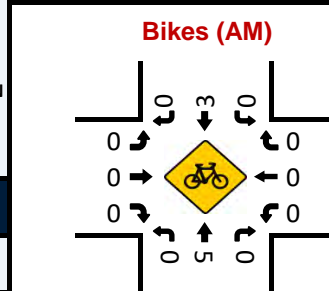
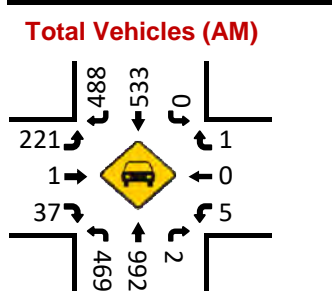
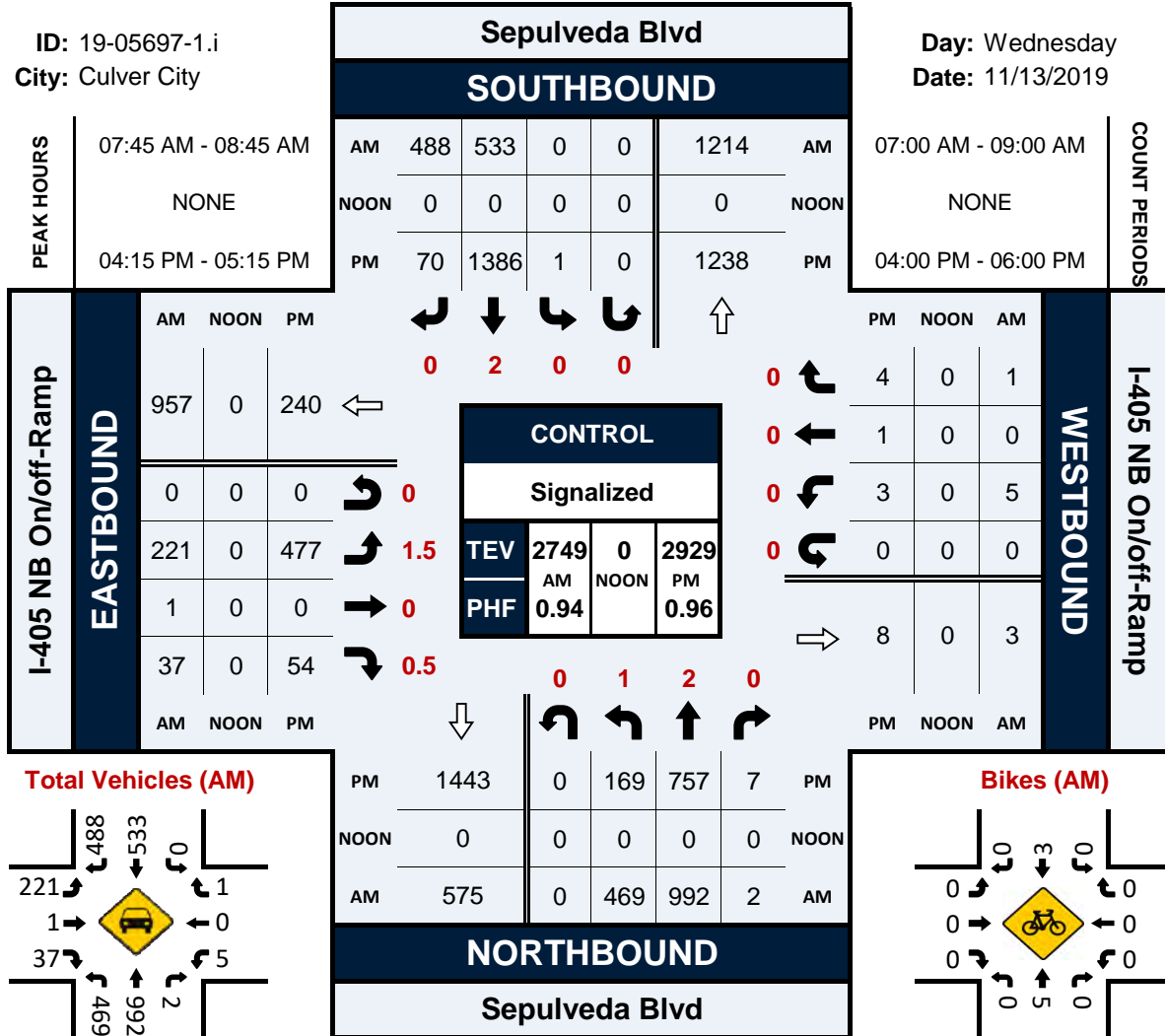


# Sepulveda Blvd & I-405 NB On/off-Ramp

## Peak Hour Turning Movement Count

ID: 19-05697-1.i  
City: Culver City

Day: Wednesday  
Date: 11/13/2019





## Turning Movement Count Report AM

Location ID: 3  
 North/South: Sawtelle Blvd  
 East/West: Washington Blvd

Date: 11/16/21  
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	38	16	12	15	52	3	7	65	5	7	105	19	344
7:15	36	13	4	25	44	2	7	94	8	3	154	35	425
7:30	35	33	5	28	57	4	8	134	8	9	129	41	491
7:45	43	38	13	24	93	2	9	119	13	6	162	29	551
8:00	58	48	13	21	133	4	12	84	7	17	184	26	607
8:15	59	52	15	29	102	4	10	99	7	20	196	47	640
8:30	60	46	12	29	111	5	11	85	11	16	198	27	611
8:45	67	43	16	28	97	8	12	72	11	21	144	34	553
9:00	55	32	7	24	87	7	14	84	14	8	128	27	487
9:15	47	15	12	23	81	5	8	43	5	3	134	26	402
9:30	58	39	8	21	67	9	4	36	6	16	142	25	431
9:45	56	26	15	28	90	5	4	48	10	12	169	28	491

Total Volume:	612	401	132	295	1014	58	106	963	105	138	1845	364	6033
Approach %	53%	35%	12%	22%	74%	4%	9%	82%	9%	6%	79%	16%	

Peak Hr Begin:	8:00												
PHV	244	189	56	107	443	21	45	340	36	74	722	134	2411
PHF	0.970			0.903			0.907			0.884			0.942

## Turning Movement Count Report PM

Location ID: 3  
 North/South: Sawtelle Blvd  
 East/West: Washington Blvd

Date: 11/16/21  
 City: Culver City, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	65	89	17	20	126	7	7	54	15	20	149	33	602
15:15	65	124	13	33	138	11	9	54	9	22	160	24	662
15:30	41	122	24	21	129	10	6	52	14	15	152	32	618
15:45	52	81	17	32	141	6	10	57	19	13	149	20	597
16:00	38	90	19	24	125	10	8	41	11	13	183	21	583
16:15	51	136	19	28	142	34	14	39	11	33	149	21	677
16:30	58	83	24	31	120	7	15	51	17	27	172	22	627
16:45	49	98	11	26	134	10	14	54	16	15	171	20	618
17:00	33	114	13	35	131	6	12	48	13	19	166	20	610
17:15	55	103	16	41	152	18	13	49	11	18	178	28	682
17:30	58	102	16	21	149	11	6	54	19	8	162	35	641
17:45	54	87	20	34	127	12	6	35	7	17	156	25	580

Total Volume:	619	1229	209	346	1614	142	120	588	162	220	1947	301	7497
Approach %	30%	60%	10%	16%	77%	7%	14%	68%	19%	9%	79%	12%	

Peak Hr Begin:	16:45												
PHV	195	417	56	123	566	45	45	205	59	60	677	103	2551
PHF	0.949			0.870			0.920			0.938			0.935

## Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	1	0	1	0	1	0
7:15	2	0	2	0	1	0	1	0
7:30	4	0	0	0	1	0	0	0
7:45	3	2	0	0	1	0	0	0
8:00	9	0	1	0	2	0	0	0
8:15	13	0	0	0	6	0	3	0
8:30	1	2	0	0	0	0	0	0
8:45	3	0	1	0	3	0	1	0
9:00	12	0	2	0	3	0	2	0
9:15	0	0	1	0	1	0	3	0
9:30	6	0	2	0	3	0	2	0
9:45	3	0	0	0	1	0	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	4	2	2	0	3	1	3	0
15:15	6	4	1	0	3	0	2	3
15:30	8	0	1	0	1	1	0	0
15:45	5	2	1	0	2	0	4	1
16:00	10	2	0	0	1	2	2	0
16:15	3	0	0	0	4	0	2	0
16:30	3	0	0	0	0	0	3	0
16:45	3	0	1	0	3	0	2	1
17:00	2	0	0	0	0	1	2	0
17:15	1	0	4	0	1	0	1	0
17:30	0	0	0	0	1	0	0	0
17:45	2	0	0	0	4	0	0	0

***Appendix C***

***VMT Analysis Worksheets***



No analysis required. This project meets the screening criteria.

**Project Name**  
3800 Sepulveda

**Project Parcel** [Click here for parcel viewer](#)  
4213018014

**Project Screening**

**Apply to Full Project**

Is this project within 1/2 mile of one of the following transit hubs?

- Culver City Expo Station
- La Cienega/Jefferson Expo Station
- Westfield-Culver City Transit Center
- Sepulveda/Venice intersection

Is the project located within any TPA and are at least 15% of the on-site residential units are affordable?

Does this project generate fewer than 250 daily trips?

**Apply to Specific Land Uses**

Is the retail component of project fewer than 50,000 square feet in size at every store?

Is this residential component of the project 100% affordable housing?



**Project Daily Trips**

**Project Land Use** ?

<b>Residential</b>	<b>Value (du)</b>		
Single Family	<input type="text"/>		
Multi-Family	<input type="text"/>		
<b>Affordable Housing</b>			
Family	<input type="text"/>		
Senior	<input type="text"/>		
Special Needs	<input type="text"/>		
Permanent Supportive	<input type="text"/>		
<b>Office</b>	<b>Value (ksf)</b>		
Standard	<input type="text"/>		
<b>Medical</b>	<b>Value (ksf)</b>		
Medical Office	<input type="text"/>		
Hospital	<input type="text"/>		
<b>Industrial</b>	<b>Value (ksf)</b>		
Light Industrial	<input type="text"/>		
Manufacturing	<input type="text"/>		
Warehousing / Self-Storage	<input type="text"/>		
<b>Movie Studio</b>	<b>Value (ksf)</b>		
Office	<input type="text"/>		
Post Production	<input type="text"/>		
Stage	<input type="text"/>		
Support	<input type="text"/>		

*The following land uses will require separate impact analysis (outside of this tool) if not screened out. Please leave the land uses in the table below if they are part of a mixed use project.*

<b>Retail</b>	<b>Value (ksf)</b>
General	<input type="text"/>
Supermarket	<input type="text"/>
Bank	<input type="text"/>
Health Club	<input type="text"/>
Gas Station	<input type="text"/>
Auto Repair	<input type="text"/>
Home Improvement Superstore	<input type="text"/>
Free-Standing Discount	<input type="text"/>
Restaurant Non-fast-food	<input type="text"/>
Restaurant Fast-food	<input type="text"/>
	<b>Value (seats)</b>
Theater w/ Matinee	<input type="text"/>
<b>Hotel</b>	<b>Value (rooms)</b>
Hotel	<input type="text"/>
Motel	<input type="text"/>
<b>School</b>	<b>Value (students)</b>
University	<input type="text"/>
High School	<input type="text"/>
Middle School	<input type="text"/>
Elementary	<input type="text"/>





Preliminary Results					Significant VMT Impact?	
Project: 3800 Sepulveda	Daily Vehicle Trips	Daily VMT	Household VMT per Capita <sup>?</sup>	Work VMT per Employee <sup>?</sup>	Household Threshold = 15% below 8.3 (7.1)	Work Threshold = 15% below 10.1 (8.6)
Proposed Project	N/A	N/A	N/A	N/A	N/A	N/A
Project w/ Mitigation	N/A	N/A	N/A	N/A	N/A	N/A

### Transportation Demand Management Strategies

---

#### Parking

**Off-Street Parking Pricing** Applies to all land uses

proposed project      \$  Baseline Off-Street Cost (\$/space)  
 \$  Proposed Off-Street Cost (\$/space)

---

**On-Street Parking Pricing** Applies to all land uses

proposed project      \$  Baseline On-Street Cost (\$/space)  
 \$  Proposed On-Street Cost (\$/space)

---

**Parking Supply** Applies to residential land uses only

proposed project       [Required Number of Spaces](#) (for resident)  
 Proposed Number of Spaces (for resident)

---

#### Transit

**Transit Frequency** Applies to all land uses

proposed project       Baseline Frequency (minutes)  
 Proposed Frequency (minutes)

---

**Point-to-point Shuttles** Applies to employment uses only

proposed project      Select to include in the project.

---

**Last Mile Shuttles** Applies to employment uses only

proposed project      Select to include in the project.

---

#### Commuter Trip Reductions

**Commuter Marketing Program** Applies to all land uses

proposed project       Employees  
 Residents

---

**Financial Commuter Incentives** Applies to employment uses only

proposed project      You may choose only one Financial Commuter Strategy, Commuter Incentives or Transit Subsidies.

Commuter Incentives      \$  per  Financial Incentive (\$/day or \$/month)  
 \$  per  Average Baseline Commute Cost (\$/day or \$/month)

---

Transit Subsidies Applies to all land uses

Employees       Percentage of Cost Subsidized  
 Residents       Percentage of Cost Subsidized

---

#### Site Design

**Pedestrian-Oriented Design** Applies to all land uses

proposed project      Select to include in the project.



**Project Name**  
3800 Sepulveda

**Project Parcel(s)**  
4213018014

Project Screening		Yes/No	Yes/No
Is this project within 1/2 mile of one of the following transit hubs? - Culver City Expo Station - La Cienega/Jefferson Expo Station - Westfield-Culver City Transit Center - Sepulveda/Venice intersection		Yes	Does this project generate fewer than 250 daily trips? N/A
Is the project located within any TPA and are at least 15% of the on-site residential units are affordable?		N/A	Is the retail component of project fewer than 50,000 square feet in size at every store? 0
			Is this residential component of the project 100% affordable housing? N/A

**No analysis required. This project meets the screening criteria.**

Project Land Use			
<b>Residential</b>	<b>Value (du)</b>	<i>The following land uses will require separate impact analysis (outside of this tool) if not screened out. Please leave the land uses in the table below if they are part of a mixed use project.</i>	
Single Family	0	<b>Retail</b>	<b>Value (ksf)</b>
Multi-Family	0	General	0.000
Affordable Housing		Supermarket	0.000
Family	0	Bank	0.000
Senior	0	Health Club	0.000
Special Needs	0	Gas Station	0.000
Permanent Supportive	0	Auto Repair	0.000
<b>Office</b>	<b>Value (ksf)</b>	Home Improvement Superstore	0.000
Standard	0.000	Free-Standing Discount	0.000
<b>Medical</b>	<b>Value (ksf)</b>	Restaurant Non-fast-food	0.000
Medical Office	0.000	Restaurant Fast-food	0.000
Hospital	0.000		<b>Value (seats)</b>
<b>Industrial</b>	<b>Value (ksf)</b>	Theater w/ Matinee	0.000
Light Industrial	0.000	<b>Hotel</b>	<b>Value (rooms)</b>
Manufacturing	0.000	Hotel	0
Warehousing / Self-Storage	0.000	Motel	0
<b>Movie Studio</b>	<b>Value (ksf)</b>	<b>School</b>	<b>Value (students)</b>
Office	0.000	University	0
Post Production	0.000	High School	0
Stage	0.000	Middle School	0
Support	0.000	Elementary	0

Proposed Project Summary										
	Total Daily		Household VMT				Work VMT			
	Trips	VMT	City VMT per capita	Project VMT per capita	Project vs. City Difference (%)	Significant VMT Impact?*	City VMT per employee	Project VMT per employee	Project vs. City Difference (%)	Significant VMT Impact?*
Proposed Project	N/A	N/A	8.3	N/A	N/A	N/A	10.1	N/A	N/A	N/A
Proposed Project w/ Mitigation	N/A	N/A	8.3	N/A	N/A	N/A	10.1	N/A	N/A	N/A

\*A significant impact occurs unless the project metric is 15% or more below the City metric. For VMT per capita, the project metric must be below 7.1 for VMT per employee the project must be below 8.6.



Transportation Demand Management Strategies

TDM VMT Adjustments Summary

	Residential	Office/Retail/Other	Combined Total
Proposed Project	0.0%	N/A	N/A
Proposed Project w/ Mitigation	0.0%	N/A	N/A

MEASURE TYPE	TDM MEASURE INPUT	TDM VMT Adjustments
<b>Parking</b>		
<input type="checkbox"/> Off-Street Parking Pricing <input checked="" type="checkbox"/> proposed project	\$ <input type="text" value="0"/> Baseline Off-Street Cost (\$/space)	Residential <input type="text"/>
	\$ <input type="text" value="0"/> Proposed Off-Street Cost (\$/space)	Office/Retail/Other <input type="text"/>
<input type="checkbox"/> On-Street Parking Pricing <input checked="" type="checkbox"/> proposed project	\$ <input type="text" value="100"/> Baseline On-Street Cost (\$/space)	Residential <input type="text"/>
	\$ <input type="text" value="200"/> Proposed On-Street Cost (\$/space)	Office/Retail/Other <input type="text"/>
<input type="checkbox"/> Parking Supply <input checked="" type="checkbox"/> proposed project	<input type="text" value="0"/> Required Number of Spaces (for resident)	Residential <input type="text"/>
	<input type="text" value="0"/> Proposed Number of Spaces (for resident)	
<b>Transit</b>		
<input type="checkbox"/> Transit Frequency <input checked="" type="checkbox"/> proposed project	<input type="text" value="9"/> Baseline Frequency (minutes)	Residential <input type="text"/>
	<input type="text" value="5"/> Proposed Frequency (minutes)	Office/Retail/Other <input type="text"/>
<input type="checkbox"/> Point-to-point Shuttles <input checked="" type="checkbox"/> proposed project	Select to include in the project.	Office/Retail/Other <input type="text"/>
<input type="checkbox"/> Last Mile Shuttles <input checked="" type="checkbox"/> proposed project	Select to include in the project.	Office/Retail/Other <input type="text"/>
<b>Commute Trip Reductions</b>		
<input type="checkbox"/> Commute Marketing Program <input checked="" type="checkbox"/> proposed project	<input type="checkbox"/> Employees	Residential <input type="text"/>
	<input type="checkbox"/> Residents	Office/Retail/Other <input type="text"/>
<input type="checkbox"/> Financial Commuter Incentives <input checked="" type="checkbox"/> proposed project	You may choose only one Financial Commuter Strategy, Commuter Incentives or Transit Sub:	
	<input type="checkbox"/> Commuter Incentives \$ <input type="text" value="0"/> per <input type="text" value="0"/> Financial Incentive (\$/day or \$/month) \$ <input type="text" value="0"/> per <input type="text" value="0"/> Average Baseline Commute Cost (\$/day or \$/month)	Residential <input type="text"/>
<input type="checkbox"/> Transit Subsidies	<input type="checkbox"/> Employees <input type="text" value="0%"/> Percentage of Cost Subsidized <input type="checkbox"/> Residents <input type="text" value="0%"/> Percentage of Cost Subsidized	Office/Retail/Other <input type="text"/>
<b>Site Design</b>		
<input type="checkbox"/> Pedestrian-Oriented Design <input checked="" type="checkbox"/> proposed project	Select to include in the project.	Residential <input type="text"/>
		Office/Retail/Other <input type="text"/>




























***Appendix D***

***HCM Analysis Worksheets***

# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	182	900	184	510	1056	139	221	715	184	122	498	98
Future Volume (veh/h)	182	900	184	510	1056	139	221	715	184	122	498	98
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	198	978	200	554	1148	151	240	777	200	133	541	107
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	175	953	296	426	1037	136	315	819	211	219	873	172
Arrive On Green	0.10	0.19	0.19	0.48	0.66	0.66	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	3158	414	1781	2798	720	1781	2959	583
Grp Volume(v), veh/h	198	978	200	554	645	654	240	494	483	133	324	324
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1796	1781	1777	1741	1781	1777	1765
Q Serve(g_s), s	11.8	22.4	14.1	28.7	39.4	39.4	10.0	32.6	32.6	6.1	18.9	19.0
Cycle Q Clear(g_c), s	11.8	22.4	14.1	28.7	39.4	39.4	10.0	32.6	32.6	6.1	18.9	19.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	175	953	296	426	583	590	315	520	509	219	524	521
V/C Ratio(X)	1.13	1.03	0.68	1.30	1.10	1.11	0.76	0.95	0.95	0.61	0.62	0.62
Avail Cap(c_a), veh/h	175	953	296	426	583	590	315	520	509	220	524	521
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	0.31	0.31	0.31	0.46	0.46	0.46	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	48.8	45.4	31.3	20.6	20.6	31.6	41.6	41.6	30.4	36.5	36.5
Incr Delay (d2), s/veh	107.4	36.0	11.7	140.6	55.7	57.6	5.0	17.0	17.3	4.7	5.4	5.5
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	16.6	18.7	10.7	35.7	24.3	24.9	3.9	21.1	20.8	5.2	13.9	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.5	84.8	57.2	171.9	76.3	78.2	36.6	58.6	58.8	35.1	41.9	42.0
LnGrp LOS	F	F	E	F	F	F	D	E	E	D	D	D
Approach Vol, veh/h		1376			1853			1217			781	
Approach Delay, s/veh		91.8			105.6			54.4			40.8	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	27.5	15.9	41.6	18.0	44.5	16.2	41.3				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	28.7	* 22	* 10	* 35	* 12	* 39	10.0	* 35				
Max Q Clear Time (g_c+I1), s	30.7	24.4	12.0	21.0	13.8	41.4	8.1	34.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.1	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			80.3									
HCM 6th LOS			F									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Sepulveda Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Traffic Volume (veh/h)	160	775	310	310	1272	207	104	1242	219	125	503	195
Future Volume (veh/h)	160	775	310	310	1272	207	104	1242	219	125	503	195
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	174	842	337	337	1383	225	113	1350	238	136	547	212
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	159	849	338	294	1379	224	340	1158	516	194	1164	660
Arrive On Green	0.09	0.24	0.24	0.17	0.31	0.31	0.08	0.33	0.33	0.07	0.33	0.33
Sat Flow, veh/h	1781	3588	1429	1781	4425	720	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	174	799	380	337	1064	544	113	1350	238	136	547	212
Grp Sat Flow(s),veh/h/ln	1781	1702	1613	1781	1702	1741	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.7	28.1	28.3	19.8	37.4	37.4	4.9	39.1	14.3	5.9	14.7	10.8
Cycle Q Clear(g_c), s	10.7	28.1	28.3	19.8	37.4	37.4	4.9	39.1	14.3	5.9	14.7	10.8
Prop In Lane	1.00		0.89	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	806	382	294	1061	543	340	1158	516	194	1164	660
V/C Ratio(X)	1.10	0.99	1.00	1.15	1.00	1.00	0.33	1.17	0.46	0.70	0.47	0.32
Avail Cap(c_a), veh/h	159	806	382	294	1061	543	340	1158	516	194	1164	660
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	45.7	45.7	50.1	41.3	41.3	24.0	40.5	32.1	29.7	32.1	23.6
Incr Delay (d2), s/veh	99.3	29.7	45.2	98.2	28.3	39.4	2.6	84.3	2.9	19.2	1.4	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	14.6	21.5	22.6	25.1	26.9	29.5	4.1	43.4	9.9	6.4	10.7	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.9	75.4	90.9	148.3	69.6	80.7	26.6	124.8	35.0	48.9	33.4	24.9
LnGrp LOS	F	E	F	F	F	F	C	F	D	D	C	C
Approach Vol, veh/h		1353			1945			1701			895	
Approach Delay, s/veh		89.8			86.3			105.7			33.8	
Approach LOS		F			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	42.6	15.2	45.2	26.0	33.6	15.4	45.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	10.7	* 37	9.1	39.3	* 20	* 28	9.0	39.1				
Max Q Clear Time (g_c+I1), s	12.7	39.4	6.9	16.7	21.8	30.3	7.9	41.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	7.0	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	84.7
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	16	85	19	131	23	300	9	835	135	623	205	22
Future Volume (veh/h)	16	85	19	131	23	300	9	835	135	623	205	22
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	17	92	21	142	25	326	10	908	147	677	223	24
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	68	292	61	321	47	343	11	1045	179	524	489	53
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.34	0.34	0.34	0.29	0.29	0.29
Sat Flow, veh/h	107	1346	280	1141	219	1585	33	3083	528	1781	1660	179
Grp Volume(v), veh/h	130	0	0	167	0	326	571	0	494	677	0	247
Grp Sat Flow(s),veh/h/ln	1733	0	0	1360	0	1585	1869	0	1775	1781	0	1838
Q Serve(g_s), s	0.0	0.0	0.0	4.3	0.0	18.3	26.2	0.0	22.9	26.5	0.0	9.9
Cycle Q Clear(g_c), s	5.4	0.0	0.0	9.7	0.0	18.3	26.2	0.0	22.9	26.5	0.0	9.9
Prop In Lane	0.13		0.16	0.85		1.00	0.02		0.30	1.00		0.10
Lane Grp Cap(c), veh/h	421	0	0	369	0	343	633	0	602	524	0	541
V/C Ratio(X)	0.31	0.00	0.00	0.45	0.00	0.95	0.90	0.00	0.82	1.29	0.00	0.46
Avail Cap(c_a), veh/h	421	0	0	369	0	343	633	0	602	524	0	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.37	0.00	0.37
Uniform Delay (d), s/veh	29.7	0.0	0.0	31.4	0.0	34.8	28.3	0.0	27.2	31.8	0.0	25.9
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.9	0.0	35.4	18.4	0.0	11.9	136.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.0	0.0	5.9	0.0	15.5	20.7	0.0	16.8	42.5	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	0.0	32.2	0.0	70.2	46.7	0.0	39.2	168.0	0.0	26.9
LnGrp LOS	C	A	A	C	A	E	D	A	D	F	A	C
Approach Vol, veh/h		130			493			1065			924	
Approach Delay, s/veh		31.6			57.3			43.2			130.3	
Approach LOS		C			E			D			F	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		31.0		24.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		26.5		19.5		30.5				
Max Q Clear Time (g_c+I1), s		7.4		28.5		20.3		28.2				
Green Ext Time (p_c), s		0.5		0.0		0.0		1.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				76.1								
HCM 6th LOS				E								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/06/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	221	37	469	992	533	488
Future Volume (veh/h)	221	37	469	992	533	488
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	277	0	510	1078	579	530
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	395	176	532	2804	1564	698
Arrive On Green	0.11	0.00	0.30	0.79	0.44	0.44
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	277	0	510	1078	579	530
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	6.7	0.0	25.3	8.3	9.8	25.3
Cycle Q Clear(g_c), s	6.7	0.0	25.3	8.3	9.8	25.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	395	176	532	2804	1564	698
V/C Ratio(X)	0.70	0.00	0.96	0.38	0.37	0.76
Avail Cap(c_a), veh/h	713	317	532	2804	1564	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.61	0.61
Uniform Delay (d), s/veh	38.6	0.0	31.0	2.9	16.9	21.2
Incr Delay (d2), s/veh	2.3	0.0	29.9	0.4	0.4	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	21.2	3.6	6.5	13.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.8	0.0	60.9	3.3	17.3	26.0
LnGrp LOS	D	A	E	A	B	C
Approach Vol, veh/h	277			1588	1109	
Approach Delay, s/veh	40.8			21.8	21.4	
Approach LOS	D			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.5		14.5	31.4	44.1
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	26.9	31.6
Max Q Clear Time (g_c+I1), s		10.3		8.7	27.3	27.3
Green Ext Time (p_c), s		10.6		0.6	0.0	2.3

### Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

### Notes




























User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	180	907	224	233	941	133	134	370	110	118	1159	142
Future Volume (veh/h)	180	907	224	233	941	133	134	370	110	118	1159	142
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	196	986	243	253	1023	145	146	402	120	128	1260	154
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	175	1169	363	272	887	126	207	912	269	400	1084	132
Arrive On Green	0.10	0.23	0.23	0.30	0.57	0.57	0.08	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	1781	5106	1585	1781	3125	443	1781	2705	799	1781	3189	388
Grp Volume(v), veh/h	196	986	243	253	581	587	146	263	259	128	700	714
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1791	1781	1777	1727	1781	1777	1800
Q Serve(g_s), s	11.8	22.1	16.8	16.5	34.1	34.1	6.2	13.8	14.1	5.4	40.8	40.8
Cycle Q Clear(g_c), s	11.8	22.1	16.8	16.5	34.1	34.1	6.2	13.8	14.1	5.4	40.8	40.8
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.46	1.00		0.22
Lane Grp Cap(c), veh/h	175	1169	363	272	505	509	207	599	582	400	604	612
V/C Ratio(X)	1.12	0.84	0.67	0.93	1.15	1.15	0.70	0.44	0.45	0.32	1.16	1.17
Avail Cap(c_a), veh/h	175	1169	363	272	505	509	208	599	582	402	604	612
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	0.50	0.50	0.50	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	44.2	42.1	41.1	25.9	25.9	28.8	30.9	31.0	22.8	39.6	39.6
Incr Delay (d2), s/veh	103.5	7.5	9.4	23.0	79.9	80.6	7.1	1.6	1.7	0.5	88.6	91.9
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	16.3	15.3	12.0	11.1	29.1	29.5	5.4	9.5	9.5	4.2	45.8	47.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.6	51.7	51.6	64.1	105.9	106.6	35.9	32.5	32.7	23.2	128.2	131.5
LnGrp LOS	F	D	D	E	F	F	D	C	C	C	F	F
Approach Vol, veh/h		1425			1421			668			1542	
Approach Delay, s/veh		66.2			98.7			33.3			121.0	
Approach LOS		E			F			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.6	32.6	15.8	47.0	18.0	39.2	16.2	46.7				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	18.3	* 27	* 10	* 41	* 12	* 34	10.0	* 40				
Max Q Clear Time (g_c+I1), s	18.5	24.1	8.2	42.8	13.8	36.1	7.4	16.1				
Green Ext Time (p_c), s	0.0	2.5	0.1	0.0	0.0	0.0	0.1	6.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			87.7									
HCM 6th LOS			F									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Sepulveda Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷↷↷		↶	↷↷↷		↶	↷↷	↷	↶	↷↷	↷
Traffic Volume (veh/h)	109	858	162	252	1026	198	139	1134	457	182	1084	174
Future Volume (veh/h)	109	858	162	252	1026	198	139	1134	457	182	1084	174
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	118	933	176	274	1115	215	151	1233	497	198	1178	189
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	141	957	180	279	1282	247	206	1217	543	205	1250	683
Arrive On Green	0.03	0.07	0.07	0.16	0.30	0.30	0.08	0.34	0.34	0.08	0.35	0.35
Sat Flow, veh/h	1781	4317	811	1781	4297	828	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	118	735	374	274	883	447	151	1233	497	198	1178	189
Grp Sat Flow(s),veh/h/ln	1781	1702	1724	1781	1702	1721	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.9	25.9	26.0	18.4	29.5	29.5	6.5	41.1	36.0	9.2	38.6	9.2
Cycle Q Clear(g_c), s	7.9	25.9	26.0	18.4	29.5	29.5	6.5	41.1	36.0	9.2	38.6	9.2
Prop In Lane	1.00		0.47	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	755	382	279	1016	514	206	1217	543	205	1250	683
V/C Ratio(X)	0.84	0.97	0.98	0.98	0.87	0.87	0.73	1.01	0.92	0.96	0.94	0.28
Avail Cap(c_a), veh/h	141	755	382	279	1016	514	206	1217	543	205	1250	683
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	55.3	55.3	50.4	39.9	39.9	29.1	39.5	37.8	32.5	37.7	22.1
Incr Delay (d2), s/veh	41.7	27.0	41.0	49.5	10.1	18.0	20.6	29.1	22.5	54.0	15.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	21.0	23.0	17.7	19.7	21.3	7.0	30.6	24.0	11.3	26.3	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.4	82.3	96.3	99.9	50.0	57.9	49.8	68.5	60.3	86.5	52.7	23.1
LnGrp LOS	F	F	F	F	D	E	D	F	E	F	D	C
Approach Vol, veh/h		1227			1604			1881			1565	
Approach Delay, s/veh		88.2			60.7			64.8			53.4	
Approach LOS		F			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	41.0	15.1	48.1	25.0	31.8	16.2	47.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	9.5	* 36	9.0	42.2	* 19	* 27	9.8	41.1				
Max Q Clear Time (g_c+I1), s	9.9	31.5	8.5	40.6	20.4	28.0	11.2	43.1				
Green Ext Time (p_c), s	0.0	3.2	0.0	1.4	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	65.5
HCM 6th LOS	E

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary  
 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	2	152	16	103	48	200	8	472	113	448	482	22
Future Volume (veh/h)	2	152	16	103	48	200	8	472	113	448	482	22
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	2	165	17	112	52	217	9	513	123	487	524	24
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	50	415	42	303	126	395	12	693	176	534	627	29
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.33	0.33	0.33
Sat Flow, veh/h	4	1663	170	891	506	1585	48	2840	720	1636	1919	89
Grp Volume(v), veh/h	184	0	0	164	0	217	348	0	297	533	0	502
Grp Sat Flow(s),veh/h/ln	1837	0	0	1397	0	1585	1868	0	1741	1789	0	1854
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	8.9	13.0	0.0	11.7	21.4	0.0	18.8
Cycle Q Clear(g_c), s	6.3	0.0	0.0	7.1	0.0	8.9	13.0	0.0	11.7	21.4	0.0	18.8
Prop In Lane	0.01		0.09	0.68		1.00	0.03		0.41	0.91		0.05
Lane Grp Cap(c), veh/h	507	0	0	429	0	395	456	0	425	584	0	606
V/C Ratio(X)	0.36	0.00	0.00	0.38	0.00	0.55	0.76	0.00	0.70	0.91	0.00	0.83
Avail Cap(c_a), veh/h	507	0	0	429	0	395	456	0	425	584	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	23.5	0.0	0.0	23.7	0.0	24.5	26.3	0.0	25.8	24.2	0.0	23.3
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.6	0.0	1.6	11.5	0.0	9.2	2.7	0.0	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	5.2	0.0	0.0	4.3	0.0	6.1	11.3	0.0	9.6	10.3	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	0.0	24.2	0.0	26.1	37.8	0.0	35.1	26.9	0.0	24.6
LnGrp LOS	C	A	A	C	A	C	D	A	D	C	A	C
Approach Vol, veh/h		184			381			645			1035	
Approach Delay, s/veh		25.5			25.3			36.6			25.8	
Approach LOS		C			C			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.2		29.0		23.2		22.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.7		24.5		18.7		18.3				
Max Q Clear Time (g_c+I1), s		8.3		23.4		10.9		15.0				
Green Ext Time (p_c), s		0.7		0.7		1.1		1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				28.8								
HCM 6th LOS				C								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/06/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	477	54	169	757	1386	70
Future Volume (veh/h)	477	54	169	757	1386	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	573	0	184	823	1507	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	656	292	356	2544	1656	738
Arrive On Green	0.18	0.00	0.20	0.72	0.47	0.47
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	573	0	184	823	1507	76
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.1	0.0	8.3	7.7	35.4	2.4
Cycle Q Clear(g_c), s	14.1	0.0	8.3	7.7	35.4	2.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	656	292	356	2544	1656	738
V/C Ratio(X)	0.87	0.00	0.52	0.32	0.91	0.10
Avail Cap(c_a), veh/h	713	317	356	2544	1656	738
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.20	0.20
Uniform Delay (d), s/veh	35.7	0.0	32.1	4.7	22.3	13.5
Incr Delay (d2), s/veh	11.0	0.0	5.3	0.3	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.3	0.0	7.2	4.3	16.9	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.7	0.0	37.4	5.1	24.4	13.5
LnGrp LOS	D	A	D	A	C	B
Approach Vol, veh/h	573			1007	1583	
Approach Delay, s/veh	46.7			11.0	23.9	
Approach LOS	D			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		68.9		21.1	22.5	46.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	18.0	40.5
Max Q Clear Time (g_c+I1), s		9.7		16.1	10.3	37.4
Green Ext Time (p_c), s		7.2		0.5	0.3	2.5

### Intersection Summary

HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C



























### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	182	900	189	523	1060	139	221	715	184	122	498	98
Future Volume (veh/h)	182	900	189	523	1060	139	221	715	184	122	498	98
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	198	978	205	568	1152	151	240	777	200	133	541	107
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	175	911	283	441	1037	136	315	819	211	219	873	172
Arrive On Green	0.10	0.18	0.18	0.33	0.44	0.44	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	3160	413	1781	2798	720	1781	2959	583
Grp Volume(v), veh/h	198	978	205	568	647	656	240	494	483	133	324	324
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1796	1781	1777	1741	1781	1777	1765
Q Serve(g_s), s	11.8	21.4	14.6	29.7	39.4	39.4	10.0	32.6	32.6	6.1	18.9	19.0
Cycle Q Clear(g_c), s	11.8	21.4	14.6	29.7	39.4	39.4	10.0	32.6	32.6	6.1	18.9	19.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	175	911	283	441	583	590	315	520	509	219	524	521
V/C Ratio(X)	1.13	1.07	0.73	1.29	1.11	1.11	0.76	0.95	0.95	0.61	0.62	0.62
Avail Cap(c_a), veh/h	175	911	283	441	583	590	315	520	509	220	524	521
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.31	0.31	0.31	0.46	0.46	0.46	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	49.3	46.5	40.2	33.8	33.8	31.6	41.6	41.6	30.4	36.5	36.5
Incr Delay (d2), s/veh	107.4	51.8	15.0	135.2	57.0	59.0	5.0	17.0	17.3	4.7	5.4	5.5
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	16.6	20.1	11.3	39.0	31.5	32.3	3.9	21.1	20.8	5.2	13.9	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.5	101.1	61.5	175.4	90.8	92.8	36.6	58.6	58.8	35.1	41.9	42.0
LnGrp LOS	F	F	E	F	F	F	D	E	E	D	D	D
Approach Vol, veh/h		1381			1871			1217			781	
Approach Delay, s/veh		103.9			117.2			54.4			40.8	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.0	26.5	15.9	41.6	18.0	44.5	16.2	41.3				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	29.7	* 21	* 10	* 35	* 12	* 39	10.0	* 35				
Max Q Clear Time (g_c+I1), s	31.7	23.4	12.0	21.0	13.8	41.4	8.1	34.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.1	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				87.8								
HCM 6th LOS				F								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Sepulveda Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗	↗	↗↗	↗
Traffic Volume (veh/h)	160	775	310	310	1277	207	112	1245	219	125	503	199
Future Volume (veh/h)	160	775	310	310	1277	207	112	1245	219	125	503	199
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	174	842	337	337	1388	225	122	1353	238	136	547	216
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	159	849	338	294	1380	224	339	1158	516	194	1164	660
Arrive On Green	0.09	0.24	0.24	0.17	0.31	0.31	0.08	0.33	0.33	0.07	0.33	0.33
Sat Flow, veh/h	1781	3588	1429	1781	4428	717	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	174	799	380	337	1067	546	122	1353	238	136	547	216
Grp Sat Flow(s),veh/h/ln	1781	1702	1613	1781	1702	1741	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.7	28.1	28.3	19.8	37.4	37.4	5.3	39.1	14.3	5.9	14.7	11.0
Cycle Q Clear(g_c), s	10.7	28.1	28.3	19.8	37.4	37.4	5.3	39.1	14.3	5.9	14.7	11.0
Prop In Lane	1.00		0.89	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	806	382	294	1061	543	339	1158	516	194	1164	660
V/C Ratio(X)	1.10	0.99	1.00	1.15	1.01	1.01	0.36	1.17	0.46	0.70	0.47	0.33
Avail Cap(c_a), veh/h	159	806	382	294	1061	543	339	1158	516	194	1164	660
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	45.7	45.7	50.1	41.3	41.3	24.1	40.5	32.1	29.7	32.1	23.6
Incr Delay (d2), s/veh	99.3	29.7	45.2	98.2	29.0	40.2	2.9	85.4	2.9	19.2	1.4	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	14.6	21.5	22.6	25.1	27.1	29.7	4.5	43.7	9.9	6.4	10.7	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	153.9	75.4	90.9	148.3	70.3	81.5	27.1	125.8	35.0	48.9	33.4	25.0
LnGrp LOS	F	E	F	F	F	F	C	F	D	D	C	C
Approach Vol, veh/h		1353			1950			1713			899	
Approach Delay, s/veh		89.8			86.9			106.2			33.7	
Approach LOS		F			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	42.6	15.2	45.2	26.0	33.6	15.4	45.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	10.7	* 37	9.1	39.3	* 20	* 28	9.0	39.1				
Max Q Clear Time (g_c+I1), s	12.7	39.4	7.3	16.7	21.8	30.3	7.9	41.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	85.1
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	16	85	19	132	23	300	9	835	135	624	222	22
Future Volume (veh/h)	16	85	19	132	23	300	9	835	135	624	222	22
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	17	92	21	143	25	326	10	908	147	678	241	24
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	45	166	32	169	20	343	11	1045	179	524	493	49
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.34	0.34	0.34	0.29	0.29	0.29
Sat Flow, veh/h	0	766	148	440	93	1585	33	3083	528	1781	1674	167
Grp Volume(v), veh/h	130	0	0	168	0	326	571	0	494	678	0	265
Grp Sat Flow(s),veh/h/ln	914	0	0	532	0	1585	1869	0	1775	1781	0	1840
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	18.3	26.2	0.0	22.9	26.5	0.0	10.7
Cycle Q Clear(g_c), s	19.5	0.0	0.0	19.5	0.0	18.3	26.2	0.0	22.9	26.5	0.0	10.7
Prop In Lane	0.13		0.16	0.85		1.00	0.02		0.30	1.00		0.09
Lane Grp Cap(c), veh/h	243	0	0	189	0	343	633	0	602	524	0	542
V/C Ratio(X)	0.53	0.00	0.00	0.89	0.00	0.95	0.90	0.00	0.82	1.29	0.00	0.49
Avail Cap(c_a), veh/h	243	0	0	189	0	343	633	0	602	524	0	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.37	0.00	0.37
Uniform Delay (d), s/veh	30.3	0.0	0.0	38.2	0.0	34.8	28.3	0.0	27.2	31.8	0.0	26.2
Incr Delay (d2), s/veh	8.2	0.0	0.0	36.0	0.0	35.4	18.4	0.0	11.9	137.1	0.0	1.2
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	5.2	0.0	0.0	9.5	0.0	15.5	20.7	0.0	16.8	42.7	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	0.0	74.2	0.0	70.2	46.7	0.0	39.2	168.8	0.0	27.3
LnGrp LOS	D	A	A	E	A	E	D	A	D	F	A	C
Approach Vol, veh/h		130			494			1065				943
Approach Delay, s/veh		38.4			71.5			43.2				129.1
Approach LOS		D			E			D				F
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		31.0		24.0		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		19.5		26.5		19.5		30.5				
Max Q Clear Time (g_c+I1), s		21.5		28.5		21.5		28.2				
Green Ext Time (p_c), s		0.0		0.0		0.0		1.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				79.1								
HCM 6th LOS				E								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/09/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT		T	TT	TT	T
Traffic Volume (veh/h)	222	37	470	1010	533	488
Future Volume (veh/h)	222	37	470	1010	533	488
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	278	0	511	1098	579	530
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	395	176	534	2804	1560	696
Arrive On Green	0.11	0.00	0.30	0.79	0.44	0.44
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	278	0	511	1098	579	530
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	6.8	0.0	25.3	8.5	9.8	25.4
Cycle Q Clear(g_c), s	6.8	0.0	25.3	8.5	9.8	25.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	395	176	534	2804	1560	696
V/C Ratio(X)	0.70	0.00	0.96	0.39	0.37	0.76
Avail Cap(c_a), veh/h	713	317	534	2804	1560	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.61	0.61
Uniform Delay (d), s/veh	38.6	0.0	30.9	2.9	16.9	21.3
Incr Delay (d2), s/veh	2.3	0.0	29.5	0.4	0.4	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	21.2	3.7	6.5	13.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.9	0.0	60.4	3.3	17.3	26.1
LnGrp LOS	D	A	E	A	B	C
Approach Vol, veh/h	278			1609	1109	
Approach Delay, s/veh	40.9			21.4	21.5	
Approach LOS	D			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.5		14.5	31.5	44.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	27.0	31.5
Max Q Clear Time (g_c+I1), s		10.5		8.8	27.3	27.4
Green Ext Time (p_c), s		10.9		0.6	0.0	2.3

### Intersection Summary

HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	180	907	233	260	950	133	134	370	110	118	1159	142
Future Volume (veh/h)	180	907	233	260	950	133	134	370	110	118	1159	142
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	196	986	253	283	1033	145	146	402	120	128	1260	154
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	175	1135	352	284	889	125	207	912	269	400	1084	132
Arrive On Green	0.10	0.22	0.22	0.32	0.57	0.57	0.08	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	1781	5106	1585	1781	3129	439	1781	2705	799	1781	3189	388
Grp Volume(v), veh/h	196	986	253	283	586	592	146	263	259	128	700	714
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1791	1781	1777	1727	1781	1777	1800
Q Serve(g_s), s	11.8	22.3	17.7	19.0	34.1	34.1	6.2	13.8	14.1	5.4	40.8	40.8
Cycle Q Clear(g_c), s	11.8	22.3	17.7	19.0	34.1	34.1	6.2	13.8	14.1	5.4	40.8	40.8
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.46	1.00		0.22
Lane Grp Cap(c), veh/h	175	1135	352	284	505	509	207	599	582	400	604	612
V/C Ratio(X)	1.12	0.87	0.72	1.00	1.16	1.16	0.70	0.44	0.45	0.32	1.16	1.17
Avail Cap(c_a), veh/h	175	1135	352	284	505	509	208	599	582	402	604	612
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	0.47	0.47	0.47	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	45.0	43.2	40.9	25.9	25.9	28.8	30.9	31.0	22.8	39.6	39.6
Incr Delay (d2), s/veh	103.5	9.1	11.9	36.1	83.2	84.0	7.1	1.6	1.7	0.5	88.6	91.9
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	16.3	15.6	12.8	13.4	29.7	30.0	5.4	9.5	9.5	4.2	45.8	47.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.6	54.1	55.1	77.0	109.1	109.9	35.9	32.5	32.7	23.2	128.2	131.5
LnGrp LOS	F	D	E	E	F	F	D	C	C	C	F	F
Approach Vol, veh/h		1435			1461			668			1542	
Approach Delay, s/veh		68.4			103.2			33.3			121.0	
Approach LOS		E			F			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.4	31.8	15.8	47.0	18.0	39.2	16.2	46.7				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	19.1	* 27	* 10	* 41	* 12	* 34	10.0	* 40				
Max Q Clear Time (g_c+I1), s	21.0	24.3	8.2	42.8	13.8	36.1	7.4	16.1				
Green Ext Time (p_c), s	0.0	1.8	0.1	0.0	0.0	0.0	0.1	6.2				

### Intersection Summary

HCM 6th Ctrl Delay	89.7
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: Sepulveda Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Traffic Volume (veh/h)	109	858	162	252	1035	198	158	1141	457	182	1084	181
Future Volume (veh/h)	109	858	162	252	1035	198	158	1141	457	182	1084	181
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	118	933	176	274	1125	215	172	1240	497	198	1178	197
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	141	957	180	279	1284	245	206	1217	543	205	1250	683
Arrive On Green	0.03	0.07	0.07	0.16	0.30	0.30	0.08	0.34	0.34	0.08	0.35	0.35
Sat Flow, veh/h	1781	4317	811	1781	4304	822	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	118	735	374	274	890	450	172	1240	497	198	1178	197
Grp Sat Flow(s),veh/h/ln	1781	1702	1724	1781	1702	1722	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.9	25.9	26.0	18.4	29.8	29.8	7.5	41.1	36.0	9.2	38.6	9.7
Cycle Q Clear(g_c), s	7.9	25.9	26.0	18.4	29.8	29.8	7.5	41.1	36.0	9.2	38.6	9.7
Prop In Lane	1.00		0.47	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	755	382	279	1016	514	206	1217	543	205	1250	683
V/C Ratio(X)	0.84	0.97	0.98	0.98	0.88	0.88	0.84	1.02	0.92	0.96	0.94	0.29
Avail Cap(c_a), veh/h	141	755	382	279	1016	514	206	1217	543	205	1250	683
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	55.3	55.3	50.4	40.0	40.0	29.4	39.5	37.8	32.5	37.7	22.2
Incr Delay (d2), s/veh	41.7	27.0	41.0	49.5	10.5	18.6	31.5	30.6	22.5	54.0	15.0	1.1
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	9.2	21.0	23.0	17.7	19.9	21.5	8.6	31.0	24.0	11.3	26.3	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.4	82.3	96.3	99.9	50.5	58.6	60.9	70.1	60.3	86.5	52.7	23.3
LnGrp LOS	F	F	F	F	D	E	E	F	E	F	D	C
Approach Vol, veh/h		1227			1614			1909			1573	
Approach Delay, s/veh		88.2			61.2			66.7			53.3	
Approach LOS		F			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	41.0	15.1	48.1	25.0	31.8	16.2	47.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	9.5	* 36	9.0	42.2	* 19	* 27	9.8	41.1				
Max Q Clear Time (g_c+I1), s	9.9	31.8	9.5	40.6	20.4	28.0	11.2	43.1				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.4	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	66.1
HCM 6th LOS	E

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	2	152	16	105	48	200	8	472	113	450	516	22
Future Volume (veh/h)	2	152	16	105	48	200	8	472	113	450	516	22
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	2	165	17	114	52	217	9	513	123	489	561	24
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	50	415	42	304	124	395	12	693	176	517	646	28
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.33	0.33	0.33
Sat Flow, veh/h	4	1663	170	895	499	1585	48	2840	720	1584	1977	85
Grp Volume(v), veh/h	184	0	0	166	0	217	348	0	297	553	0	521
Grp Sat Flow(s),veh/h/ln	1837	0	0	1394	0	1585	1868	0	1741	1791	0	1855
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	8.9	13.0	0.0	11.7	22.6	0.0	19.7
Cycle Q Clear(g_c), s	6.3	0.0	0.0	7.2	0.0	8.9	13.0	0.0	11.7	22.6	0.0	19.7
Prop In Lane	0.01		0.09	0.69		1.00	0.03		0.41	0.88		0.05
Lane Grp Cap(c), veh/h	507	0	0	428	0	395	456	0	425	585	0	606
V/C Ratio(X)	0.36	0.00	0.00	0.39	0.00	0.55	0.76	0.00	0.70	0.95	0.00	0.86
Avail Cap(c_a), veh/h	507	0	0	428	0	395	456	0	425	585	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	23.5	0.0	0.0	23.7	0.0	24.5	26.3	0.0	25.8	24.6	0.0	23.6
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.6	0.0	1.6	11.5	0.0	9.2	4.1	0.0	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	5.2	0.0	0.0	4.4	0.0	6.1	11.3	0.0	9.6	11.1	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	0.0	24.3	0.0	26.1	37.8	0.0	35.1	28.7	0.0	25.2
LnGrp LOS	C	A	A	C	A	C	D	A	D	C	A	C
Approach Vol, veh/h		184			383			645			1074	
Approach Delay, s/veh		25.5			25.3			36.6			27.0	
Approach LOS		C			C			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.2		29.0		23.2		22.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.7		24.5		18.7		18.3				
Max Q Clear Time (g_c+I1), s		8.3		24.6		10.9		15.0				
Green Ext Time (p_c), s		0.7		0.0		1.1		1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.3								
HCM 6th LOS				C								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/09/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	479	54	171	791	1386	70
Future Volume (veh/h)	479	54	171	791	1386	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	576	0	186	860	1507	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	658	293	356	2542	1653	737
Arrive On Green	0.18	0.00	0.20	0.72	0.47	0.47
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	576	0	186	860	1507	76
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.2	0.0	8.4	8.2	35.4	2.4
Cycle Q Clear(g_c), s	14.2	0.0	8.4	8.2	35.4	2.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	658	293	356	2542	1653	737
V/C Ratio(X)	0.88	0.00	0.52	0.34	0.91	0.10
Avail Cap(c_a), veh/h	713	317	356	2542	1653	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.20	0.20
Uniform Delay (d), s/veh	35.7	0.0	32.2	4.8	22.3	13.5
Incr Delay (d2), s/veh	11.2	0.0	5.4	0.4	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.4	0.0	7.3	4.6	17.0	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.8	0.0	37.5	5.2	24.5	13.6
LnGrp LOS	D	A	D	A	C	B
Approach Vol, veh/h	576			1046	1583	
Approach Delay, s/veh	46.8			10.9	24.0	
Approach LOS	D			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		68.9		21.1	22.5	46.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	18.0	40.5
Max Q Clear Time (g_c+I1), s		10.2		16.2	10.4	37.4
Green Ext Time (p_c), s		7.6		0.5	0.3	2.5

### Intersection Summary

HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	184	913	187	515	1073	140	225	723	186	123	503	99
Future Volume (veh/h)	184	913	187	515	1073	140	225	723	186	123	503	99
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	200	992	203	560	1166	152	245	786	202	134	547	108
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	175	953	296	426	1038	135	313	819	210	216	873	172
Arrive On Green	0.10	0.19	0.19	0.48	0.66	0.66	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	3162	411	1781	2799	719	1781	2960	582
Grp Volume(v), veh/h	200	992	203	560	654	664	245	499	489	134	328	327
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1796	1781	1777	1741	1781	1777	1766
Q Serve(g_s), s	11.8	22.4	14.3	28.7	39.4	39.4	10.0	33.2	33.2	6.1	19.1	19.3
Cycle Q Clear(g_c), s	11.8	22.4	14.3	28.7	39.4	39.4	10.0	33.2	33.2	6.1	19.1	19.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	175	953	296	426	583	590	313	520	509	216	524	521
V/C Ratio(X)	1.14	1.04	0.69	1.31	1.12	1.13	0.78	0.96	0.96	0.62	0.62	0.63
Avail Cap(c_a), veh/h	175	953	296	426	583	590	313	520	509	218	524	521
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	0.34	0.34	0.34	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	48.8	45.5	31.3	20.6	20.6	32.3	41.7	41.7	30.4	36.6	36.6
Incr Delay (d2), s/veh	111.3	40.3	12.2	147.3	62.7	64.9	5.6	17.9	18.1	5.2	5.5	5.7
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	16.9	19.3	10.9	37.1	26.0	26.8	4.3	21.4	21.0	5.2	14.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.4	89.1	57.8	178.6	83.3	85.5	37.8	59.6	59.9	35.7	42.1	42.3
LnGrp LOS	F	F	E	F	F	F	D	E	E	D	D	D
Approach Vol, veh/h		1395			1878			1233			789	
Approach Delay, s/veh		95.5			112.5			55.4			41.1	
Approach LOS		F			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	27.5	15.9	41.6	18.0	44.5	16.2	41.3				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	28.7	* 22	* 10	* 35	* 12	* 39	10.0	* 35				
Max Q Clear Time (g_c+I1), s	30.7	24.4	12.0	21.3	13.8	41.4	8.1	35.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.1	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	84.1
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: Sepulveda Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Traffic Volume (veh/h)	162	786	314	324	1287	209	109	1258	225	126	519	197
Future Volume (veh/h)	162	786	314	324	1287	209	109	1258	225	126	519	197
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	176	854	341	352	1399	227	118	1367	245	137	564	214
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	159	880	350	294	1417	230	327	1128	503	194	1134	647
Arrive On Green	0.09	0.24	0.24	0.17	0.32	0.32	0.08	0.32	0.32	0.07	0.32	0.32
Sat Flow, veh/h	1781	3590	1427	1781	4427	718	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	176	810	385	352	1075	551	118	1367	245	137	564	214
Grp Sat Flow(s),veh/h/ln	1781	1702	1613	1781	1702	1741	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.7	28.3	28.4	19.8	37.7	37.7	5.2	38.1	15.0	6.1	15.4	11.1
Cycle Q Clear(g_c), s	10.7	28.3	28.4	19.8	37.7	37.7	5.2	38.1	15.0	6.1	15.4	11.1
Prop In Lane	1.00		0.88	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	834	395	294	1089	557	327	1128	503	194	1134	647
V/C Ratio(X)	1.11	0.97	0.98	1.20	0.99	0.99	0.36	1.21	0.49	0.71	0.50	0.33
Avail Cap(c_a), veh/h	159	834	395	294	1089	557	327	1128	503	194	1134	647
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	44.9	44.9	50.1	40.6	40.6	24.8	41.0	33.1	30.0	33.1	24.3
Incr Delay (d2), s/veh	103.3	24.8	39.4	117.1	24.4	35.3	3.1	103.6	3.3	19.6	1.6	1.4
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	14.9	21.0	22.1	27.6	26.4	29.0	4.4	47.2	10.3	6.5	11.2	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	158.0	69.7	84.4	167.2	64.9	75.9	27.9	144.5	36.4	49.6	34.6	25.7
LnGrp LOS	F	E	F	F	E	E	C	F	D	D	C	C
Approach Vol, veh/h		1371			1978			1730			915	
Approach Delay, s/veh		85.2			86.2			121.3			34.8	
Approach LOS		F			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	43.6	15.2	44.2	26.0	34.6	15.4	44.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	10.7	* 38	9.1	38.3	* 20	* 29	9.0	38.1				
Max Q Clear Time (g_c+I1), s	12.7	39.7	7.2	17.4	21.8	30.4	8.1	40.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	88.2
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	16	86	19	158	23	304	9	845	149	630	208	22
Future Volume (veh/h)	16	86	19	158	23	304	9	845	149	630	208	22
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	17	93	21	172	25	330	10	918	162	685	226	24
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	45	172	33	172	14	359	11	1029	192	507	473	50
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.34	0.34	0.34	0.28	0.28	0.28
Sat Flow, veh/h	0	760	145	430	63	1585	32	3037	568	1781	1662	177
Grp Volume(v), veh/h	131	0	0	197	0	330	585	0	505	685	0	250
Grp Sat Flow(s),veh/h/ln	906	0	0	493	0	1585	1869	0	1768	1781	0	1839
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	18.3	27.1	0.0	23.8	25.6	0.0	10.1
Cycle Q Clear(g_c), s	20.4	0.0	0.0	20.4	0.0	18.3	27.1	0.0	23.8	25.6	0.0	10.1
Prop In Lane	0.13		0.16	0.87		1.00	0.02		0.32	1.00		0.10
Lane Grp Cap(c), veh/h	250	0	0	187	0	359	633	0	599	507	0	523
V/C Ratio(X)	0.52	0.00	0.00	1.06	0.00	0.92	0.92	0.00	0.84	1.35	0.00	0.48
Avail Cap(c_a), veh/h	250	0	0	187	0	359	633	0	599	507	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.36	0.00	0.36
Uniform Delay (d), s/veh	29.6	0.0	0.0	38.9	0.0	34.0	28.6	0.0	27.5	32.2	0.0	26.7
Incr Delay (d2), s/veh	7.6	0.0	0.0	81.3	0.0	28.0	21.4	0.0	13.5	163.1	0.0	1.1
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	5.1	0.0	0.0	13.4	0.0	14.7	21.8	0.0	17.5	46.8	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	0.0	0.0	120.2	0.0	61.9	50.0	0.0	41.0	195.3	0.0	27.8
LnGrp LOS	D	A	A	F	A	E	D	A	D	F	A	C
Approach Vol, veh/h		131			527			1090				935
Approach Delay, s/veh		37.2			83.7			45.8				150.5
Approach LOS		D			F			D				F
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.9		30.1		24.9		35.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.4		25.6		20.4		30.5				
Max Q Clear Time (g_c+I1), s		22.4		27.6		22.4		29.1				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				89.3								
HCM 6th LOS				F								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/06/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT		T	TT	TT	T
Traffic Volume (veh/h)	224	63	487	1014	561	494
Future Volume (veh/h)	224	63	487	1014	561	494
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	162	529	1102	610	537
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	228	203	526	2744	1516	676
Arrive On Green	0.13	0.13	0.30	0.77	0.43	0.43
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	156	162	529	1102	610	537
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	7.5	8.9	26.6	9.2	10.7	26.4
Cycle Q Clear(g_c), s	7.5	8.9	26.6	9.2	10.7	26.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	228	203	526	2744	1516	676
V/C Ratio(X)	0.68	0.80	1.00	0.40	0.40	0.79
Avail Cap(c_a), veh/h	356	317	526	2744	1516	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.55	0.55
Uniform Delay (d), s/veh	37.5	38.1	31.7	3.4	17.9	22.4
Incr Delay (d2), s/veh	3.6	7.6	40.4	0.4	0.4	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	12.6	23.7	4.4	6.8	14.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.1	45.7	72.1	3.8	18.3	27.7
LnGrp LOS	D	D	F	A	B	C
Approach Vol, veh/h	318			1631	1147	
Approach Delay, s/veh	43.4			26.0	22.7	
Approach LOS	D			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		74.0		16.0	31.1	42.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	26.6	31.9
Max Q Clear Time (g_c+I1), s		11.2		10.9	28.6	28.4
Green Ext Time (p_c), s		10.9		0.6	0.0	2.0

### Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

### Notes



























User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	182	924	229	235	955	134	137	375	111	119	1172	143
Future Volume (veh/h)	182	924	229	235	955	134	137	375	111	119	1172	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	198	1004	249	255	1038	146	149	408	121	129	1274	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	175	1169	363	272	888	125	207	914	268	397	1085	131
Arrive On Green	0.10	0.23	0.23	0.30	0.57	0.57	0.08	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	1781	5106	1585	1781	3129	440	1781	2709	795	1781	3191	386
Grp Volume(v), veh/h	198	1004	249	255	589	595	149	266	263	129	707	722
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1791	1781	1777	1727	1781	1777	1801
Q Serve(g_s), s	11.8	22.6	17.2	16.7	34.1	34.1	6.4	14.0	14.3	5.4	40.8	40.8
Cycle Q Clear(g_c), s	11.8	22.6	17.2	16.7	34.1	34.1	6.4	14.0	14.3	5.4	40.8	40.8
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.46	1.00		0.21
Lane Grp Cap(c), veh/h	175	1169	363	272	504	509	207	599	582	397	604	612
V/C Ratio(X)	1.13	0.86	0.69	0.94	1.17	1.17	0.72	0.44	0.45	0.32	1.17	1.18
Avail Cap(c_a), veh/h	175	1169	363	272	504	509	208	599	582	399	604	612
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	0.52	0.52	0.52	0.64	0.64	0.64	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	44.4	42.3	41.2	25.9	25.9	28.9	31.0	31.1	22.8	39.6	39.6
Incr Delay (d2), s/veh	107.4	8.3	10.1	25.0	86.7	87.5	7.4	1.5	1.6	0.5	93.3	96.9
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	16.6	15.7	12.3	11.5	30.6	31.0	5.4	9.5	9.5	4.2	47.1	48.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.5	52.7	52.4	66.2	112.6	113.5	36.3	32.5	32.7	23.3	132.9	136.5
LnGrp LOS	F	D	D	E	F	F	D	C	C	C	F	F
Approach Vol, veh/h		1451			1439			678			1558	
Approach Delay, s/veh		67.5			104.7			33.4			125.5	
Approach LOS		E			F			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.6	32.6	15.8	47.0	18.0	39.2	16.2	46.7				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	18.3	* 27	* 10	* 41	* 12	* 34	10.0	* 40				
Max Q Clear Time (g_c+I1), s	18.7	24.6	8.4	42.8	13.8	36.1	7.4	16.3				
Green Ext Time (p_c), s	0.0	2.2	0.1	0.0	0.0	0.0	0.1	6.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			91.1									
HCM 6th LOS			F									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Sepulveda Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷	↷	↶	↷	↷
Traffic Volume (veh/h)	110	872	167	263	1037	200	144	1151	469	184	1103	176
Future Volume (veh/h)	110	872	167	263	1037	200	144	1151	469	184	1103	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	120	948	182	286	1127	217	157	1251	510	200	1199	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	141	1004	192	279	1332	256	195	1188	530	200	1208	664
Arrive On Green	0.03	0.08	0.08	0.16	0.31	0.31	0.08	0.33	0.33	0.08	0.34	0.34
Sat Flow, veh/h	1781	4303	823	1781	4298	827	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	120	749	381	286	892	452	157	1251	510	200	1199	191
Grp Sat Flow(s),veh/h/ln	1781	1702	1722	1781	1702	1721	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.1	26.3	26.4	18.8	29.4	29.4	6.9	40.1	37.9	9.4	40.3	9.5
Cycle Q Clear(g_c), s	8.1	26.3	26.4	18.8	29.4	29.4	6.9	40.1	37.9	9.4	40.3	9.5
Prop In Lane	1.00		0.48	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	794	402	279	1055	534	195	1188	530	200	1208	664
V/C Ratio(X)	0.85	0.94	0.95	1.02	0.85	0.85	0.80	1.05	0.96	1.00	0.99	0.29
Avail Cap(c_a), veh/h	141	794	402	279	1055	534	195	1188	530	200	1208	664
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	54.6	54.6	50.6	38.7	38.7	29.7	39.9	39.2	32.7	39.4	23.0
Incr Delay (d2), s/veh	44.0	20.8	33.4	60.4	8.3	15.2	28.7	41.4	30.9	64.3	24.1	1.1
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	9.4	20.5	22.5	19.2	19.4	20.8	7.9	33.2	26.2	12.1	28.9	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	75.4	88.1	111.0	47.1	53.9	58.3	81.4	70.1	97.0	63.6	24.1
LnGrp LOS	F	E	F	F	D	D	E	F	E	F	E	C
Approach Vol, veh/h		1250			1630			1918			1590	
Approach Delay, s/veh		81.8			60.2			76.5			63.0	
Approach LOS		F			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	42.4	15.1	46.7	25.0	33.2	15.8	46.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	9.5	* 37	9.0	40.8	* 19	* 28	9.4	40.1				
Max Q Clear Time (g_c+I1), s	10.1	31.4	8.9	42.3	20.8	28.4	11.4	42.1				
Green Ext Time (p_c), s	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	2	154	16	126	48	203	8	479	132	454	490	22
Future Volume (veh/h)	2	154	16	126	48	203	8	479	132	454	490	22
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	2	167	17	137	52	221	9	521	143	493	533	24
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	50	415	42	314	107	395	11	671	195	533	628	29
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.33	0.33	0.33
Sat Flow, veh/h	4	1665	168	928	428	1585	46	2748	800	1632	1924	87
Grp Volume(v), veh/h	186	0	0	189	0	221	364	0	309	540	0	510
Grp Sat Flow(s),veh/h/ln	1837	0	0	1356	0	1585	1868	0	1726	1789	0	1855
Q Serve(g_s), s	0.0	0.0	0.0	2.6	0.0	9.1	13.7	0.0	12.3	21.9	0.0	19.1
Cycle Q Clear(g_c), s	6.3	0.0	0.0	8.9	0.0	9.1	13.7	0.0	12.3	21.9	0.0	19.1
Prop In Lane	0.01		0.09	0.72		1.00	0.02		0.46	0.91		0.05
Lane Grp Cap(c), veh/h	507	0	0	421	0	395	456	0	421	584	0	606
V/C Ratio(X)	0.37	0.00	0.00	0.45	0.00	0.56	0.80	0.00	0.73	0.92	0.00	0.84
Avail Cap(c_a), veh/h	507	0	0	421	0	395	456	0	421	584	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	23.5	0.0	0.0	24.4	0.0	24.6	26.6	0.0	26.1	24.4	0.0	23.4
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.8	0.0	1.8	13.7	0.0	10.8	3.1	0.0	1.4
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	5.3	0.0	0.0	5.2	0.0	6.2	12.1	0.0	10.1	10.6	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	0.0	25.1	0.0	26.3	40.3	0.0	36.9	27.5	0.0	24.8
LnGrp LOS	C	A	A	C	A	C	D	A	D	C	A	C
Approach Vol, veh/h		186			410			673			1050	
Approach Delay, s/veh		25.6			25.8			38.7			26.2	
Approach LOS		C			C			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.2		29.0		23.2		22.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.7		24.5		18.7		18.3				
Max Q Clear Time (g_c+I1), s		8.3		23.9		11.1		15.7				
Green Ext Time (p_c), s		0.7		0.4		1.2		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.7								
HCM 6th LOS				C								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/06/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	483	77	189	781	1417	73
Future Volume (veh/h)	483	77	189	781	1417	73
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	603	0	205	849	1540	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	680	302	356	2520	1632	728
Arrive On Green	0.19	0.00	0.20	0.71	0.46	0.46
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	603	0	205	849	1540	79
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.8	0.0	9.4	8.2	37.2	2.6
Cycle Q Clear(g_c), s	14.8	0.0	9.4	8.2	37.2	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	680	302	356	2520	1632	728
V/C Ratio(X)	0.89	0.00	0.58	0.34	0.94	0.11
Avail Cap(c_a), veh/h	713	317	356	2520	1632	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.09	0.09
Uniform Delay (d), s/veh	35.5	0.0	32.5	5.0	23.2	13.9
Incr Delay (d2), s/veh	12.7	0.0	6.6	0.4	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.0	0.0	8.1	4.6	16.7	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.1	0.0	39.2	5.4	24.8	13.9
LnGrp LOS	D	A	D	A	C	B
Approach Vol, veh/h	603			1054	1619	
Approach Delay, s/veh	48.1			11.9	24.3	
Approach LOS	D			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		68.3		21.7	22.5	45.8
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	18.0	40.5
Max Q Clear Time (g_c+I1), s		10.2		16.8	11.4	39.2
Green Ext Time (p_c), s		7.5		0.3	0.3	1.1

### Intersection Summary

HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	226	1120	229	632	1315	172	276	888	228	151	618	122
Future Volume (veh/h)	226	1120	229	632	1315	172	276	888	228	151	618	122
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	246	1217	249	687	1429	187	300	965	248	164	672	133
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	190	1047	325	381	991	128	274	836	214	208	890	176
Arrive On Green	0.11	0.21	0.21	0.28	0.42	0.42	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	1781	5106	1585	1781	3163	410	1781	2800	718	1781	2957	585
Grp Volume(v), veh/h	246	1217	249	687	797	819	300	611	602	164	403	402
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1797	1781	1777	1741	1781	1777	1765
Q Serve(g_s), s	12.8	24.6	17.8	25.7	37.6	37.6	10.1	35.8	35.8	7.5	24.7	24.7
Cycle Q Clear(g_c), s	12.8	24.6	17.8	25.7	37.6	37.6	10.1	35.8	35.8	7.5	24.7	24.7
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	190	1047	325	381	557	563	274	531	520	208	535	531
V/C Ratio(X)	1.29	1.16	0.77	1.80	1.43	1.46	1.09	1.15	1.16	0.79	0.75	0.76
Avail Cap(c_a), veh/h	190	1047	325	381	557	563	274	531	520	208	535	531
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	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	0.18	0.18	0.18	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	47.7	45.0	42.9	35.0	35.0	36.3	42.1	42.1	30.6	37.9	38.0
Incr Delay (d2), s/veh	165.9	83.9	15.8	361.3	194.8	206.0	53.3	72.7	74.9	18.1	9.5	9.7
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	22.8	27.6	13.1	68.3	60.3	63.7	9.7	32.9	32.7	7.6	17.8	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	219.5	131.6	60.8	404.2	229.8	241.0	89.6	114.8	117.0	48.7	47.5	47.6
LnGrp LOS	F	F	E	F	F	F	F	F	F	D	D	D
Approach Vol, veh/h		1712			2303			1513			969	
Approach Delay, s/veh		133.9			285.8			110.7			47.8	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	29.7	16.0	42.3	19.0	42.7	16.3	42.0				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	25.7	* 25	* 10	* 36	* 13	* 38	10.0	* 36				
Max Q Clear Time (g_c+I1), s	27.7	26.6	12.1	26.7	14.8	39.6	9.5	37.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	169.5
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: Sepulveda Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↕↕↕		↰	↕↕↕		↰	↕↕	↰	↰	↕↕	↰
Traffic Volume (veh/h)	198	964	385	395	1579	257	133	1544	276	155	635	242
Future Volume (veh/h)	198	964	385	395	1579	257	133	1544	276	155	635	242
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	215	1048	418	429	1716	279	145	1678	300	168	690	263
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	203	861	343	294	1285	207	315	1069	477	232	1069	658
Arrive On Green	0.04	0.08	0.08	0.17	0.29	0.29	0.10	0.30	0.30	0.10	0.30	0.30
Sat Flow, veh/h	1781	3586	1430	1781	4430	715	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	215	995	471	429	1316	679	145	1678	300	168	690	263
Grp Sat Flow(s),veh/h/ln	1781	1702	1613	1781	1702	1742	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	13.7	28.8	28.8	19.8	34.8	34.8	6.4	36.1	19.6	7.5	20.2	14.0
Cycle Q Clear(g_c), s	13.7	28.8	28.8	19.8	34.8	34.8	6.4	36.1	19.6	7.5	20.2	14.0
Prop In Lane	1.00		0.89	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	817	387	294	987	505	315	1069	477	232	1069	658
V/C Ratio(X)	1.06	1.22	1.22	1.46	1.33	1.35	0.46	1.57	0.63	0.72	0.65	0.40
Avail Cap(c_a), veh/h	203	817	387	294	987	505	315	1069	477	232	1069	658
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	55.2	55.2	50.1	42.6	42.6	25.8	42.0	36.2	29.5	36.4	24.6
Incr Delay (d2), s/veh	79.0	109.0	119.3	224.7	156.7	168.2	4.8	260.9	6.2	17.8	3.0	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	16.9	37.7	37.3	41.7	53.6	57.1	5.6	83.2	13.1	7.7	14.2	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	136.8	164.2	174.5	274.8	199.3	210.8	30.6	302.8	42.4	47.2	39.4	26.4
LnGrp LOS	F	F	F	F	F	F	C	F	D	D	D	C
Approach Vol, veh/h		1681			2424			2123				1121
Approach Delay, s/veh		163.6			215.9			247.4				37.5
Approach LOS		F			F			F				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	40.0	18.0	42.0	26.0	34.0	18.0	42.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	13.7	* 35	11.9	36.1	* 20	* 29	11.6	36.1				
Max Q Clear Time (g_c+I1), s	15.7	36.8	8.4	22.2	21.8	30.8	9.5	38.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	6.9	0.0	0.0	0.1	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	185.8
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary  
 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	20	105	24	188	29	373	11	1037	180	774	255	27
Future Volume (veh/h)	20	105	24	188	29	373	11	1037	180	774	255	27
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	22	114	26	204	32	405	12	1127	196	841	277	29
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	31	133	25	133	13	367	11	1100	202	541	506	53
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.36	0.36	0.36	0.30	0.30	0.30
Sat Flow, veh/h	0	574	110	350	55	1585	31	3048	559	1781	1665	174
Grp Volume(v), veh/h	162	0	0	236	0	405	715	0	620	841	0	306
Grp Sat Flow(s),veh/h/ln	683	0	0	405	0	1585	1869	0	1770	1781	0	1839
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	30.1	46.9	0.0	44.9	39.5	0.0	18.1
Cycle Q Clear(g_c), s	30.1	0.0	0.0	30.1	0.0	30.1	46.9	0.0	44.9	39.5	0.0	18.1
Prop In Lane	0.14		0.16	0.86		1.00	0.02		0.32	1.00		0.09
Lane Grp Cap(c), veh/h	190	0	0	145	0	367	674	0	638	541	0	559
V/C Ratio(X)	0.85	0.00	0.00	1.62	0.00	1.10	1.06	0.00	0.97	1.55	0.00	0.55
Avail Cap(c_a), veh/h	190	0	0	145	0	367	674	0	638	541	0	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	43.5	0.0	0.0	55.3	0.0	50.0	41.6	0.0	40.9	45.3	0.0	37.8
Incr Delay (d2), s/veh	35.9	0.0	0.0	310.0	0.0	77.9	51.6	0.0	29.3	250.1	0.0	0.4
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	10.4	0.0	0.0	29.3	0.0	28.6	41.8	0.0	32.6	75.3	0.0	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.4	0.0	0.0	365.3	0.0	127.8	93.2	0.0	70.2	295.3	0.0	38.1
LnGrp LOS	E	A	A	F	A	F	F	A	E	F	A	D
Approach Vol, veh/h		162			641			1335				1147
Approach Delay, s/veh		79.4			215.3			82.5				226.7
Approach LOS		E			F			F				F
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.6		44.0		34.6		51.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		30.1		39.5		30.1		46.9				
Max Q Clear Time (g_c+I1), s		32.1		41.5		32.1		48.9				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	158.6											
HCM 6th LOS	F											

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/06/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	275	72	595	1242	684	606
Future Volume (veh/h)	275	72	595	1242	684	606
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	196	647	1350	743	659
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	229	204	643	2868	1472	657
Arrive On Green	0.13	0.13	0.36	0.81	0.41	0.41
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	188	196	647	1350	743	659
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.4	17.2	50.5	16.5	21.7	58.0
Cycle Q Clear(g_c), s	14.4	17.2	50.5	16.5	21.7	58.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	229	204	643	2868	1472	657
V/C Ratio(X)	0.82	0.96	1.01	0.47	0.50	1.00
Avail Cap(c_a), veh/h	229	204	643	2868	1472	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.18	0.18
Uniform Delay (d), s/veh	59.4	60.7	44.8	4.2	30.4	41.0
Incr Delay (d2), s/veh	20.6	52.0	37.2	0.6	0.2	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.4	24.0	37.7	9.0	11.5	28.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	80.1	112.6	82.0	4.8	30.6	56.7
LnGrp LOS	F	F	F	A	C	F
Approach Vol, veh/h	384			1997	1402	
Approach Delay, s/veh	96.7			29.8	42.9	
Approach LOS	F			C	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		117.5		22.5	55.0	62.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		113.0		18.0	50.5	58.0
Max Q Clear Time (g_c+I1), s		18.5		19.2	52.5	60.0
Green Ext Time (p_c), s		16.3		0.0	0.0	0.0

### Intersection Summary

HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

### Notes



























User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	223	1133	281	289	1172	165	168	460	136	146	1438	176
Future Volume (veh/h)	223	1133	281	289	1172	165	168	460	136	146	1438	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	242	1232	305	314	1274	179	183	500	148	159	1563	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	175	1277	396	203	835	117	208	958	282	369	1139	137
Arrive On Green	0.10	0.25	0.25	0.15	0.35	0.35	0.08	0.35	0.35	0.08	0.36	0.36
Sat Flow, veh/h	1781	5106	1585	1781	3131	437	1781	2707	797	1781	3193	385
Grp Volume(v), veh/h	242	1232	305	314	720	733	183	327	321	159	860	894
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1792	1781	1777	1727	1781	1777	1801
Q Serve(g_s), s	11.8	28.6	21.4	13.7	32.0	32.0	8.1	17.5	17.7	6.6	42.8	42.8
Cycle Q Clear(g_c), s	11.8	28.6	21.4	13.7	32.0	32.0	8.1	17.5	17.7	6.6	42.8	42.8
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.46	1.00		0.21
Lane Grp Cap(c), veh/h	175	1277	396	203	474	478	208	629	611	369	634	642
V/C Ratio(X)	1.38	0.97	0.77	1.54	1.52	1.53	0.88	0.52	0.53	0.43	1.36	1.39
Avail Cap(c_a), veh/h	175	1277	396	203	474	478	208	629	611	395	634	642
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.23	0.23	0.23	0.40	0.40	0.40	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	44.5	41.8	50.9	38.7	38.7	30.7	30.7	30.8	22.5	38.6	38.6
Incr Delay (d2), s/veh	203.2	18.1	13.4	250.5	236.1	243.1	15.6	1.2	1.3	0.8	171.1	185.4
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	24.1	20.3	15.0	27.9	61.7	63.6	6.5	10.6	10.4	5.1	71.7	76.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	257.3	62.6	55.2	301.3	274.8	281.8	46.3	32.0	32.1	23.3	209.7	224.0
LnGrp LOS	F	E	E	F	F	F	D	C	C	C	F	F
Approach Vol, veh/h		1779			1767			831			1913	
Approach Delay, s/veh		87.8			282.4			35.2			200.9	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	35.1	15.9	49.0	18.0	37.1	16.3	48.6				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	13.7	* 30	* 10	* 43	* 12	* 32	11.7	* 41				
Max Q Clear Time (g_c+I1), s	15.7	30.6	10.1	44.8	13.8	34.0	8.6	19.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				169.9								
HCM 6th LOS				F								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Sepulveda Blvd & Venice Blvd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗	↗	↗↗	↗
Traffic Volume (veh/h)	135	1069	204	320	1273	246	176	1412	574	226	1352	216
Future Volume (veh/h)	135	1069	204	320	1273	246	176	1412	574	226	1352	216
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	147	1162	222	348	1384	267	191	1535	624	246	1470	235
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	134	1137	217	235	1375	265	194	1161	518	203	1188	649
Arrive On Green	0.02	0.09	0.09	0.13	0.32	0.32	0.08	0.33	0.33	0.08	0.33	0.33
Sat Flow, veh/h	1781	4304	822	1781	4297	828	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	147	919	465	348	1096	555	191	1535	624	246	1470	235
Grp Sat Flow(s),veh/h/ln	1781	1702	1722	1781	1702	1721	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.0	31.7	31.7	15.8	38.4	38.4	8.8	39.2	39.2	9.6	40.1	12.3
Cycle Q Clear(g_c), s	9.0	31.7	31.7	15.8	38.4	38.4	8.8	39.2	39.2	9.6	40.1	12.3
Prop In Lane	1.00		0.48	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	899	455	235	1089	551	194	1161	518	203	1188	649
V/C Ratio(X)	1.10	1.02	1.02	1.48	1.01	1.01	0.99	1.32	1.21	1.21	1.24	0.36
Avail Cap(c_a), veh/h	134	899	455	235	1089	551	194	1161	518	203	1188	649
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	54.8	54.8	52.1	40.8	40.8	31.5	40.4	40.4	32.7	39.9	24.6
Incr Delay (d2), s/veh	107.3	35.7	47.9	239.1	28.8	40.2	61.3	151.1	109.5	133.1	114.4	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	13.4	26.5	28.6	35.3	27.7	30.1	11.2	60.9	44.7	18.0	52.4	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.8	90.4	102.7	291.2	69.6	81.0	92.8	191.5	149.9	165.8	154.4	26.2
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	F	C
Approach Vol, veh/h		1531			1999			2350			1951	
Approach Delay, s/veh		101.4			111.3			172.5			140.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	43.6	15.1	46.0	22.0	36.9	16.0	45.1				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	9.0	* 38	9.0	40.1	* 16	* 32	9.6	39.2				
Max Q Clear Time (g_c+I1), s	11.0	40.4	10.8	42.1	17.8	33.7	11.6	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	135.0
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	2	188	20	150	60	249	10	587	158	558	601	27
Future Volume (veh/h)	2	188	20	150	60	249	10	587	158	558	601	27
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	2	204	22	163	65	271	11	638	172	607	653	29
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	40	324	35	140	29	393	11	671	193	586	690	31
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.36	0.36	0.36
Sat Flow, veh/h	0	1309	140	290	116	1585	46	2759	791	1634	1923	86
Grp Volume(v), veh/h	228	0	0	228	0	271	445	0	376	664	0	625
Grp Sat Flow(s),veh/h/ln	1448	0	0	405	0	1585	1868	0	1728	1789	0	1855
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	14.0	21.3	0.0	18.9	32.3	0.0	29.3
Cycle Q Clear(g_c), s	22.3	0.0	0.0	22.3	0.0	14.0	21.3	0.0	18.9	32.3	0.0	29.3
Prop In Lane	0.01		0.10	0.71		1.00	0.02		0.46	0.91		0.05
Lane Grp Cap(c), veh/h	399	0	0	169	0	393	455	0	420	642	0	666
V/C Ratio(X)	0.57	0.00	0.00	1.35	0.00	0.69	0.98	0.00	0.89	1.03	0.00	0.94
Avail Cap(c_a), veh/h	399	0	0	169	0	393	455	0	420	642	0	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	29.2	0.0	0.0	38.4	0.0	30.7	33.8	0.0	32.9	28.9	0.0	27.9
Incr Delay (d2), s/veh	5.8	0.0	0.0	190.8	0.0	5.1	37.5	0.0	23.9	21.3	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	0.0	0.0	21.3	0.0	9.7	20.3	0.0	15.8	19.5	0.0	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	0.0	0.0	229.2	0.0	35.8	71.3	0.0	56.8	50.1	0.0	31.2
LnGrp LOS	D	A	A	F	A	D	E	A	E	F	A	C
Approach Vol, veh/h		228			499			821			1289	
Approach Delay, s/veh		35.0			124.2			64.7			40.9	
Approach LOS		D			F			E			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.8		36.8		26.8		26.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.3		32.3		22.3		21.9				
Max Q Clear Time (g_c+I1), s		24.3		34.3		24.3		23.3				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				62.0								
HCM 6th LOS				E								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/06/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	592	89	228	955	1736	89
Future Volume (veh/h)	592	89	228	955	1736	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	734	0	248	1038	1887	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	740	329	255	2570	1938	864
Arrive On Green	0.21	0.00	0.14	0.72	0.55	0.55
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	734	0	248	1038	1887	97
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	26.7	0.0	18.0	14.9	66.9	3.9
Cycle Q Clear(g_c), s	26.7	0.0	18.0	14.9	66.9	3.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	740	329	255	2570	1938	864
V/C Ratio(X)	0.99	0.00	0.97	0.40	0.97	0.11
Avail Cap(c_a), veh/h	740	329	255	2570	1938	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.09	0.09
Uniform Delay (d), s/veh	51.4	0.0	55.5	7.0	28.6	14.3
Incr Delay (d2), s/veh	31.0	0.0	49.9	0.5	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.4	0.0	17.2	9.2	30.5	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	82.4	0.0	105.3	7.5	31.2	14.3
LnGrp LOS	F	A	F	A	C	B
Approach Vol, veh/h	734			1286	1984	
Approach Delay, s/veh	82.4			26.4	30.4	
Approach LOS	F			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.5		31.5	23.1	75.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		94.0		27.0	18.6	70.9
Max Q Clear Time (g_c+I1), s		16.9		28.7	20.0	68.9
Green Ext Time (p_c), s		10.2		0.0	0.0	1.8

### Intersection Summary

HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑		↘	↑↑		↘	↑↑	
Traffic Volume (veh/h)	184	913	192	528	1077	140	225	723	186	123	503	99
Future Volume (veh/h)	184	913	192	528	1077	140	225	723	186	123	503	99
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	200	992	209	574	1171	152	245	786	202	134	547	108
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	175	953	296	426	1039	134	313	819	210	216	873	172
Arrive On Green	0.10	0.19	0.19	0.48	0.66	0.66	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1781	5106	1585	1781	3164	410	1781	2799	719	1781	2960	582
Grp Volume(v), veh/h	200	992	209	574	656	667	245	499	489	134	328	327
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1797	1781	1777	1741	1781	1777	1766
Q Serve(g_s), s	11.8	22.4	14.8	28.7	39.4	39.4	10.0	33.2	33.2	6.1	19.1	19.3
Cycle Q Clear(g_c), s	11.8	22.4	14.8	28.7	39.4	39.4	10.0	33.2	33.2	6.1	19.1	19.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	175	953	296	426	583	590	313	520	509	216	524	521
V/C Ratio(X)	1.14	1.04	0.71	1.35	1.12	1.13	0.78	0.96	0.96	0.62	0.62	0.63
Avail Cap(c_a), veh/h	175	953	296	426	583	590	313	520	509	218	524	521
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	0.33	0.33	0.33	0.41	0.41	0.41	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	48.8	45.7	31.3	20.6	20.6	32.3	41.7	41.7	30.4	36.6	36.6
Incr Delay (d2), s/veh	111.3	40.3	13.3	161.5	64.1	66.4	5.3	17.3	17.6	5.2	5.5	5.7
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	16.9	19.3	11.2	39.7	26.3	27.1	4.2	21.2	20.8	5.2	14.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.4	89.1	59.0	192.8	84.7	87.0	37.6	59.1	59.3	35.7	42.1	42.3
LnGrp LOS	F	F	E	F	F	F	D	E	E	D	D	D
Approach Vol, veh/h		1401			1897			1233			789	
Approach Delay, s/veh		95.5			118.3			54.9			41.1	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	27.5	15.9	41.6	18.0	44.5	16.2	41.3				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	28.7	* 22	* 10	* 35	* 12	* 39	10.0	* 35				
Max Q Clear Time (g_c+I1), s	30.7	24.4	12.0	21.3	13.8	41.4	8.1	35.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.1	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	86.1
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: Sepulveda Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Traffic Volume (veh/h)	162	786	314	324	1292	209	117	1261	225	126	519	201
Future Volume (veh/h)	162	786	314	324	1292	209	117	1261	225	126	519	201
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	176	854	341	352	1404	227	127	1371	245	137	564	218
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	159	880	350	294	1418	229	327	1128	503	194	1134	647
Arrive On Green	0.09	0.24	0.24	0.17	0.32	0.32	0.08	0.32	0.32	0.07	0.32	0.32
Sat Flow, veh/h	1781	3590	1427	1781	4430	716	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	176	810	385	352	1079	552	127	1371	245	137	564	218
Grp Sat Flow(s),veh/h/ln	1781	1702	1613	1781	1702	1742	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.7	28.3	28.4	19.8	37.8	37.9	5.6	38.1	15.0	6.1	15.4	11.3
Cycle Q Clear(g_c), s	10.7	28.3	28.4	19.8	37.8	37.9	5.6	38.1	15.0	6.1	15.4	11.3
Prop In Lane	1.00		0.88	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	834	395	294	1089	557	327	1128	503	194	1134	647
V/C Ratio(X)	1.11	0.97	0.98	1.20	0.99	0.99	0.39	1.22	0.49	0.71	0.50	0.34
Avail Cap(c_a), veh/h	159	834	395	294	1089	557	327	1128	503	194	1134	647
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	44.9	44.9	50.1	40.6	40.6	25.0	41.0	33.1	30.0	33.1	24.4
Incr Delay (d2), s/veh	103.3	24.8	39.4	117.1	25.0	36.0	3.5	105.1	3.3	19.6	1.6	1.4
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	14.9	21.0	22.1	27.6	26.6	29.2	4.8	47.6	10.3	6.5	11.2	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	158.0	69.7	84.4	167.2	65.6	76.6	28.4	146.0	36.4	49.6	34.6	25.8
LnGrp LOS	F	E	F	F	E	E	C	F	D	D	C	C
Approach Vol, veh/h		1371			1983			1743			919	
Approach Delay, s/veh		85.2			86.7			122.1			34.8	
Approach LOS		F			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	43.6	15.2	44.2	26.0	34.6	15.4	44.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	10.7	* 38	9.1	38.3	* 20	* 29	9.0	38.1				
Max Q Clear Time (g_c+I1), s	12.7	39.9	7.6	17.4	21.8	30.4	8.1	40.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	88.7
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	16	86	19	159	23	304	9	845	149	631	225	22
Future Volume (veh/h)	16	86	19	159	23	304	9	845	149	631	225	22
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	17	93	21	173	25	330	10	918	162	686	245	24
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	45	174	33	173	14	365	11	1009	189	513	482	47
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.33	0.33	0.33	0.29	0.29	0.29
Sat Flow, veh/h	0	754	144	427	62	1585	32	3037	568	1781	1677	164
Grp Volume(v), veh/h	131	0	0	198	0	330	585	0	505	686	0	269
Grp Sat Flow(s),veh/h/ln	898	0	0	488	0	1585	1869	0	1768	1781	0	1841
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	18.2	27.4	0.0	24.0	25.9	0.0	11.0
Cycle Q Clear(g_c), s	20.7	0.0	0.0	20.7	0.0	18.2	27.4	0.0	24.0	25.9	0.0	11.0
Prop In Lane	0.13		0.16	0.87		1.00	0.02		0.32	1.00		0.09
Lane Grp Cap(c), veh/h	252	0	0	187	0	365	621	0	587	513	0	530
V/C Ratio(X)	0.52	0.00	0.00	1.06	0.00	0.91	0.94	0.00	0.86	1.34	0.00	0.51
Avail Cap(c_a), veh/h	252	0	0	187	0	365	621	0	587	513	0	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.32	0.00	0.32
Uniform Delay (d), s/veh	29.4	0.0	0.0	38.8	0.0	33.7	29.2	0.0	28.1	32.1	0.0	26.7
Incr Delay (d2), s/veh	7.5	0.0	0.0	81.8	0.0	25.2	24.5	0.0	15.1	156.5	0.0	1.1
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	5.1	0.0	0.0	13.5	0.0	14.4	22.5	0.0	17.9	45.6	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	0.0	0.0	120.6	0.0	58.9	53.8	0.0	43.1	188.6	0.0	27.8
LnGrp LOS	D	A	A	F	A	E	D	A	D	F	A	C
Approach Vol, veh/h		131			528			1090				955
Approach Delay, s/veh		36.9			82.1			48.8				143.3
Approach LOS		D			F			D				F
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.2		30.4		25.2		34.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.7		25.9		20.7		29.9				
Max Q Clear Time (g_c+I1), s		22.7		27.9		22.7		29.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				88.1								
HCM 6th LOS				F								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/09/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT		T	TT	TT	T
Traffic Volume (veh/h)	225	63	488	1032	561	494
Future Volume (veh/h)	225	63	488	1032	561	494
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	163	530	1122	610	537
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	229	204	526	2741	1513	675
Arrive On Green	0.13	0.13	0.30	0.77	0.43	0.43
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	156	163	530	1122	610	537
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	7.5	9.0	26.6	9.5	10.7	26.5
Cycle Q Clear(g_c), s	7.5	9.0	26.6	9.5	10.7	26.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	229	204	526	2741	1513	675
V/C Ratio(X)	0.68	0.80	1.01	0.41	0.40	0.80
Avail Cap(c_a), veh/h	356	317	526	2741	1513	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.55	0.55
Uniform Delay (d), s/veh	37.5	38.1	31.7	3.4	17.9	22.4
Incr Delay (d2), s/veh	3.5	7.7	40.9	0.5	0.4	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	12.7	23.8	4.5	6.8	14.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	45.8	72.6	3.9	18.3	27.8
LnGrp LOS	D	D	F	A	B	C
Approach Vol, veh/h	319			1652	1147	
Approach Delay, s/veh	43.5			25.9	22.8	
Approach LOS	D			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		73.9		16.1	31.1	42.8
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	26.6	31.9
Max Q Clear Time (g_c+I1), s		11.5		11.0	28.6	28.5
Green Ext Time (p_c), s		11.2		0.6	0.0	2.0

### Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

### Notes



























User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	182	924	238	262	964	134	137	375	111	119	1172	143
Future Volume (veh/h)	182	924	238	262	964	134	137	375	111	119	1172	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	198	1004	259	285	1048	146	149	408	121	129	1274	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	175	1143	355	281	889	124	207	914	268	397	1085	131
Arrive On Green	0.10	0.22	0.22	0.31	0.57	0.57	0.08	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	1781	5106	1585	1781	3133	436	1781	2709	795	1781	3191	386
Grp Volume(v), veh/h	198	1004	259	285	594	600	149	266	263	129	707	722
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1792	1781	1777	1727	1781	1777	1801
Q Serve(g_s), s	11.8	22.8	18.2	18.9	34.1	34.1	6.4	14.0	14.3	5.4	40.8	40.8
Cycle Q Clear(g_c), s	11.8	22.8	18.2	18.9	34.1	34.1	6.4	14.0	14.3	5.4	40.8	40.8
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.46	1.00		0.21
Lane Grp Cap(c), veh/h	175	1143	355	281	504	509	207	599	582	397	604	612
V/C Ratio(X)	1.13	0.88	0.73	1.02	1.18	1.18	0.72	0.44	0.45	0.32	1.17	1.18
Avail Cap(c_a), veh/h	175	1143	355	281	504	509	208	599	582	399	604	612
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	0.50	0.50	0.50	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	45.0	43.2	41.1	25.9	25.9	28.9	31.0	31.1	22.8	39.6	39.6
Incr Delay (d2), s/veh	107.4	9.6	12.4	42.0	90.2	91.2	7.0	1.4	1.5	0.5	93.3	96.9
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	16.6	15.9	13.1	14.1	31.3	31.7	5.3	9.4	9.4	4.2	47.1	48.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.5	54.6	55.6	83.1	116.1	117.1	35.8	32.4	32.6	23.3	132.9	136.5
LnGrp LOS	F	D	E	F	F	F	D	C	C	C	F	F
Approach Vol, veh/h		1461			1479			678			1558	
Approach Delay, s/veh		69.3			110.2			33.2			125.5	
Approach LOS		E			F			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.2	32.0	15.8	47.0	18.0	39.2	16.2	46.7				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	18.9	* 27	* 10	* 41	* 12	* 34	10.0	* 40				
Max Q Clear Time (g_c+I1), s	20.9	24.8	8.4	42.8	13.8	36.1	7.4	16.3				
Green Ext Time (p_c), s	0.0	1.6	0.1	0.0	0.0	0.0	0.1	6.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			93.2									
HCM 6th LOS			F									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Sepulveda Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Traffic Volume (veh/h)	110	872	167	263	1046	200	163	1158	469	184	1103	183
Future Volume (veh/h)	110	872	167	263	1046	200	163	1158	469	184	1103	183
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	120	948	182	286	1137	217	177	1259	510	200	1199	199
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	141	1004	192	279	1335	255	196	1188	530	200	1205	663
Arrive On Green	0.03	0.08	0.08	0.16	0.31	0.31	0.08	0.33	0.33	0.08	0.34	0.34
Sat Flow, veh/h	1781	4303	823	1781	4305	821	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	120	749	381	286	899	455	177	1259	510	200	1199	199
Grp Sat Flow(s),veh/h/ln	1781	1702	1722	1781	1702	1723	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.1	26.3	26.4	18.8	29.7	29.7	7.8	40.1	37.9	9.4	40.4	10.0
Cycle Q Clear(g_c), s	8.1	26.3	26.4	18.8	29.7	29.7	7.8	40.1	37.9	9.4	40.4	10.0
Prop In Lane	1.00		0.48	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	794	402	279	1055	534	196	1188	530	200	1205	663
V/C Ratio(X)	0.85	0.94	0.95	1.02	0.85	0.85	0.90	1.06	0.96	1.00	0.99	0.30
Avail Cap(c_a), veh/h	141	794	402	279	1055	534	196	1188	530	200	1205	663
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	54.6	54.6	50.6	38.8	38.8	29.9	39.9	39.2	32.7	39.5	23.2
Incr Delay (d2), s/veh	44.0	20.8	33.4	60.4	8.7	15.7	42.9	43.7	30.9	64.3	24.7	1.2
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	9.4	20.5	22.5	19.2	19.6	21.1	9.5	33.8	26.2	12.1	29.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.7	75.4	88.1	111.0	47.5	54.5	72.8	83.6	70.1	97.0	64.3	24.4
LnGrp LOS	F	E	F	F	D	D	E	F	E	F	E	C
Approach Vol, veh/h		1250			1640			1946			1598	
Approach Delay, s/veh		81.8			60.5			79.1			63.4	
Approach LOS		F			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	42.4	15.2	46.6	25.0	33.2	15.8	46.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	9.5	* 37	9.1	40.7	* 19	* 28	9.4	40.1				
Max Q Clear Time (g_c+I1), s	10.1	31.7	9.8	42.4	20.8	28.4	11.4	42.1				
Green Ext Time (p_c), s	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	71.0
HCM 6th LOS	E

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

# HCM 6th Signalized Intersection Summary

## 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	2	154	16	128	48	203	8	479	132	456	524	22
Future Volume (veh/h)	2	154	16	128	48	203	8	479	132	456	524	22
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	2	167	17	139	52	221	9	521	143	496	570	24
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	47	427	43	314	106	406	11	636	185	544	680	29
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.23	0.23	0.23	0.34	0.34	0.34
Sat Flow, veh/h	4	1665	168	920	413	1585	46	2748	800	1583	1979	84
Grp Volume(v), veh/h	186	0	0	191	0	221	364	0	309	561	0	529
Grp Sat Flow(s),veh/h/ln	1837	0	0	1333	0	1585	1868	0	1726	1791	0	1855
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	9.6	14.9	0.0	13.4	24.0	0.0	20.9
Cycle Q Clear(g_c), s	6.7	0.0	0.0	9.9	0.0	9.6	14.9	0.0	13.4	24.0	0.0	20.9
Prop In Lane	0.01		0.09	0.73		1.00	0.02		0.46	0.88		0.05
Lane Grp Cap(c), veh/h	516	0	0	419	0	406	432	0	399	616	0	638
V/C Ratio(X)	0.36	0.00	0.00	0.46	0.00	0.54	0.84	0.00	0.77	0.91	0.00	0.83
Avail Cap(c_a), veh/h	516	0	0	419	0	406	432	0	399	616	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	24.6	0.0	0.0	25.7	0.0	25.7	29.4	0.0	28.8	25.1	0.0	24.1
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.8	0.0	1.5	17.9	0.0	13.6	2.5	0.0	1.2
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	5.6	0.0	0.0	5.6	0.0	6.6	13.4	0.0	11.1	11.5	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	0.0	26.5	0.0	27.2	47.3	0.0	42.3	27.6	0.0	25.3
LnGrp LOS	C	A	A	C	A	C	D	A	D	C	A	C
Approach Vol, veh/h		186			412			673				1090
Approach Delay, s/veh		26.6			26.9			45.0				26.5
Approach LOS		C			C			D				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		32.0		25.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.5		27.5		20.5		18.5				
Max Q Clear Time (g_c+I1), s		8.7		26.0		11.9		16.9				
Green Ext Time (p_c), s		0.7		1.0		1.3		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				31.9								
HCM 6th LOS				C								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/09/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	👉👉		👉	👆👆	👇👇	👉
Traffic Volume (veh/h)	485	77	191	815	1417	73
Future Volume (veh/h)	485	77	191	815	1417	73
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	605	0	208	886	1540	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	681	303	356	2519	1630	727
Arrive On Green	0.19	0.00	0.20	0.71	0.46	0.46
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	605	0	208	886	1540	79
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.9	0.0	9.5	8.7	37.3	2.6
Cycle Q Clear(g_c), s	14.9	0.0	9.5	8.7	37.3	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	681	303	356	2519	1630	727
V/C Ratio(X)	0.89	0.00	0.58	0.35	0.94	0.11
Avail Cap(c_a), veh/h	713	317	356	2519	1630	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.09	0.09
Uniform Delay (d), s/veh	35.5	0.0	32.6	5.1	23.3	13.9
Incr Delay (d2), s/veh	12.8	0.0	6.8	0.4	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.0	0.0	8.3	4.9	16.7	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.2	0.0	39.4	5.5	24.9	13.9
LnGrp LOS	D	A	D	A	C	B
Approach Vol, veh/h	605			1094	1619	
Approach Delay, s/veh	48.2			11.9	24.3	
Approach LOS	D			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		68.3		21.7	22.5	45.8
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		63.0		18.0	18.0	40.5
Max Q Clear Time (g_c+I1), s		10.7		16.9	11.5	39.3
Green Ext Time (p_c), s		7.9		0.3	0.3	1.1

### Intersection Summary

HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C




























### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/09/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 			 	
Traffic Volume (veh/h)	226	1120	234	645	1319	172	276	888	228	151	618	122
Future Volume (veh/h)	226	1120	234	645	1319	172	276	888	228	151	618	122
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	246	1217	254	701	1434	187	300	965	248	164	672	133
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	190	1047	325	381	992	128	274	836	214	208	890	176
Arrive On Green	0.11	0.21	0.21	0.28	0.42	0.42	0.08	0.30	0.30	0.08	0.30	0.30
Sat Flow, veh/h	1781	5106	1585	1781	3165	409	1781	2800	718	1781	2957	585
Grp Volume(v), veh/h	246	1217	254	701	799	822	300	611	602	164	403	402
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1797	1781	1777	1741	1781	1777	1765
Q Serve(g_s), s	12.8	24.6	18.2	25.7	37.6	37.6	10.1	35.8	35.8	7.5	24.7	24.7
Cycle Q Clear(g_c), s	12.8	24.6	18.2	25.7	37.6	37.6	10.1	35.8	35.8	7.5	24.7	24.7
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.41	1.00		0.33
Lane Grp Cap(c), veh/h	190	1047	325	381	557	563	274	531	520	208	535	531
V/C Ratio(X)	1.29	1.16	0.78	1.84	1.43	1.46	1.09	1.15	1.16	0.79	0.75	0.76
Avail Cap(c_a), veh/h	190	1047	325	381	557	563	274	531	520	208	535	531
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	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	0.18	0.18	0.18	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	47.7	45.2	42.9	35.0	35.0	36.3	42.1	42.1	30.6	37.9	38.0
Incr Delay (d2), s/veh	165.9	83.9	16.9	377.8	196.6	208.1	53.3	72.7	74.9	18.1	9.5	9.7
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	22.8	27.6	13.5	70.9	60.7	64.2	9.7	32.9	32.7	7.6	17.8	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	219.5	131.6	62.1	420.7	231.6	243.1	89.6	114.8	117.0	48.7	47.5	47.6
LnGrp LOS	F	F	E	F	F	F	F	F	F	D	D	D
Approach Vol, veh/h		1717			2322			1513			969	
Approach Delay, s/veh		133.9			292.8			110.7			47.8	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	29.7	16.0	42.3	19.0	42.7	16.3	42.0				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	25.7	* 25	* 10	* 36	* 13	* 38	10.0	* 36				
Max Q Clear Time (g_c+I1), s	27.7	26.6	12.1	26.7	14.8	39.6	9.5	37.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	172.3											
HCM 6th LOS	F											
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 2: Sepulveda Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷↷↷		↶	↷↷↷		↶	↷↷	↷	↶	↷↷	↷
Traffic Volume (veh/h)	198	964	385	395	1584	257	141	1547	276	155	635	246
Future Volume (veh/h)	198	964	385	395	1584	257	141	1547	276	155	635	246
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	215	1048	418	429	1722	279	153	1682	300	168	690	267
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	203	861	343	294	1286	207	314	1069	477	232	1069	658
Arrive On Green	0.04	0.08	0.08	0.17	0.29	0.29	0.10	0.30	0.30	0.10	0.30	0.30
Sat Flow, veh/h	1781	3586	1430	1781	4433	713	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	215	995	471	429	1319	682	153	1682	300	168	690	267
Grp Sat Flow(s),veh/h/ln	1781	1702	1613	1781	1702	1742	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	13.7	28.8	28.8	19.8	34.8	34.8	6.8	36.1	19.6	7.5	20.2	14.2
Cycle Q Clear(g_c), s	13.7	28.8	28.8	19.8	34.8	34.8	6.8	36.1	19.6	7.5	20.2	14.2
Prop In Lane	1.00		0.89	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	817	387	294	987	505	314	1069	477	232	1069	658
V/C Ratio(X)	1.06	1.22	1.22	1.46	1.34	1.35	0.49	1.57	0.63	0.72	0.65	0.41
Avail Cap(c_a), veh/h	203	817	387	294	987	505	314	1069	477	232	1069	658
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	55.2	55.2	50.1	42.6	42.6	25.9	42.0	36.2	29.5	36.4	24.7
Incr Delay (d2), s/veh	79.0	109.0	119.3	224.7	158.4	169.9	5.3	262.5	6.2	17.8	3.0	1.9
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	16.9	37.7	37.3	41.7	54.0	57.5	6.0	83.6	13.1	7.7	14.2	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	136.8	164.2	174.5	274.8	201.0	212.5	31.2	304.5	42.4	47.2	39.4	26.5
LnGrp LOS	F	F	F	F	F	F	C	F	D	D	D	C
Approach Vol, veh/h		1681			2430			2135			1125	
Approach Delay, s/veh		163.6			217.2			248.1			37.5	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	40.0	18.0	42.0	26.0	34.0	18.0	42.0				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	13.7	* 35	11.9	36.1	* 20	* 29	11.6	36.1				
Max Q Clear Time (g_c+I1), s	15.7	36.8	8.8	22.2	21.8	30.8	9.5	38.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	6.9	0.0	0.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	186.5
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary  
 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	20	105	24	189	29	373	11	1037	180	775	272	27
Future Volume (veh/h)	20	105	24	189	29	373	11	1037	180	775	272	27
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	22	114	26	205	32	405	12	1127	196	842	296	29
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	31	132	25	132	12	357	11	1100	202	552	520	51
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.36	0.36	0.36	0.31	0.31	0.31
Sat Flow, veh/h	0	585	112	355	55	1585	31	3048	559	1781	1677	164
Grp Volume(v), veh/h	162	0	0	237	0	405	715	0	620	842	0	325
Grp Sat Flow(s),veh/h/ln	697	0	0	410	0	1585	1869	0	1770	1781	0	1841
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	29.3	46.9	0.0	44.9	40.3	0.0	19.2
Cycle Q Clear(g_c), s	29.3	0.0	0.0	29.3	0.0	29.3	46.9	0.0	44.9	40.3	0.0	19.2
Prop In Lane	0.14		0.16	0.86		1.00	0.02		0.32	1.00		0.09
Lane Grp Cap(c), veh/h	188	0	0	144	0	357	674	0	638	552	0	571
V/C Ratio(X)	0.86	0.00	0.00	1.65	0.00	1.13	1.06	0.00	0.97	1.52	0.00	0.57
Avail Cap(c_a), veh/h	188	0	0	144	0	357	674	0	638	552	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	44.1	0.0	0.0	55.6	0.0	50.3	41.6	0.0	40.9	44.9	0.0	37.6
Incr Delay (d2), s/veh	36.9	0.0	0.0	319.4	0.0	89.0	51.6	0.0	29.3	237.0	0.0	0.4
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	10.5	0.0	0.0	29.7	0.0	29.8	41.8	0.0	32.6	73.7	0.0	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.0	0.0	0.0	375.0	0.0	139.4	93.2	0.0	70.2	281.9	0.0	38.0
LnGrp LOS	F	A	A	F	A	F	F	A	E	F	A	D
Approach Vol, veh/h		162			642			1335				1167
Approach Delay, s/veh		81.0			226.4			82.5				213.9
Approach LOS		F			F			F				F
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.8		44.8		33.8		51.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		29.3		40.3		29.3		46.9				
Max Q Clear Time (g_c+I1), s		31.3		42.3		31.3		48.9				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	156.8											
HCM 6th LOS	F											

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/09/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	276	72	596	1260	684	606
Future Volume (veh/h)	276	72	596	1260	684	606
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	197	648	1370	743	659
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	229	204	643	2868	1472	657
Arrive On Green	0.13	0.13	0.36	0.81	0.41	0.41
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	189	197	648	1370	743	659
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	14.5	17.3	50.5	16.9	21.7	58.0
Cycle Q Clear(g_c), s	14.5	17.3	50.5	16.9	21.7	58.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	229	204	643	2868	1472	657
V/C Ratio(X)	0.83	0.97	1.01	0.48	0.50	1.00
Avail Cap(c_a), veh/h	229	204	643	2868	1472	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.18	0.18
Uniform Delay (d), s/veh	59.5	60.7	44.8	4.2	30.4	41.0
Incr Delay (d2), s/veh	21.2	53.3	37.6	0.6	0.2	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	24.2	37.8	9.2	11.5	28.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	80.7	114.0	82.4	4.8	30.6	56.7
LnGrp LOS	F	F	F	A	C	F
Approach Vol, veh/h	386			2018	1402	
Approach Delay, s/veh	97.7			29.7	42.9	
Approach LOS	F			C	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		117.5		22.5	55.0	62.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		113.0		18.0	50.5	58.0
Max Q Clear Time (g_c+I1), s		18.9		19.3	52.5	60.0
Green Ext Time (p_c), s		16.8		0.0	0.0	0.0

### Intersection Summary

HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

### Notes

User approved volume balancing among the lanes for turning movement.



# HCM 6th Signalized Intersection Summary

## 1: Sawtelle Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑		↘	↑↑		↘	↑↑	
Traffic Volume (veh/h)	223	1133	290	316	1181	165	168	460	136	146	1438	176
Future Volume (veh/h)	223	1133	290	316	1181	165	168	460	136	146	1438	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	242	1232	315	343	1284	179	183	500	148	159	1563	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	175	1234	383	218	836	116	208	958	282	369	1139	137
Arrive On Green	0.10	0.24	0.24	0.16	0.35	0.35	0.08	0.35	0.35	0.08	0.36	0.36
Sat Flow, veh/h	1781	5106	1585	1781	3135	434	1781	2707	797	1781	3193	385
Grp Volume(v), veh/h	242	1232	315	343	724	739	183	327	321	159	860	894
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1777	1792	1781	1777	1727	1781	1777	1801
Q Serve(g_s), s	11.8	28.9	22.6	14.7	32.0	32.0	8.1	17.5	17.7	6.6	42.8	42.8
Cycle Q Clear(g_c), s	11.8	28.9	22.6	14.7	32.0	32.0	8.1	17.5	17.7	6.6	42.8	42.8
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.46	1.00		0.21
Lane Grp Cap(c), veh/h	175	1234	383	218	474	478	208	629	611	369	634	642
V/C Ratio(X)	1.38	1.00	0.82	1.57	1.53	1.55	0.88	0.52	0.53	0.43	1.36	1.39
Avail Cap(c_a), veh/h	175	1234	383	218	474	478	208	629	611	395	634	642
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.20	0.20	0.20	0.41	0.41	0.41	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	45.5	43.1	50.2	38.7	38.7	30.7	30.7	30.8	22.5	38.6	38.6
Incr Delay (d2), s/veh	203.2	25.2	17.8	261.8	240.2	247.5	16.0	1.3	1.3	0.8	171.1	185.4
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	24.1	21.4	16.0	30.7	62.2	64.2	6.5	10.6	10.5	5.1	71.7	76.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	257.3	70.7	60.9	312.0	278.9	286.2	46.6	32.0	32.1	23.3	209.7	224.0
LnGrp LOS	F	E	E	F	F	F	D	C	C	C	F	F
Approach Vol, veh/h		1789			1806			831			1913	
Approach Delay, s/veh		94.2			288.2			35.2			200.9	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	34.1	15.9	49.0	18.0	37.1	16.3	48.6				
Change Period (Y+Rc), s	6.3	* 5.1	* 5.9	* 6.2	* 6.2	* 5.1	6.3	* 6.2				
Max Green Setting (Gmax), s	14.7	* 29	* 10	* 43	* 12	* 32	11.7	* 41				
Max Q Clear Time (g_c+I1), s	16.7	30.9	10.1	44.8	13.8	34.0	8.6	19.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.4				

### Intersection Summary

HCM 6th Ctrl Delay	174.0
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: Sepulveda Blvd & Venice Blvd

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Traffic Volume (veh/h)	135	1069	204	320	1282	246	195	1419	574	226	1352	223
Future Volume (veh/h)	135	1069	204	320	1282	246	195	1419	574	226	1352	223
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	147	1162	222	348	1393	267	212	1542	624	246	1470	242
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	134	1137	217	235	1377	264	194	1161	518	203	1188	649
Arrive On Green	0.02	0.09	0.09	0.13	0.32	0.32	0.08	0.33	0.33	0.08	0.33	0.33
Sat Flow, veh/h	1781	4304	822	1781	4302	824	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	147	919	465	348	1102	558	212	1542	624	246	1470	242
Grp Sat Flow(s),veh/h/ln	1781	1702	1722	1781	1702	1722	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.0	31.7	31.7	15.8	38.4	38.4	9.0	39.2	39.2	9.6	40.1	12.8
Cycle Q Clear(g_c), s	9.0	31.7	31.7	15.8	38.4	38.4	9.0	39.2	39.2	9.6	40.1	12.8
Prop In Lane	1.00		0.48	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	899	455	235	1089	551	194	1161	518	203	1188	649
V/C Ratio(X)	1.10	1.02	1.02	1.48	1.01	1.01	1.10	1.33	1.21	1.21	1.24	0.37
Avail Cap(c_a), veh/h	134	899	455	235	1089	551	194	1161	518	203	1188	649
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	54.8	54.8	52.1	40.8	40.8	31.9	40.4	40.4	32.7	39.9	24.7
Incr Delay (d2), s/veh	107.3	35.7	47.9	239.1	30.1	41.6	92.4	153.8	109.5	133.1	114.4	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	13.4	26.5	28.6	35.3	28.0	30.4	13.9	61.6	44.7	18.0	52.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.8	90.4	102.7	291.2	70.9	82.4	124.2	194.2	149.9	165.8	154.4	26.4
LnGrp LOS	F	F	F	F	F	F	F	F	F	F	F	C
Approach Vol, veh/h		1531			2008			2378			1958	
Approach Delay, s/veh		101.4			112.3			176.3			140.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	43.6	15.1	46.0	22.0	36.9	16.0	45.1				
Change Period (Y+Rc), s	6.3	* 5.2	6.1	5.9	* 6.2	* 5.2	6.4	5.9				
Max Green Setting (Gmax), s	9.0	* 38	9.0	40.1	* 16	* 32	9.6	39.2				
Max Q Clear Time (g_c+I1), s	11.0	40.4	11.0	42.1	17.8	33.7	11.6	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	136.4
HCM 6th LOS	F

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 User approved changes to right turn type.

HCM 6th Signalized Intersection Summary  
 3: Sawtelle Blvd & Matteson Ave/I-405 SB Ramps

12/09/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕			↕	
Traffic Volume (veh/h)	2	188	20	152	60	249	10	587	158	560	635	27
Future Volume (veh/h)	2	188	20	152	60	249	10	587	158	560	635	27
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	2	204	22	165	65	271	11	638	172	609	690	29
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	36	334	36	127	26	403	11	670	192	586	725	31
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.37	0.37	0.37
Sat Flow, veh/h	0	1314	140	257	101	1585	46	2759	791	1592	1970	84
Grp Volume(v), veh/h	228	0	0	230	0	271	445	0	376	685	0	643
Grp Sat Flow(s),veh/h/ln	1454	0	0	359	0	1585	1868	0	1728	1791	0	1855
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	15.4	23.7	0.0	21.0	36.8	0.0	33.5
Cycle Q Clear(g_c), s	25.4	0.0	0.0	25.4	0.0	15.4	23.7	0.0	21.0	36.8	0.0	33.5
Prop In Lane	0.01		0.10	0.72		1.00	0.02		0.46	0.89		0.05
Lane Grp Cap(c), veh/h	406	0	0	153	0	403	454	0	420	659	0	683
V/C Ratio(X)	0.56	0.00	0.00	1.50	0.00	0.67	0.98	0.00	0.89	1.04	0.00	0.94
Avail Cap(c_a), veh/h	406	0	0	153	0	403	454	0	420	659	0	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	31.9	0.0	0.0	42.4	0.0	33.6	37.6	0.0	36.6	31.6	0.0	30.6
Incr Delay (d2), s/veh	5.5	0.0	0.0	257.5	0.0	4.4	37.8	0.0	24.1	22.8	0.0	3.4
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	9.0	0.0	0.0	25.1	0.0	10.4	21.8	0.0	17.1	22.4	0.0	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	0.0	299.9	0.0	37.9	75.4	0.0	60.7	54.4	0.0	34.0
LnGrp LOS	D	A	A	F	A	D	E	A	E	F	A	C
Approach Vol, veh/h		228			501			821			1328	
Approach Delay, s/veh		37.4			158.2			68.7			44.5	
Approach LOS		D			F			E			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.9		41.3		29.9		28.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.4		36.8		25.4		24.3				
Max Q Clear Time (g_c+I1), s		27.4		38.8		27.4		25.7				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				70.7								
HCM 6th LOS				E								

# HCM 6th Signalized Intersection Summary

## 4: Sepulveda Blvd & I-405 NB Ramps

12/09/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	594	89	230	989	1736	89
Future Volume (veh/h)	594	89	230	989	1736	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	737	0	250	1075	1887	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	743	330	256	2567	1933	862
Arrive On Green	0.21	0.00	0.14	0.72	0.54	0.54
Sat Flow, veh/h	3563	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	737	0	250	1075	1887	97
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	26.8	0.0	18.2	15.7	67.1	3.9
Cycle Q Clear(g_c), s	26.8	0.0	18.2	15.7	67.1	3.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	743	330	256	2567	1933	862
V/C Ratio(X)	0.99	0.00	0.98	0.42	0.98	0.11
Avail Cap(c_a), veh/h	743	330	256	2567	1933	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.09	0.09
Uniform Delay (d), s/veh	51.3	0.0	55.4	7.2	28.8	14.4
Incr Delay (d2), s/veh	31.0	0.0	50.3	0.5	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.5	0.0	17.3	9.6	30.7	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	82.4	0.0	105.8	7.7	31.6	14.4
LnGrp LOS	F	A	F	A	C	B
Approach Vol, veh/h	737			1325	1984	
Approach Delay, s/veh	82.4			26.2	30.8	
Approach LOS	F			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.4		31.6	23.2	75.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		93.9		27.1	18.7	70.7
Max Q Clear Time (g_c+I1), s		17.7		28.8	20.2	69.1
Green Ext Time (p_c), s		10.8		0.0	0.0	1.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			38.7			
HCM 6th LOS			D			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						