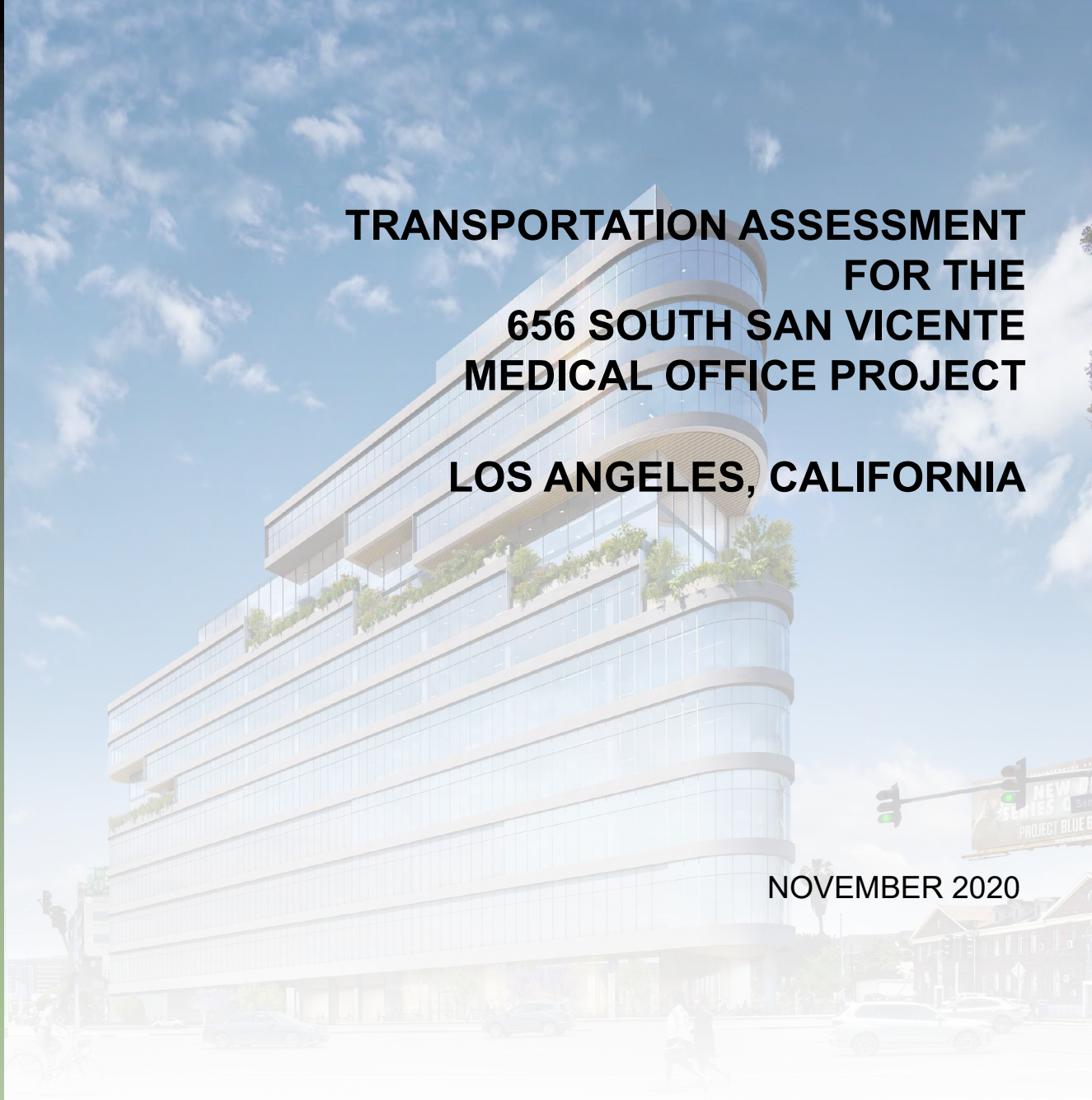
Appendix J
Transportation Analysis

J-1 Traffic Assessment



TRANSPORTATION ASSESSMENT FOR THE 656 SOUTH SAN VICENTE MEDICAL OFFICE PROJECT

LOS ANGELES, CALIFORNIA

NOVEMBER 2020

PREPARED FOR

656-676 SSV PROPERTY OWNER, LLC & 650 SSV PROPERTY OWNER, LLC

PREPARED BY

Gibson transportation consulting, inc.

TRANSPORTATION ASSESSMENT
FOR THE
656 SOUTH SAN VICENTE
MEDICAL OFFICE PROJECT

LOS ANGELES, CALIFORNIA

November 2020

Prepared for:

656-676 SSV PROPERTY OWNER, LLC
& 650 SSV PROPERTY OWNER, LLC

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Chapter 1
Introduction

This study presents the transportation assessment for the proposed 656 South San Van Vicente Medical Office project (Project) located at 656 S. San Vicente Boulevard (Project Site) in the *Wilshire Community Plan* (Los Angeles Department of City Planning, 2001) area of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established based on direction from the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

The Project proposes to construct a 140,305 square foot (sf) medical office building and approximately 5,000 sf of commercial space, including 4,000 sf of restaurant use and 1,000 sf of pharmacy use. The on-site building that formerly operated as a private school, which was vacated around October 2018, and the existing 8,225 sf sporting goods store and associated surface parking lot would be removed to accommodate the Project.

Parking for the Project would be provided in four above-grade parking levels with a valet operation. Vehicular access to the parking garage would be accommodated via separate ingress and egress visitor-only driveways along the frontage road of San Vicente Boulevard and an employee-only driveway along Orange Street. The Project is anticipated to be completed by Year 2023. The main pedestrian and bicycle entrance, with access to the medical office lobby and commercial entrances, would be provided along the frontage road.

The conceptual Project site plan is shown in Figure 1.

PROJECT LOCATION AND STUDY AREA

As shown in Figure 2A, the Project Site is located in the Beverly Grove area and adjacent to the Miracle Mile community, a cultural, commercial, and residential center established along Wilshire Boulevard during the early 1920s. The Project Site is bounded by Orange Street to the north, a public alleyway and Sweetzer Avenue to the east, Wilshire Boulevard to the south, and the frontage road of San Vicente Boulevard to the west. The Project vicinity includes a mix of mid- and high-rise commercial offices and medical-related uses along San Vicente Boulevard and Wilshire Boulevard.

The Project Site is approximately 2.0 miles north of the Santa Monica Freeway (I-10), 4.0 miles west of the Hollywood Freeway (US 101), and 4.0 miles east of the San Diego Freeway (I-405). The Project Site is primarily served by the frontage road of San Vicente Boulevard and Orange Street.

As shown in Figure 2B, the transportation analysis Study Area includes key intersections along San Vicente Boulevard, Orange Street, and Wilshire Boulevard. Detailed transportation analyses were conducted at key intersections within the Study Area.

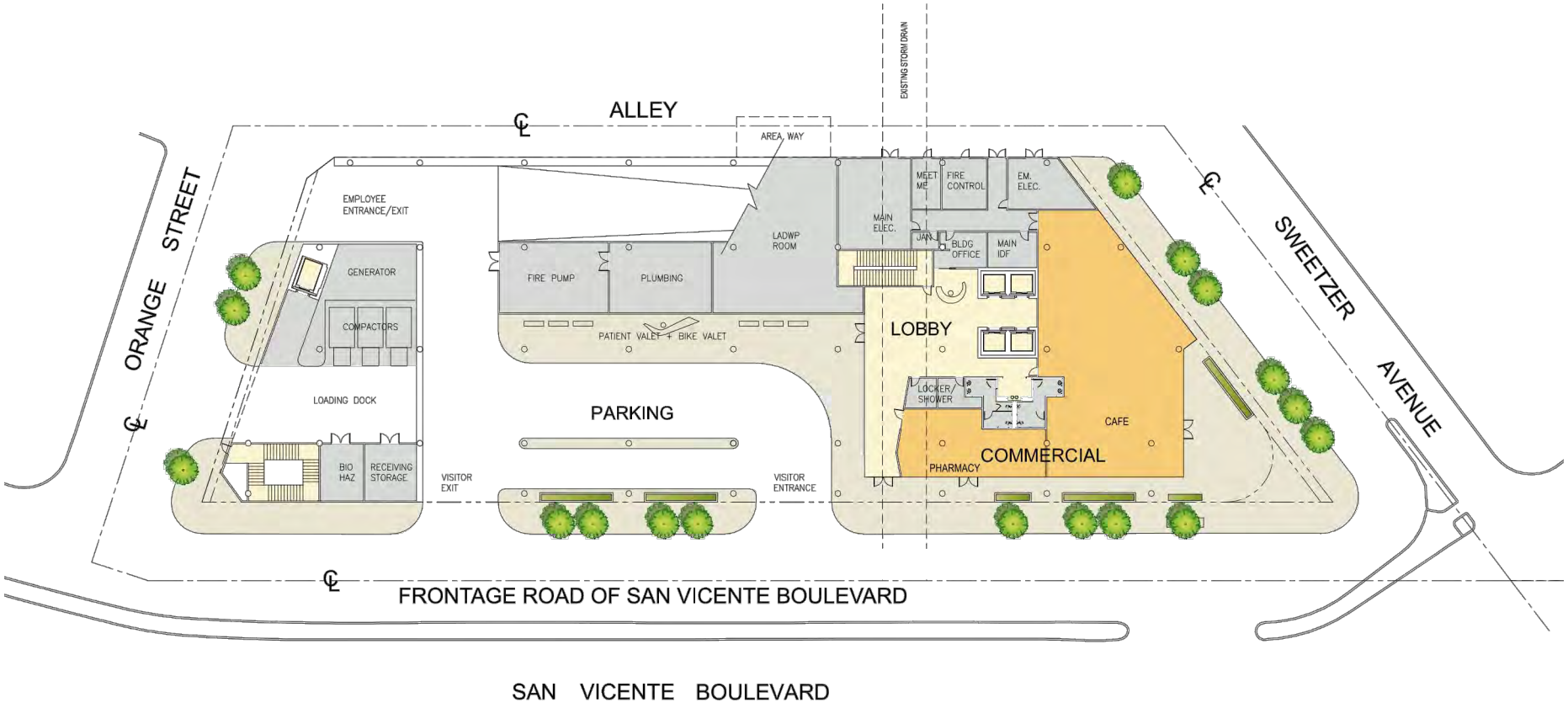
STUDY SCOPE

The scope of analysis for this study was developed based on direction from LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, July 2020) (the TAG) and in compliance with the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Section 15000 and following).

The base assumptions and technical methodologies (i.e., vehicle miles traveled [VMT], trip generation, study locations, analysis methodology, etc.) were identified and agreed to in a Memorandum of Understanding (MOU), which was reviewed and approved by LADOT on February 25, 2020. A copy of the signed MOU is provided in Appendix A.

ORGANIZATION OF REPORT

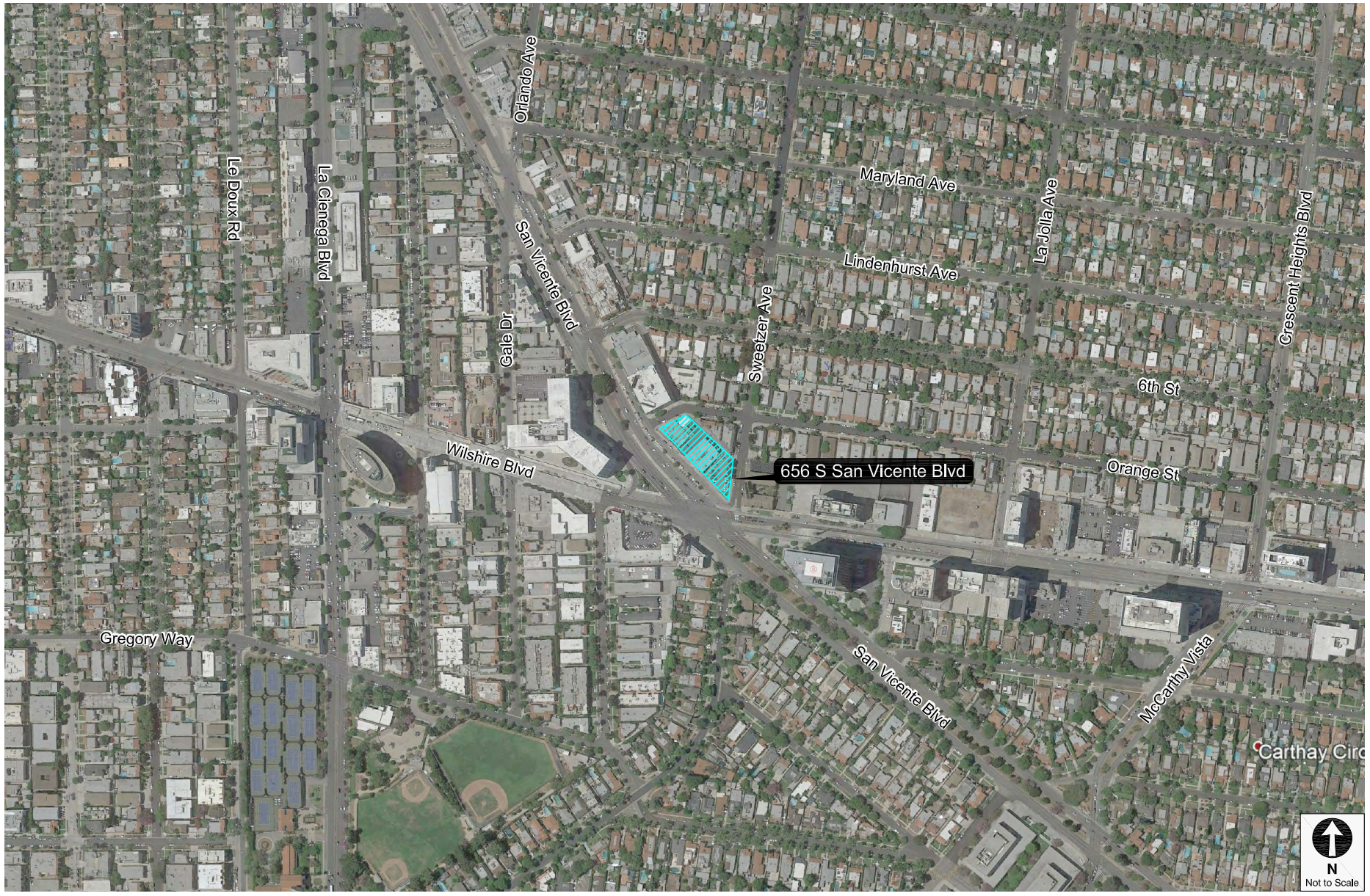
This report is divided into five chapters, including this introduction. Chapter 2 describes the project context including the existing and future circulation system, traffic volumes, and traffic conditions in the Study Area. Chapter 3 presents the CEQA analysis of transportation impacts. Chapter 4 details the non-CEQA transportation analyses. Chapter 5 summarizes the analyses and study conclusions. The appendices contain supporting documentation, including the MOU that outlines the study scope and assumptions, and additional details supporting the technical analyses.



Source: ZGF Architects. September, 2019.

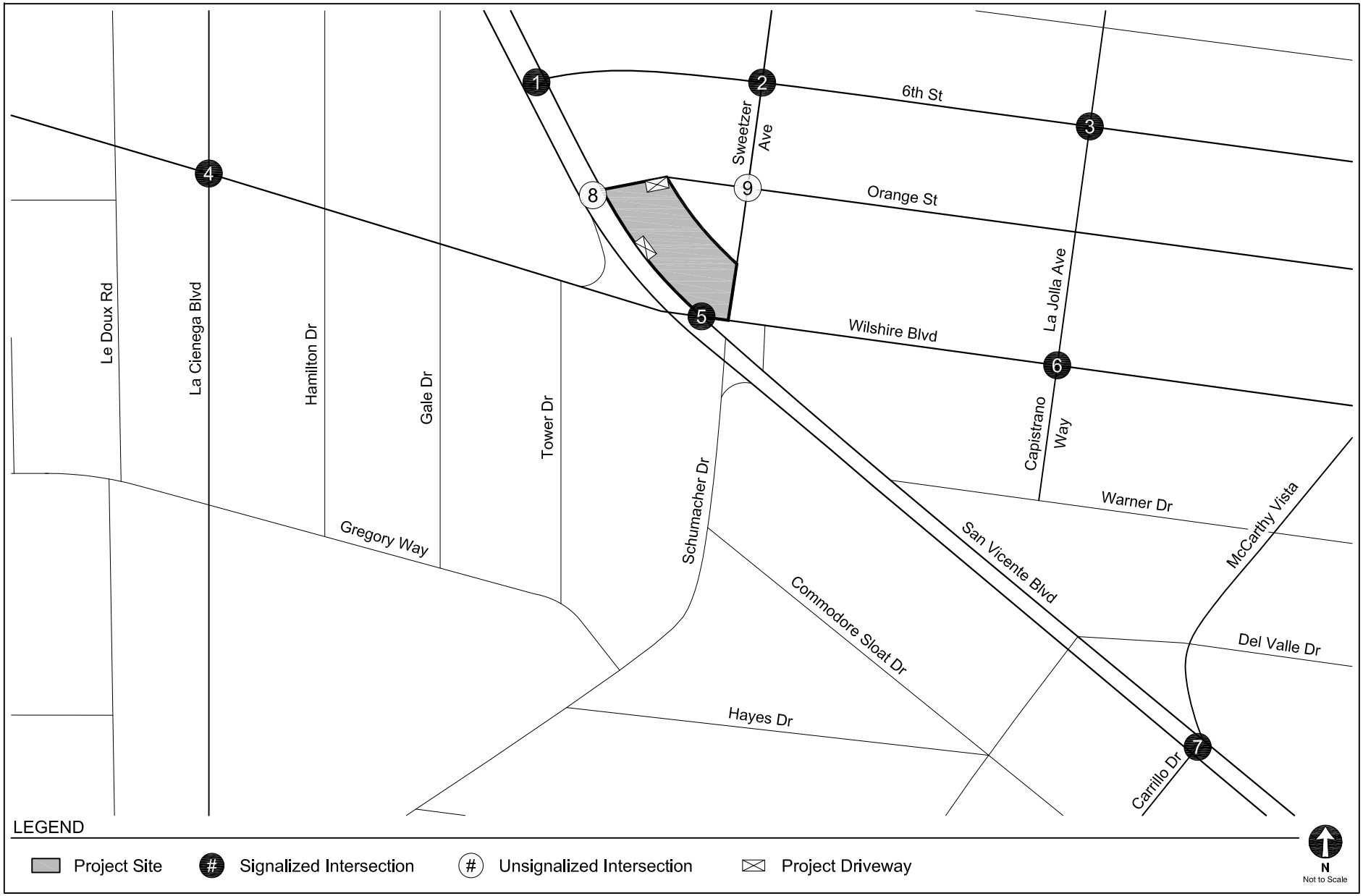
PROJECT SITE PLAN

FIGURE 1



PROJECT SITE LOCATION

FIGURE 2A



STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 2B

Chapter 2
Project Context

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

The Existing Conditions analysis includes an assessment of the existing freeway and street systems, an analysis of traffic volumes and current operating conditions, and an assessment of the existing public transit service, as well as pedestrian and bicycle circulation, at the time the MOU was approved. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also collected.

In addition, this Chapter contains a discussion of the future conditions detailing the assumptions used to develop the Future without Project Conditions in Year 2023, which correspond to anticipated occupancy of the Project.

STUDY AREA

The Study Area includes key intersections along San Vicente Boulevard, Orange Street, and Wilshire Boulevard, as shown in Figure 2B. This study area was established in consultation with LADOT based on the following factors identified in the TAG:

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

As listed in Table 1, a total of nine study intersections, including six signalized and two unsignalized intersections within the jurisdiction of LADOT and one signalized intersection within the jurisdiction of the City of Beverly Hills, were identified for detailed analysis of the above conditions. Figure 2B illustrates the Study Area and the nine key study intersections. The existing lane configurations at the analyzed intersections are provided in Figure 3.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

The existing street system in the Study Area consists of a regional roadway system including freeways, arterials, and collector and local streets that provide regional, sub-regional, or local access and circulation to the Project. These transportation facilities generally provide two to six travel lanes and usually allow parking on either side of the street. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and between 55 and 65 mph on freeways.

Street classifications are designated in *Mobility Plan 2035, An Element of the General Plan* (Los Angeles Department of City Planning [LADCP], September 2016) (the Mobility Plan). The Mobility Plan defines specific street standards in an effort to provide an enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the Mobility Plan, street classifications are defined as follows:

- Arterial Streets are major streets that serve through traffic, as well as provide access to major commercial activity centers. Arterials are divided into two categories:
    - Boulevards represent the widest Arterial Streets that typically provide regional access to major destinations and include two categories:
        - Boulevard I provides up to four travel lanes in each direction with a target operating speed of 40 mph, and generally includes a right-of-way width of 136 feet and pavement width of 100 feet.
        - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph with right-of-way widths varying from 104-110 feet, and pavement widths from 70-80 feet.

- Avenues are typically narrower Arterial Streets that pass through both residential and commercial areas and include three categories:
    - Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph, with a right-of-way width of 100 feet and pavement width of 70 feet.
    - Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph, with a right-of-way width of 86 feet and pavement width of 56 feet.
    - Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph, with a right-of-way width of 72 feet and pavement width of 46 feet.

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

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

The Arterial Streets providing access to the Project Site include San Vicente Boulevard and Wilshire Boulevard. The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Plan:

Roadways

- San Vicente Boulevard – San Vicente Boulevard is a designated Boulevard II that runs in the northwest-southeast direction and is located along the western boundary of the Project Site. It provides six travel lanes, three lanes in each direction, and left-turn lanes at intersections. Additionally, a frontage road runs adjacent to the east side of San Vicente Boulevard and borders the Project Site. It travels one-way in the northbound direction and provides one travel lane. The frontage road would provide direct access to the inbound and outbound visitor Project driveways. One- and two-hour metered parking is generally available on both sides of the frontage road, adjacent to the Project Site. Two-hour metered parking is generally available on the west side of the San Vicente Boulevard north of Wilshire Boulevard. Unmetered parking with restrictions and permit parking is generally available on both sides of San Vicente Boulevard south of Wilshire Boulevard.

- Sweetzer Avenue – Sweetzer Avenue is a designated Collector Street that runs in the north-south direction and is located along the eastern boundary of the Project Site. It provides two travel lanes, one in each direction. Two-hour metered and unmetered parking is generally available on both sides of the street.

- La Jolla Avenue – La Jolla Avenue is a designated Local Street that runs in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. Two-hour metered and permit parking is generally available on the east side of the street. Two-hour unmetered parking is generally available on the west side of the street.

- McCarthy Vista – McCarthy Vista is a designated Avenue III that runs in the north-south direction and is located east of the Project Site. It provides four travel lanes, two in each direction, and left-turn lanes at intersections. The roadway becomes Carrillo Drive south of San Vicente Boulevard. Two-hour unmetered parking is generally available on the east side of the street.

- Carrillo Drive – Carrillo Drive is a designated Collector Street that runs in the north-south direction and is located southeast of the Project Site. It provides four travel lanes, two in each direction, and left-turn lanes at intersections. The roadway becomes McCarthy Vista north of San Vicente Boulevard. One-hour unmetered parking is generally available on the west side of the street and is available on the east side of the street with peak hour restrictions.

- 6th Street – 6th Street is a designated Collector Street that runs in the east-west direction and is located north of the Project Site. It provides two travel lanes, one in each direction. Two-hour unmetered parking is generally available on the north side of the street. Permit parking is generally available on the south side of the street.

- Orange Street – Orange Street is a designated Local Street that runs in the east-west direction and is located along the northern boundary of the Project Site. It provides two travel lanes, one in each direction. It provides direct access to the employee driveway and loading dock. Two-hour metered, unmetered, and permit parking is generally available on both sides of the street.

- Wilshire Boulevard – Wilshire Boulevard is a designated Avenue I that runs in the east-west direction and is located along the southern boundary of the Project Site. It provides four travel lanes, two in each direction, with a bus lane on the south side of the street, a center turn lane, and left-turn lanes at intersections. 30-minute and one-hour metered parking is generally available on both sides of the street.

The existing mobility facilities at each of the analyzed study intersections are detailed in Figure 4 and the existing transportation facilities within the Study Area are shown in Figure 5.

Existing Transit System

The Project Study Area is served by bus lines operated by the Los Angeles County Metropolitan Transportation Authority (Metro) and Antelope Valley Transit Authority (AVTA). Figure 6 illustrates the existing transit service and transit stops within the Study Area.

Table 2 summarizes the transit lines 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 the frequency of service, as described above. The average frequency of transit service during the peak hour was derived from the number of peak period stops made at the stop nearest the Project Site.

Tables 3A and 3B summarize the total residual capacity of the Metro bus lines during the morning and afternoon peak hours based on the frequency of service of each line and the maximum seated and standing capacity of each bus. As shown in Tables 3A and 3B, the transit lines within 0.25 miles walking distance of the Project Site currently have available capacity for 2,218 additional riders during the morning peak hour and 1,853 additional riders during the afternoon peak hour. The transit lines with bus stops or stations located more than 0.25 miles from the Project Site were not included.

Existing Bicycle System

The components of *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, adopted March 1, 2011) (2010 Bicycle Plan) have been incorporated into the bicycle network of the Mobility Plan. The existing bicycle system consists of a limited network of bicycle lanes (Class II) and bicycle routes (Class III). Class II bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic. These facilities offer a safer environment for both cyclists and motorists. Class III bicycle routes and bicycle-friendly streets are those where motorists and cyclists share the roadway and there is no separated striping for bicycle travel. Bicycle routes and bicycle-friendly streets are preferably placed on Collector Streets and lower volume Arterial Streets. Bicycle routes with shared lane markings, or “sharrows”, remind bicyclists to ride farther from parked cars to prevent collisions,

increase awareness of motorists that bicycles may be in the travel lane, and shows bicyclists the correct direction of travel.

The Mobility Plan consists of a Low-Stress Bikeway System and a Bicycle Lane Network. The Low-Stress Bikeway System is comprised of the Bicycle Enhanced Network, the Neighborhood Enhanced Network, and Bike Paths. The Bicycle Enhanced Network includes protected bicycle lanes (Class IV), which provide bicycle infrastructure including cycle tracks, bicycle traffic signals, and demarcated areas to facilitate turns at intersections and along neighborhood streets. These Class IV networks typically provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxed, and bicycle-only left-turn pockets. The Neighborhood Enhanced Network and Bicycle Paths are relatively unchanged from the 2010 Bicycle Plan. Currently, within the Study Area, bicycle lanes are provided along San Vicente Boulevard north of Wilshire Boulevard.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile; these attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and cultural facilities adjacent to residential neighborhoods, the walkability of the area is approximately 92 points[1]; this compares to the walk score of 90 points for the adjacent community.

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 accessible crossings at study intersections. The signalized intersection of San Vicente Boulevard & Wilshire Boulevard provides pedestrian phasing, crosswalk striping, and Americans with Disabilities Act wheelchair ramps, and provides direct connectivity to the Project Site. Additional pedestrian facilities, not immediately adjacent to the Project Site, are located within the Study Area and are further detailed in Figure 5.

[1] Walk Score (www.walkscore.com) rates the Project Site with a score of 92 of 100 possible points (scores accessed on February 4, 2020 for 656 S. San Vicente Boulevard). 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.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate transportation-related collisions that result in severe injury or death. Vision Zero has identified the High Injury Network, a network of streets included based on collision data from the last five years, where strategic investments will have the biggest impact in reducing death and severe injury. The Project Site is not located adjacent to any streets identified in the High Injury Network. No other streets within the Study Area are identified in the High Injury Network.

Existing Traffic Volumes

Intersection turning movement counts at the study intersections were collected in January and February 2020. Local schools were in session and the weather conditions were typical when all traffic counts were conducted. The existing intersection peak hour traffic volumes are illustrated in Figure 7. The traffic count worksheets are provided in Appendix B.

FUTURE CUMULATIVE TRANSPORTATION CONDITIONS

The forecast of Future without Project conditions was prepared in accordance with procedures outlined in the CEQA Guidelines. Specifically, two options are provided for developing the cumulative traffic volume forecast:

> "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or
>
> "(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency."

As described in detail below, this analysis includes increases to traffic from future projects (option "A" above, the "Related Projects") and from regional growth projections (option "B" above, or ambient growth). As such, the ambient growth factor discussed below likely includes some traffic increases resulting from the Related Projects. Therefore, through some inherent double-counting of vehicles, the traffic analysis provides a highly conservative estimate of Future without Project traffic volumes.

The Future without Project 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 is expected to increase as a result of regional growth and development outside the Study Area. Based on discussions with LADOT during the MOU process, an ambient growth factor of 1% per year compounded annually was applied to be conservative by adjusting the existing traffic volumes to reflect the effects of the regional growth and development by Year 2023. The total adjustments applied over the three-year period corresponding to the buildout year of the Project was 3.03%. This growth factor accounts for increases in traffic due to potential projects plus projects not yet proposed and projects located outside the Study Area.

Related Projects

In accordance with CEQA Guidelines, this study also considered the effects of the Project in relation to other developments either proposed, approved, or under construction (collectively, the Related Projects). Including this analysis step, the potential impact of the Project is evaluated within the context of past, present, and probable future developments capable of producing cumulative impacts.

The list of Related Projects is based on information provided by LADCP, LADOT, and the City of Beverly Hills, as well as recent studies in the area. The Related Projects are detailed in Table 4 and 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 study and conservatively assumed to be completed by the Project buildout Year 2023. Therefore, 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 Study Area that would likely occur prior to Project buildout. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

Using these assumptions, the potential transportation effects of the Project were evaluated. The development of estimated traffic volumes added to the Study Area 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 provided by LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017). As shown in Table 4, Related Projects trip generation estimates are conservative in that they do not in every case account for either the existing uses to be removed or the likely use of other travel modes (transit, walk, etc.) Further, in many cases, they do not account for the internal capture trips within a multi-use development, nor the interaction of trips between multiple Related Projects within the Study Area, 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 include the type and density of the proposed land uses, the geographic distribution of the 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 are considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

Trip 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 Project volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected buildout year of 2023. As discussed above, this is a conservative approach as many of the Related Projects may already 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 the nine study intersections and are shown in Figure 10.

Future Roadway Improvements

The analysis of Future Conditions accounted for roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the proposed Project. Any roadway improvement that would result in changes to the physical configuration at the study intersections would be incorporated into the analysis. Other proposed traffic / trip reduction strategies such as transportation demand management (TDM) programs for individual buildings and developments were omitted from the Future Conditions analyses. Figure 11 illustrates the future transportation facilities improvements, including future transit, bicycle, and pedestrian facilities per the Mobility Plan, within the Study Area. The following projects were evaluated for their potential effects on the future roadway configurations.

Metro D (Purple) Line Extension. The Metro D (Purple) Line Extension will provide seven additional stations from the existing Wilshire/Western Station to the planned Westwood/Veterans Administration Hospital Station. The line will operate underground, with the majority of the alignment along Wilshire Boulevard. Completion of the Metro D (Purple) Line Extension is expected by Year 2035, with construction of the first phase (Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega stations) anticipated to be completed and in operation by Year 2023. The Wilshire/La Cienega Station is located west of the Project Site, with a station portal on the north side of Wilshire Boulevard at La Cienega Boulevard. The opening of the Wilshire/La Cienega Station is anticipated to occur in the same completion year of the Project. However, to provide a conservative analysis, no additional trip reductions in existing or future vehicular traffic were assumed to account for patrons that would utilize the Metro D (Purple) Line Extension. In addition,

no changes to the lane configurations at the study intersections were made based on the Metro D (Purple) Line Extension

City Bicycle Plan. As proposed in the 2010 Bicycle Plan and the Mobility Plan, the bicycle system in the Study Area will be expanded to create a more integrated network. The three components of the bicycle network designated in the 2010 Bicycle Plan include the Backbone, the Neighborhood Network, and the Green Network. Class II bicycle lanes will be added to high volume corridors to and from the Backbone of the network, while in-road bikeways in lower volume and Collector Streets will form the Neighborhood Network through the implementation of Class II bicycle routes and bicycle friendly streets. The Green Network consists of dedicated bike paths that connect the City's open spaces.

Within the Study Area, bicycle lanes are proposed along San Vicente Boulevard and Wilshire Boulevard in the 2010 Bicycle Plan. However, these proposed bicycle facilities are not anticipated to be completed by the opening of the Project in Year 2023 and, therefore, were not included in the future analyses.

Mobility Plan. In the Mobility Plan, the City identifies key corridors as components of various "mobility-enhanced networks." Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified, and there is no schedule for implementation; therefore, no changes to vehicular lane configurations were made as a result of the Mobility Plan. However, the following mobility-enhanced networks included corridors within the Study Area and depicted on Figure 11:

- Transit Enhanced Network (TEN): The TEN aims to improve existing and future bus services through reliable and frequent transit service in order to increase transit ridership, reduce single-occupancy vehicle trips, and integrate transit infrastructure investments within the surrounding street system. The TEN has designated Wilshire Boulevard east of San Vicente Boulevard within the Study Area as part of the network.

- Neighborhood Enhanced Network (NEN): The NEN reflects the synthesis of the bicycle and pedestrian networks and serves as a system of local streets that are slow moving and safe enough to connect neighborhoods through active transportation. The NEN has

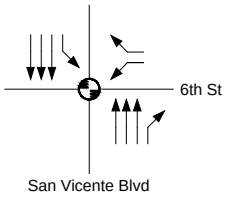
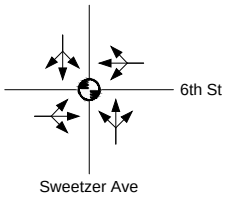
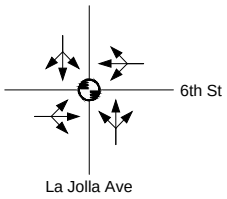
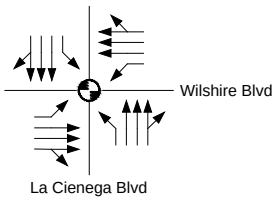
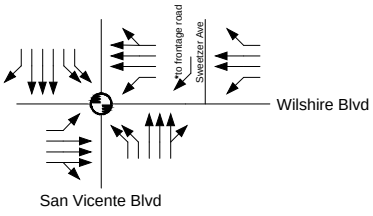
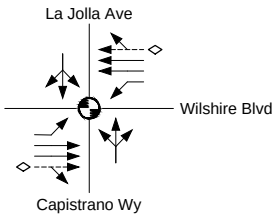
designated Orlando Avenue north of San Vicente Boulevard, McCarthy Vista between Wilshire Boulevard and San Vicente Boulevard, Warner Drive between La Jolla Avenue and Crescent Heights Boulevard, Sweetzer Avenue, La Jolla Avenue, and 6th Street within the Study Area as part of the network.

- Bicycle Path Network / Bicycle Network: Within the Study Area, San Vicente Boulevard and Wilshire Boulevard are designated as part of the Bicycle Network.

- Pedestrian Enhanced District (PED): The Mobility Plan aims to promote walking to reduce the reliance on automobile travel by providing more attractive and pedestrian-friendly sidewalks, as well as adding pedestrian signalizations, street trees, and pedestrian-oriented design features. The PED has designated Crescent Heights Boulevard north of Wilshire Boulevard, San Vicente Boulevard, and Wilshire Boulevard within the Study Area as part of the Pedestrian Segments, where pedestrian improvements could be prioritized to provide better connectivity to and from major destinations within communities.

LEGEND

- Traffic Signal
- Bus Only Lane
- Stop Sign

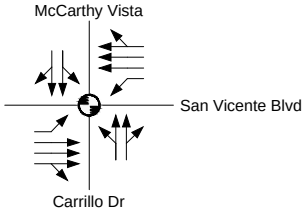
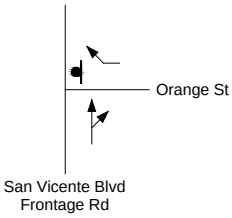
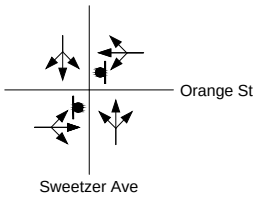
	EXISTING CONDITIONS (YEAR 2020)	FUTURE CONDITIONS (YEAR 2023)
1. San Vicente Boulevard & 6th Street		Same as Existing Conditions
2. Sweetzer Avenue & 6th Street		Same as Existing Conditions
3. La Jolla Avenue & 6th Street		Same as Existing Conditions
4. La Cienega Boulevard & Wilshire Boulevard		Same as Existing Conditions
5. San Vicente Boulevard & Wilshire Boulevard		Same as Existing Conditions
6. La Jolla Avenue / Capistrano Way & Wilshire Boulevard		Same as Existing Conditions

INTERSECTION LANE CONFIGURATIONS

FIGURE 3

LEGEND

- Traffic Signal
- Bus Only Lane
- Stop Sign

	EXISTING CONDITIONS (YEAR 2020)	FUTURE CONDITIONS (YEAR 2023)
7. McCarthy Vista / Carrillo Drive & San Vicente Boulevard		Same as Existing Conditions
8. San Vicente Boulevard Frontage Road & Orange Street		Same as Existing Conditions
9. Sweetzer Avenue & Orange Street		Same as Existing Conditions

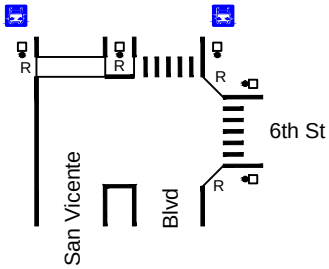
INTERSECTION LANE CONFIGURATIONS

FIGURE 3 (CONT.)

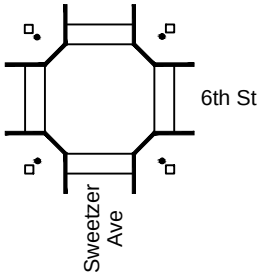
LEGEND

- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bus Stop

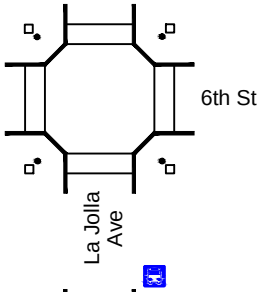
1. San Vicente Boulevard & 6th Street



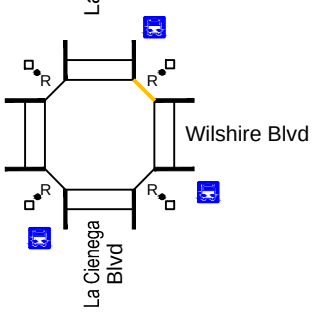
2. Sweetzer Avenue & 6th Street



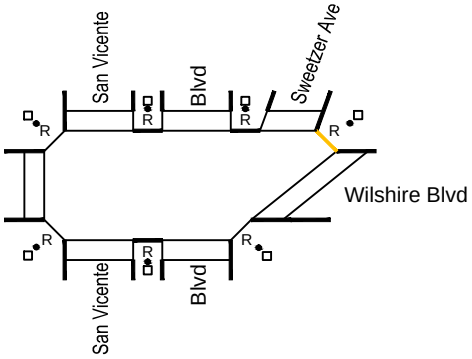
3. La Jolla Avenue & 6th Street



4. La Cienega Boulevard & Wilshire Boulevard



5. San Vicente Boulevard & Wilshire Boulevard



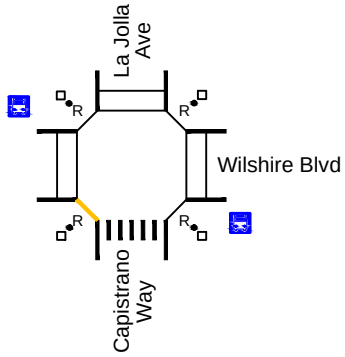
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 4

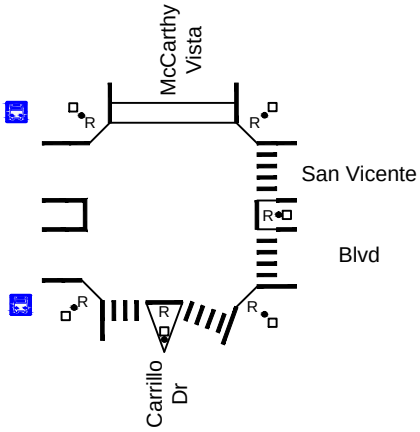
LEGEND

- Continental Crosswalk
- R Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button
- Bus Stop

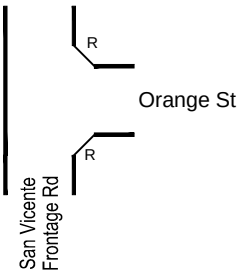
6. La Jolla Avenue / Capistrano Way & Wilshire Boulevard



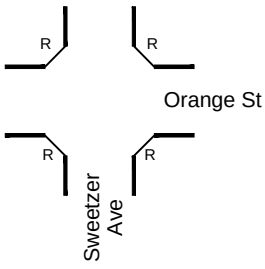
7. McCarthy Vista / Carrillo Drive & San Vicente Boulevard



8. San Vicente Boulevard Frontage Road & Orange Street

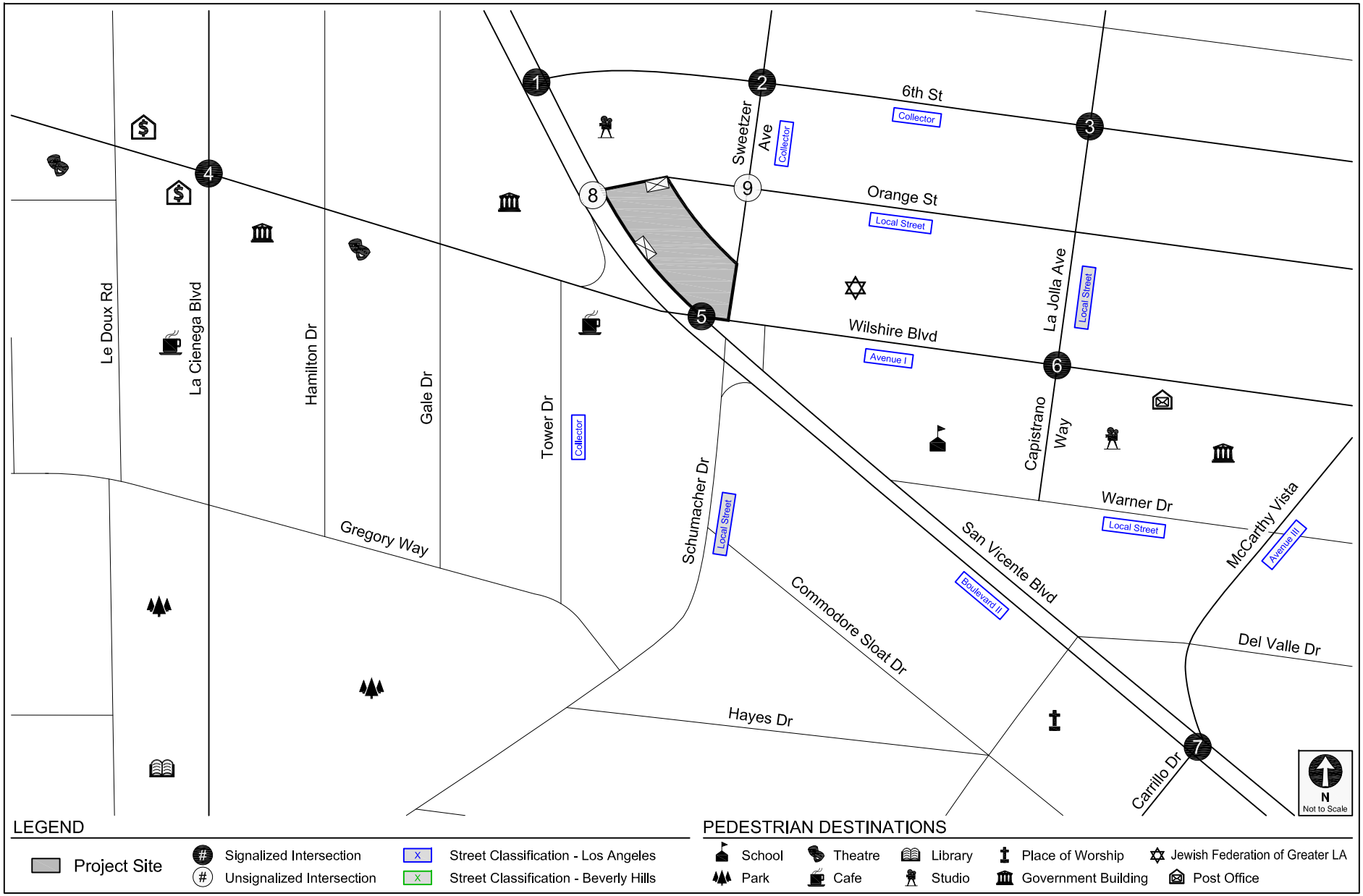


9. Sweetzer Avenue & Orange Street



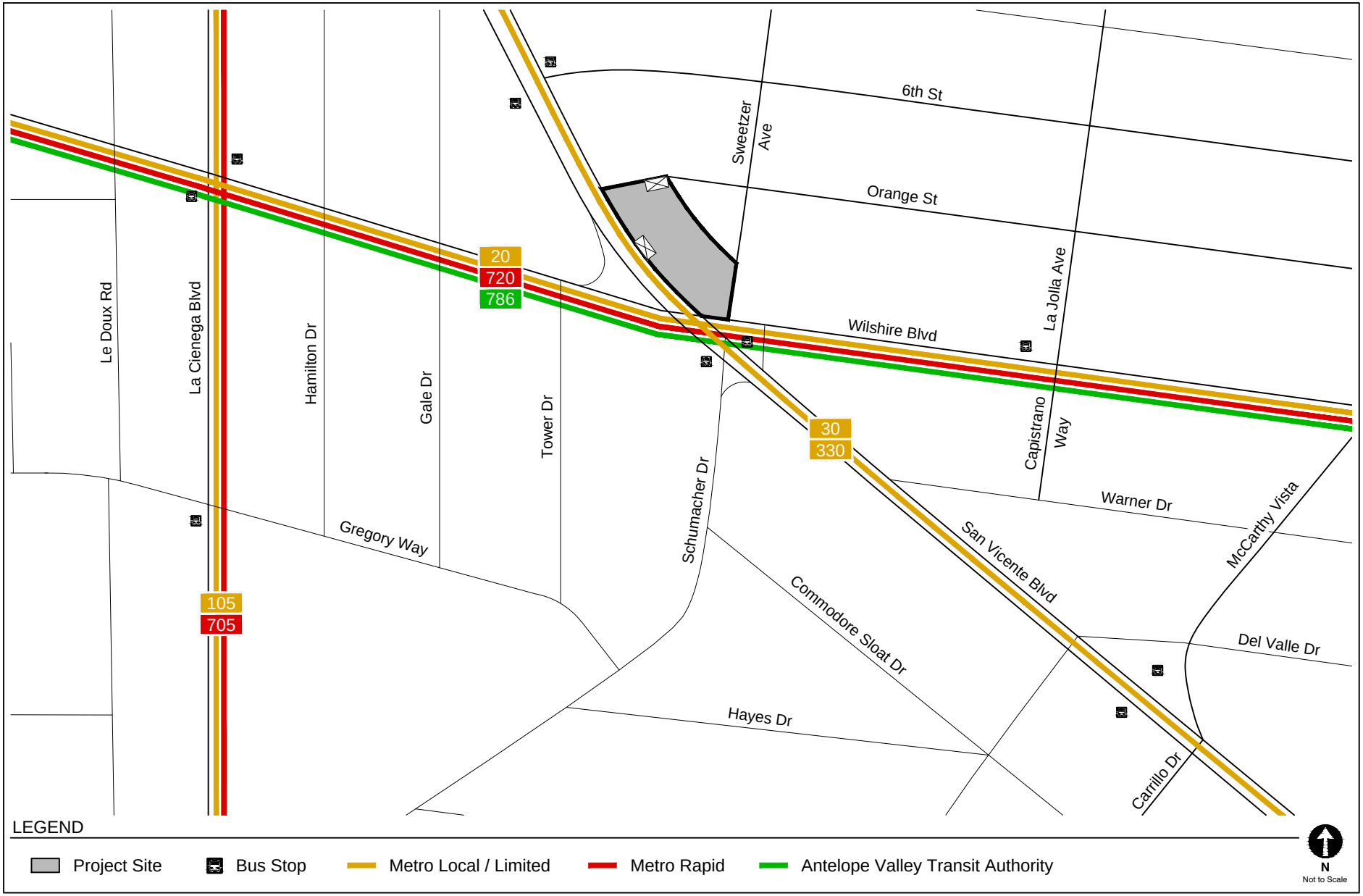
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE 4 (CONT.)



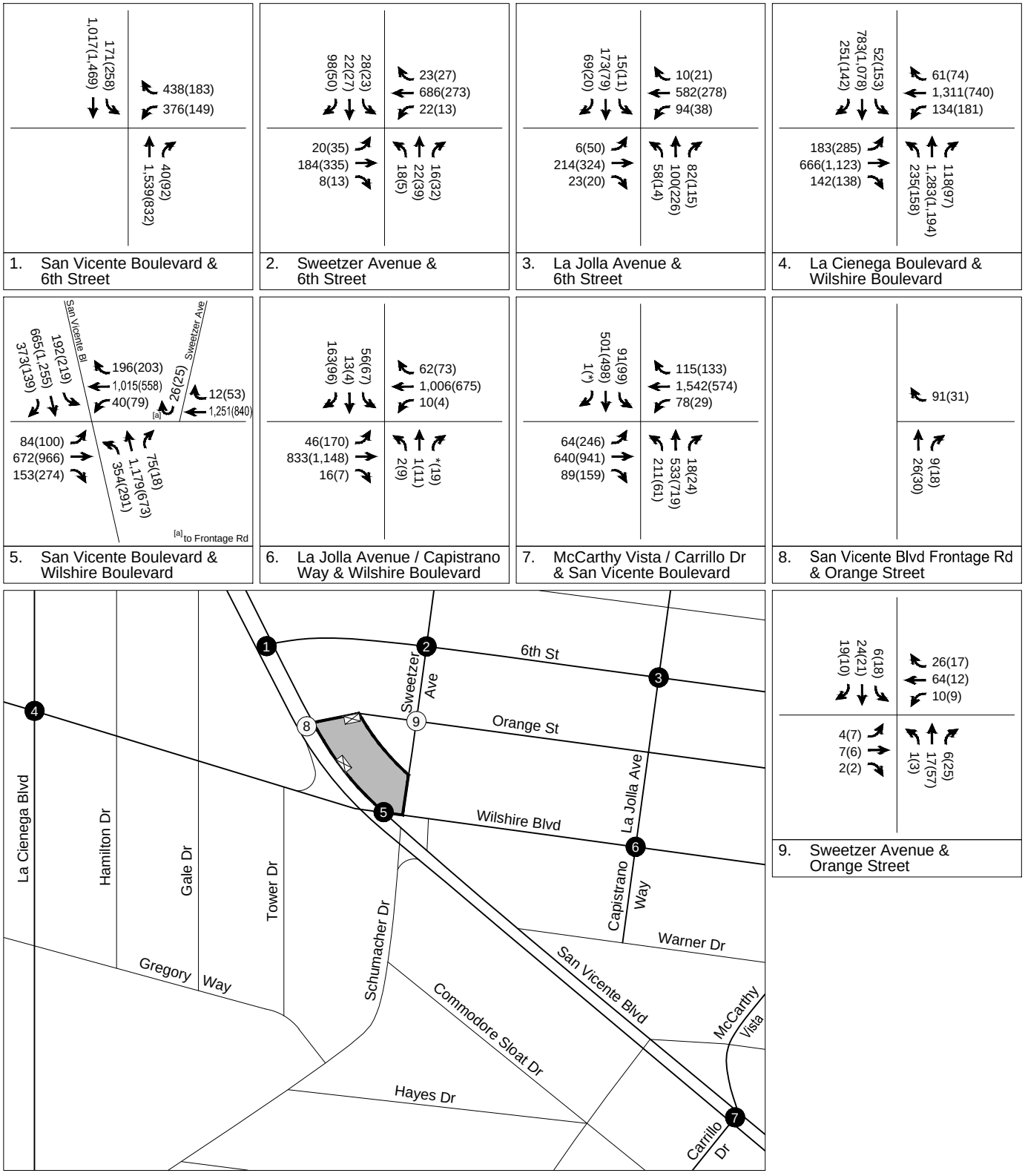
EXISTING TRANSPORTATION FACILITIES

FIGURE 5



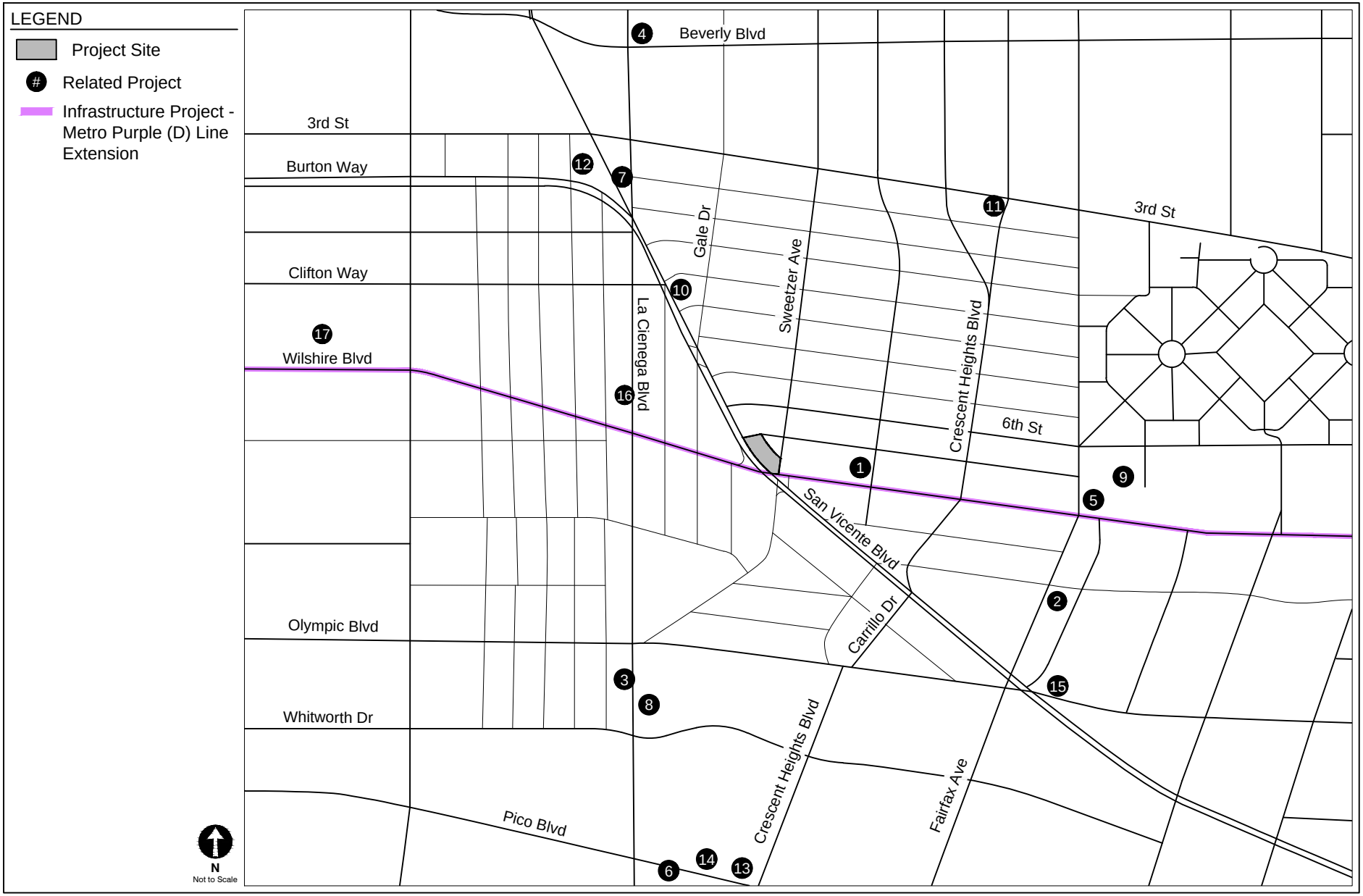
EXISTING TRANSIT SERVICE

FIGURE 6



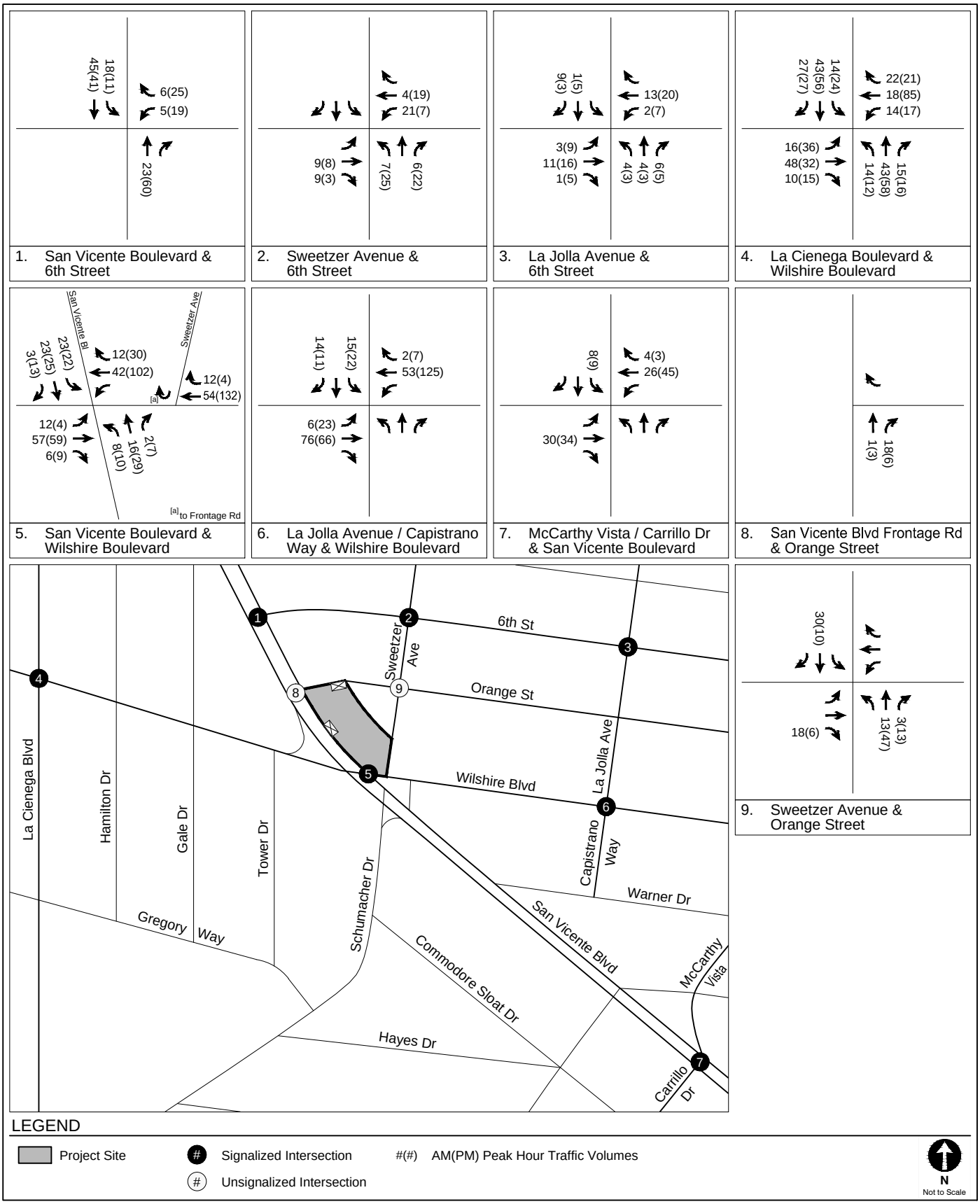
EXISTING CONDITIONS (YEAR 2020)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 7



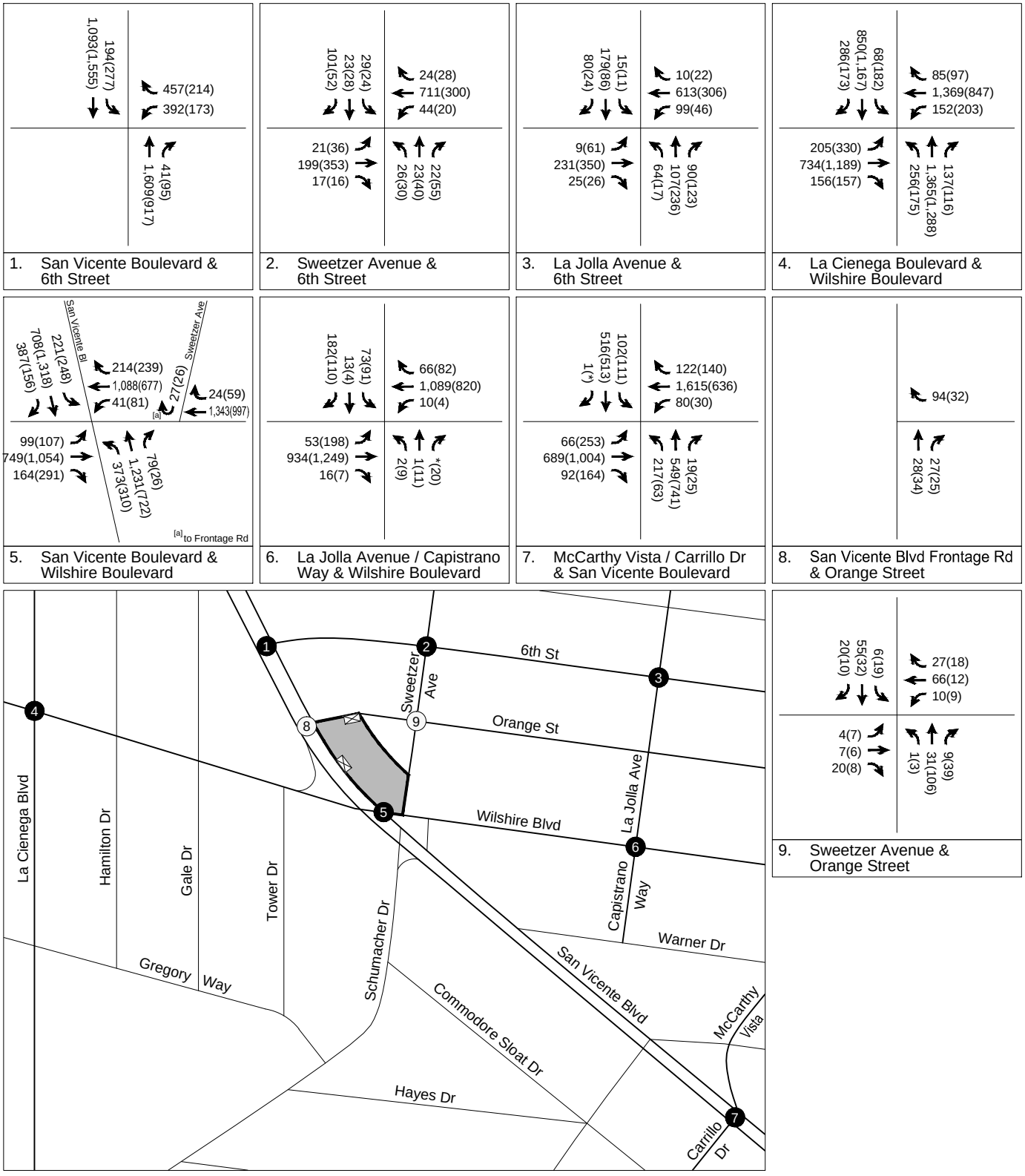
LOCATIONS OF RELATED PROJECTS

FIGURE 8



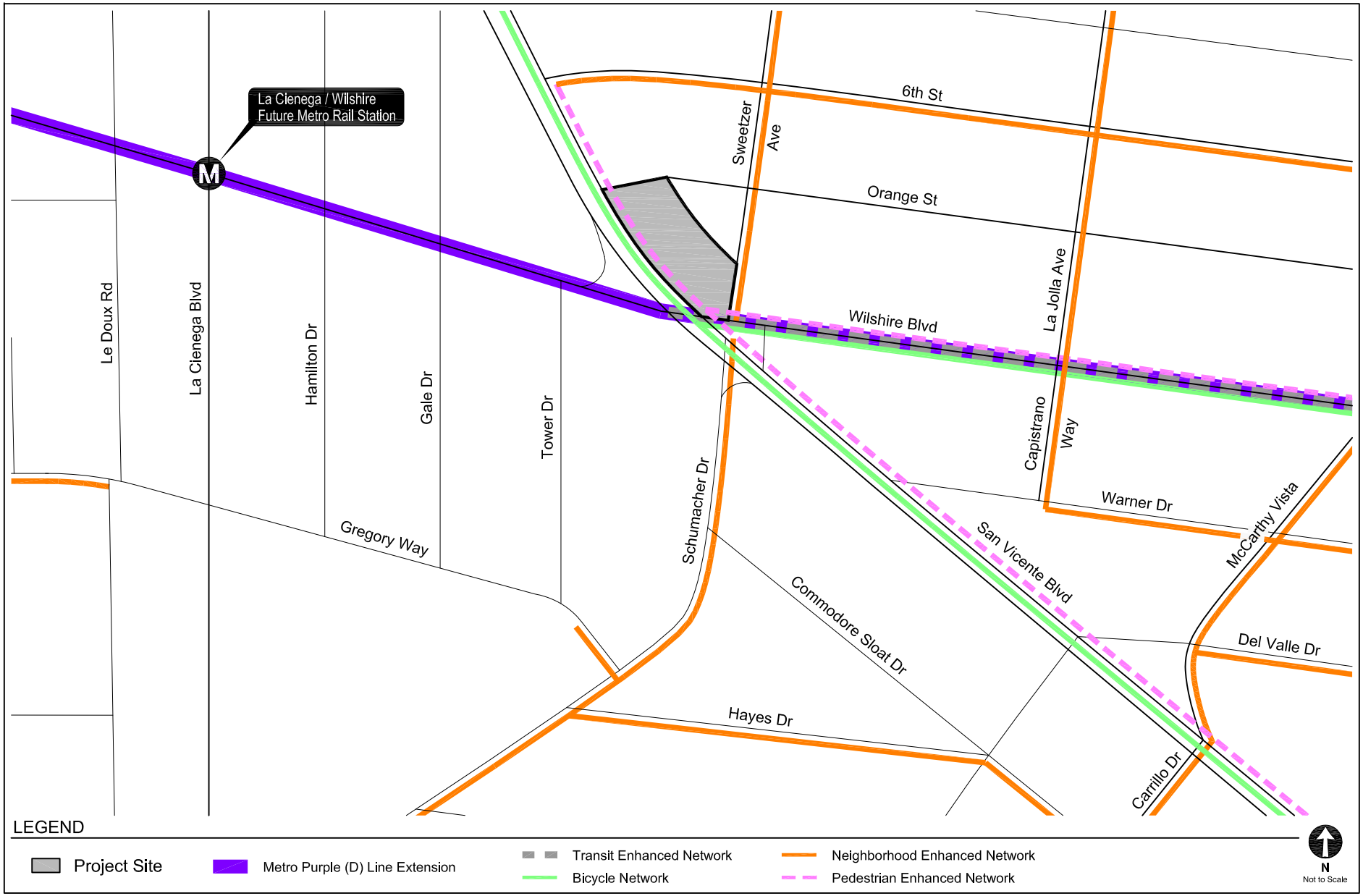
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
9



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 10



FUTURE TRANSPORTATION FACILITIES

FIGURE 11

TABLE 1
STUDY INTERSECTIONS

No.	North/South Street	East/West Street	Jurisdiction
Signalized Intersections			
1	San Vicente Boulevard	6th Street	City of Los Angeles
2	Sweetzer Avenue	6th Street	City of Los Angeles
3	La Jolla Avenue	6th Street	City of Los Angeles
4	La Cienega Boulevard	Wilshire Boulevard	City of Beverly Hills
5	San Vicente Boulevard	Wilshire Boulevard	City of Los Angeles
6	La Jolla Avenue	Wilshire Boulevard	City of Los Angeles
7	McCarthy Vista/Carrillo Drive	San Vicente Boulevard	City of Los Angeles
Unsignalized Intersections			
8	San Vicente Boulevard Frontage Rd	Orange Street	City of Los Angeles
9	Sweetzer Avenue	Orange Street	City of Los Angeles

TABLE 2
EXISTING TRANSIT SERVICE IN STUDY AREA

Provider, Route, and Service Area		Service Type	Hours of Operation	Average Headway (minutes)			
				AM Peak Hour		PM Peak Hour	
Metro Bus Service				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
20	Downtown Los Angeles - Santa Monica via Wilshire Boulevard	Local	24-Hour	13	11	12	12
30	Downtown LA/East LA - Downtown LA/West Hollywood via San Vicente Blvd, Pico Blvd & East 1st St	Local	5:30 A.M. - 12:30 A.M.	30	30	34	30
105	Vernon - West Hollywood via La Cienega Boulevard & Vernon Avenue	Local	4:00 A.M. - 9:30 P.M.	18	20	18	20
330	Downtown LA/East LA - Downtown LA/West Hollywood via San Vicente Blvd, Pico Blvd & East 1st St	Limited	6:30 A.M. - 7:00 P.M.	3 peak trips	2 peak trips	2 peak trips	3 peak trips
705	West Hollywood - Vernon via La Cienega Boulevard & Vernon Avenue	Rapid	5:00 A.M. - 9:00 P.M.	13	20	16	17
720	Downtown LA/Commerce - Downtown LA/Santa Monica via Wilshire Boulevard & Whittier Boulevard	Rapid	4:15 A.M. - 2:00 A.M.	10	3	4	10
Antelope Valley Transit Authority (AVTA)				**NB/EB**	**SB/WB**	**NB/EB**	**SB/WB**
786	Lancaster/Palmdale - Century City/West Los Angeles	Express	6:00 A.M. - 5:00 P.M.	15	20	24	N/A

Notes:
Metro: Los Angeles County Metropolitan Transportation Authority

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

Provider, Route, and Service Area		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
Metro Bus Service											
20	Downtown Los Angeles - Santa Monica via Wilshire Boulevard	La Cienega Boulevard & Wilshire Boulevard	50	13	30	9	19	41	31	185	163
30/330	Downtown LA/East LA - Downtown LA/West Hollywood via San Vicente Blvd, Pico Blvd & East 1st St	San Vicente Boulevard & Wilshire Boulevard	50	4	16	3	11	47	39	94	78
105	Vernon - West Hollywood via La Cienega Boulevard & Vernon Avenue	La Cienega Boulevard & Wilshire Boulevard	50	19	10	13	6	37	44	120	132
705	West Hollywood - Vernon via La Cienega Boulevard & Vernon Avenue	La Cienega Boulevard & Wilshire Boulevard	75	18	5	11	4	64	71	304	213
720	Downtown LA/Commerce - Downtown LA/Santa Monica via Wilshire Boulevard & Whittier Boulevard	La Cienega Boulevard & Wilshire Boulevard	75	27	68	15	42	60	33	360	569
Total Remaining Peak Hour Transit Ridership Capacity										**2,218**	

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority

[a] Capacity assumptions:

Metro Bus - 40 seated / 50 seated and standing.

Metro Articulated Bus - 66 seated / 75 seated and standing.

[b] Ridership information based on data from Metro for April 2019.

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

Provider, Route, and Service Area		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
Metro Bus Service											
20	Downtown Los Angeles - Santa Monica via Wilshire Boulevard	La Cienega Boulevard & Wilshire Boulevard	50	31	16	22	10	28	40	140	200
30/330	Downtown LA/East LA - Downtown LA/West Hollywood via San Vicente Blvd, Pico Blvd & East 1st St	San Vicente Boulevard & Wilshire Boulevard	50	19	11	16	6	34	44	60	88
105	Vernon - West Hollywood via La Cienega Boulevard & Vernon Avenue	La Cienega Boulevard & Wilshire Boulevard	50	13	27	11	19	39	31	127	93
705	West Hollywood - Vernon via La Cienega Boulevard & Vernon Avenue	La Cienega Boulevard & Wilshire Boulevard	75	14	18	7	17	68	58	255	203
720	Downtown LA/Commerce - Downtown LA/Santa Monica via Wilshire Boulevard & Whittier Boulevard	La Cienega Boulevard & Wilshire Boulevard	75	70	46	47	30	28	45	406	281
Total Remaining Peak Hour Transit Ridership Capacity										**1,853**	

Notes:

Metro: Los Angeles County Metropolitan Transportation Authority

[a] Capacity assumptions:

Metro Bus - 40 seated / 50 seated and standing.

Metro Articulated Bus - 66 seated / 75 seated and standing.

[b] Ridership information based on data from Metro for April 2019.

TABLE 4
RELATED PROJECTS

No.	Project	Address	Use	Trip Generation						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
City of Los Angeles **[a]**										
1. [d]	Wilshire & La Jolla Tower	6401-6419 Wilshire Blvd	90 apartment units & 5,100 sf retail	817	12	39	51	45	30	75
2.	830-840 Fairfax Avenue	800 S Fairfax Ave	209 apt units, 1,600 sf restaurant, 750 sf small restaurant	890	26	44	70	45	31	76
3.	Temple Beth Am Private School - Pressman Academy	1055 S La Cienega Blvd	38 students (early childhood center), 120 students (K-8), 6,200 sf gym	423	75	58	133	46	54	100
4.	Mixed-Use	316 N La Cienega Blvd	50 apt units, 6 affordable units, 4,096 sf retail	119	5	15	20	15	11	26
5.	Academy Museum of Motion Pictures	6067 W Wilshire Blvd	5,000 museum visitors, 135 employees, 5,000 sf store, 4,000 sf restaurant	2,693	103	9	112	56	261	317
6.	Mixed-Use	6132 W Pico Blvd	100 apt units, 14,000 sf retail	807	5	34	39	47	30	77
7.	333 La Cienega Bl Proj (Caruso) Sched Comp 2020	333 S La Cienega Blvd	145 apt units, 27,685 sf supermarket, 3,370 sf restaurant	2,020	35	71	106	114	77	191
8.	Amoroso Apartments	1056 S La Cienega Blvd	114 apt units	620	3	40	43	39	17	56
9.	LACMA Renovation	5905 W Wilshire Blvd	Replace 392,871 sf museum with 368,300 sf museum	668	43	2	45	15	53	68
10. [d]	Mixed-Use	488 S San Vincente Blvd	53 apt units, 6,585 sf retail	281	1	20	21	18	9	27
11.	Third Street Mixed-Use	8000 W 3rd Street	50 apt units, 7,252 sf ground floor commercial	428	9	17	26	23	13	36
12.	Mt Lebanon Mixed-Use	333 S San Vincente Blvd	153 apt units, 31,342 sf church floor area	650	11	32	43	32	21	53
13.	Residential	6055 W Pico Blvd	125 apt units, 4,140 sf retail	313	(2)	24	22	16	4	20
14.	6091 Pico Blvd Mixed-Use TOC	6075 W Pico Blvd	110 hotel rooms, 45 apt units, 2,500 sf retail, 3,800 sf restaurant	1,064	15	27	42	43	27	70
15.	Residential	6001 W Olympic Blvd	51 apt units, 6 affordable units, 1,596 sf restaurant	99	6	13	19	5	(2)	3
City of Beverly Hills [b]										
16. [d]	55 N La Cienega Blvd	55 N La Cienega Blvd	200 hotel rooms	1,672	55	39	94	61	59	120
17.	154-168 N La Peer Dr	154-168 N La Peer Dr	16 condo units	87	2	4	6	4	3	7

Infrastructure Projects [c]

No.	Project	Extents	Description
1.	Metro Purple Line Extension	Metro Wilshire/Western Station to Metro Westwood/Veterans Administration Hospital Station	Provide extended rail service with seven new transit stations by year 2035.

Notes:

[a] Source: Related projects information and trip generation estimates provided by Los Angeles Department of Transportation, January 2020.

[b] Source: Related projects information and trip generation estimates provided by City of Beverly Hills, January 2020.Trip generation estimates based onTrip Generation, 10th Edition,Institute of Transportation Engineers, 2017.

[c] Source: Westside Subway Extension Final Environmental Impact Statement/Environmental Impact Report,Los Angeles County Metropolitan Transportation Authority, United States Department of Transportation, and Federal Transit Administration, March 2012.

[d] Related projects within one-quarter mile of the Project Site.

Chapter 3
CEQA Analysis of Transportation Impacts

This chapter presents the results of an analysis of CEQA-related transportation impacts. The analysis identifies any potential conflicts the Project may have with adopted City plans and policies and the improvements associated with the potential conflicts as well as the results of a Project VMT analysis that satisfies State requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743).

METHODOLOGY

SB 743, made effective in January 2014, required the Governor's Office of Planning and Research (OPR) to change the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis shifts from driver delay (level of service [LOS]) to VMT, in order to reduce of greenhouse gas emissions (GHG), create multimodal networks, and promote mixed-use developments.

To adapt to SB 743, the Los Angeles City Planning Commission, on February 28, 2019, recommended the approval of revised guidelines to include new transportation analysis screening procedures and thresholds, subsequently approved by the Los Angeles City Council on July 30, 2019. The TAG defines the methodology of analyzing a project's transportation impacts in accordance with SB 743.

Per the TAG, the CEQA transportation analysis contains the following thresholds for identifying significant impacts:

- Threshold T-1: Conflicting with Plans, Programs, Ordinances, or Policies
- Threshold T-2.1: Causing Substantial Vehicle Miles Traveled (VMT)
- Threshold T-2.2: Substantially Inducing Additional Automobile Travel

- Threshold T-3: Substantially Increasing Hazards Due to a Geometric Design Feature or Incompatible Use

The thresholds were reviewed and analyzed, as detailed in the following Sections 3A-3D.

Section 3A: Threshold T-1
Conflicting with Plans, Programs, Ordinances, or Policies Analysis

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

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

Table 2.1-1 of the TAG provides the City plans, policies, programs, ordinances and standards relevant in determining project consistency. A review of guiding questions to determine a project's applicability to the City's plans, programs, ordinances, or policies is presented in Table C-1 of Appendix C.

The Project is consistent with the City documents listed in Table 2.1-1 of the TAG; therefore, the Project would not result in a significant impact under Threshold T-1. Detailed discussion of the plans, programs, ordinances, or policies is provided below.

Mobility Plan

The Mobility Plan combines "complete street" principles with the following goals and objectives that define the City's mobility priorities:

1. Safety First: Design and operate streets in a way that enables safe access for all users, regardless of age, ability, or transportation mode of choice.
2. World Class Infrastructure: A well-maintained and connected network of streets, paths, bikeways, trails, and more provides Angelenos with the optimum variety of mode choices.

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

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

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

Safety First. With the development of the Project, the frontage road of San Vicente Boulevard, Orange Street, and Sweetzer Avenue along the Project boundary would be improved to provide adequate pedestrian safety and refuge areas, including the addition of landscaped space for pedestrians. Improvements to the Project frontages would be designed to prioritize the safety of all vulnerable roadway users, including pedestrians, bicyclists, children, the elderly, and the mobility-impaired. Thus, the Project would provide safe access for all users regardless of mode of choice and would be consistent with the Safety First goal.

World Class Infrastructure. Though no specific improvements have been identified and there is no schedule for implementation, the mobility-enhanced networks identified in the Mobility Plan represent a focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. As described in the previous chapter, the Project would be designed with the following mobility-enhanced networks along corridors adjacent to the Project Site as a top priority:

- Transit Enhanced Network: Wilshire Boulevard east of San Vicente Boulevard
- Neighborhood Enhanced Network: Sweetzer Avenue
- Bicycle Path Network / Bicycle Network: San Vicente Boulevard and Wilshire Boulevard
- Pedestrian Enhanced District: San Vicente Boulevard and Wilshire Boulevard

Vehicular access to the Project Site would be provided via separate ingress and egress visitor-only driveways located along the frontage road of San Vicente Boulevard, a designated Boulevard II, and one employee-only driveway located along Orange Street, a designated Local Street. The driveways on the frontage road of San Vicente Boulevard would accommodate right-turn ingress and egress only maneuvers, while the driveway on Orange Street would accommodate both left-turn and right-turn ingress and egress maneuvers. The driveways on the frontage road of San Vicente Boulevard and Orange Street are located on an auxiliary road and a Local Street, respectively, so as not to disrupt the operations of the Arterial Streets adjacent to the Project. Additionally, a separate driveway along Orange Street is also provided to access the loading dock.

The Project would maintain the designated driveway and roadway width requirements as indicated in the Mobility Plan, and the Project would not preclude future roadway improvements proposed in the Mobility Plan. Further, the Project would include the installation of landscaped space and street trees along San Vicente Boulevard, Orange Street, and Sweetzer Avenue to serve as visual cues to the neighborhood character of the streets and provide shade for passersby. All right-of-way, roadway, and dedication widths would be designed to meet the goals and serve the long-term needs of the Mobility Plan. Further, the Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure, and the Project driveways are not proposed along a street with an existing bicycle facility. Due to the well-connected network and facilities provided, the Project would be consistent with the World Class Infrastructure goal.

Access for All Angelenos. The Project encourages multi-modal transportation alternatives and access for all travel modes to and from the Project Site by providing bicycle infrastructure on-site and developing a mixed-use project located within 0.25 miles walking distance to a Metro RapidBus stop (Metro 720) and future Metro D (Purple) Line rail station. The Project does not propose repurposing existing curb space and does not propose narrowing or shifting existing sidewalk placement or paving, narrowing, shifting, or removing an existing parkway. Further, the Project complies with all Americans with Disabilities Act (ADA) requirements and will provide direct connections to pedestrian amenities at adjacent intersections. Thus, the Project would be consistent with the Access for All Angelenos goal.

Collaboration, Communication, and Informed Choices. As further detailed in Section 3B, the Project would implement and promote TDM strategies to reduce the dependency on single-occupancy vehicles. As part of the Project's TDM program, the Project would provide marketing materials on-site to make employees and visitors aware of alternative transportation options to promote the benefits of TDM. Thus, the Project would be consistent with the Collaboration, Communication, and Informed Choices goal.

Clean Environments and Healthy Communities. The Project is located in proximity to transit and would provide bicycle parking facilities and pedestrian connections within the Project Site, as well as direct connections to off-site pedestrian amenities. This would promote non-automobile travel to improve personal fitness and public health and reduce transportation-related impacts to the environment. Further, the Project would implement various TDM strategies to encourage reduction of single-occupancy vehicle trips and support ways to reduce VMT per capita. Therefore, the Project would be consistent with the Clean Environments and Healthy Communities goal.

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

Plan for a Healthy Los Angeles

Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan (LADCP, March 2015) introduces guidelines for the City to follow to enhance the City's position as a regional leader in health and equity, encourage healthy design and equitable access, and increase awareness of equity and environmental issues.

The Project prioritizes safety and access for all individuals utilizing the site by complying with all ADA requirements and providing direct connections to pedestrian amenities at adjacent intersections. Further, the Project supports healthy lifestyles by locating jobs adjacent to transit (Metro and AVTA bus lines, as well as a future rail line), providing bicycle amenities, and enhancing the pedestrian environment by providing shade trees and other landscape elements for a more comfortable environment for pedestrians.

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

Land Use Element of the General Plan

The City General Plan's Land Use Element contains 35 Community Plans that establish specific goals and strategies for the various neighborhoods across Los Angeles, including the *Wilshire Community Plan* area in which the Project is located.

Wilshire Community Plan. The Project is consistent with the *Wilshire Community Plan* as it would implement many policies to maintain the community's distinctive character, including promotion of multimodal transportation (e.g. walking, bicycling, driving, and taking public transit), improvements to site access and circulation along a central commercial corridor, and the creation of a mobility-friendly environment through active ground floor uses and pedestrian-oriented design. The Project would also provide opportunities for employment of the local workforce in an accessible location within close proximity to transit. Further, the Project encourages the enhancement of the visual environment and provides pedestrian amenities along San Vicente Boulevard.

As further detailed in Section 4D, the Project would implement a TDM program that would encourage employees and patrons of the Project to utilize alternative modes of travel by providing bicycle and pedestrian amenities, promoting alternative transportation modes, supporting carpools and rideshares, and implementing an employee parking management program. The Project would also explore opportunities to provide enhancements for all travel modes to increase mobility, safety, amenities, and access. The Project may contribute toward signal improvements and crosswalk upgrades at adjacent intersections.

As discussed in Section 4E, the Project would also contribute toward neighborhood improvements and traffic calming measures through adjacent neighborhoods as part of a Neighborhood Traffic Management Plan (NTMP). The primary goal of the NTMP would be to minimize neighborhood traffic intrusion and loss of parking. To the extent feasible, the Project would maintain existing on-street metered parking along the Project perimeter to provide convenient parking for customers of commercial land uses. Any modification or improvements to the adjacent streets would be in accordance with City standards and consistent with the City's Standard Street Dimensions. Because the Project would be consistent with the goals of the *Wilshire Community Plan*, it would also be consistent with the goals of the General Plan.

Los Angeles Municipal Code (LAMC) Section 12.21.A.16

LAMC Section 12.21.A.16, Case No. CPC-2016-4216-CA and Council File No. 12-1297-S1 detail the bicycle parking requirements for new developments. The proposed bicycle parking short-term and long-term supply would satisfy the LAMC requirement. The Project would provide a total of 716 bicycle parking spaces within the Project's on-site parking facility.

LAMC Section 12.26J

LAMC Section 12.26J, the TDM Ordinance (1993), establishes trip reduction requirements for non-residential projects in excess of 25,000 sf. As later discussed in Section 4D, the Project would incorporate TDM measures as part of the project design aimed at encouraging use of alternative transportation modes in line with the requirements set forth in the TDM Ordinance.

Vision Zero

Vision Zero implements projects that are designed to increase safety on the most vulnerable City streets. As discussed in Chapter 2, the Project Site is not located adjacent to any streets identified in the High Injury Network. No other streets within the Study Area are identified in the High Injury Network. The Project improvements to the pedestrian environment would not preclude future Vision Zero safety improvements by the City. Thus, the Project does not conflict with Vision Zero.

Streetscape Plans

There are no streetscape plans near the Project Site and, therefore, streetscape plans do not apply to the Project.

Citywide Design Guidelines for Residential, Commercial, and Industrial Development

Citywide Design Guidelines (Los Angeles City Planning Urban Design Studio, October 2019) identifies urban design principles to guide architects and developers in designing high-quality projects that meet the City's functional, aesthetic, and policy objectives and help foster a sense of community. The design guidelines are organized around the following approaches:

- **Pedestrian-First Design**

  Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all.

  Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.

  Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.

- **360-Degree Design**

  Guideline 4: Organize and shape projects to recognize and respect surrounding context.

  Guideline 5: Express a clear and coherent architectural idea.

  Guideline 6: Provide amenities that support community building and provide an inviting, comfortable user experience.

  Guideline 7: Carefully arrange design elements and uses to protect site users.

- **Climate-Adapted Design**

  Guideline 8: Protect the site's unique natural resources and features.

  Guideline 9: Configure the site layout, building massing and orientation to lower energy demand and increase the comfort and well-being of users.

  Guideline 10: Enhance green features to increase opportunities to capture stormwater and promote habitat.

Pedestrian-First Design. The Project design includes accessible sidewalks, pedestrian amenities, and well-designed vehicular access driveways in accordance with the City's design considerations. The Project would provide street trees and sidewalk plantings uniformly within the sidewalk to provide adequate shade, as well as a more comfortable environment for pedestrians. Further, the orientation of the Project design and active ground floor facilities ensures that the Project actively engages with the street and its surrounding uses. Thus, the Project would align with the pedestrian-first design goal.

360-Degree Design. The Project design also includes elements that reinforce orientation to the street, such as glass windows and an easily recognizable entrance. The Project would provide landscaped spaces along San Vicente Boulevard, Orange Street, and Sweetzer Avenue, enhancing the inviting and comfortable user experience of the Project Site. Further, all design elements of the Project would be developed in conjunction with the others to ensure consistency of the architectural ideas. Thus, the Project would align with the 360-degree design goal.

Climate-Adapted Design. The Project would also incorporate elements of shade, natural light, and ventilation as considerations in the building orientation and design. Further, the Project would include trees and landscaped spaces that allow water to percolate into the ground and offer ecological enhancements and shaded spaces for community benefits. Thus, the Project would align with the climate-adapted design goal.

Because the Project would be consistent with the pedestrian-first design, 360-degree design, and climate-adapted design goals, the Project would be consistent with the *Citywide Design Guidelines*.

Walkability Checklist

City of Los Angeles Walkability Checklist – Guidance for Entitlement Review (LADCP, November 2008) serves as a guide for creating improved conditions for pedestrians to travel and contribute to the overall walkability of the City and includes the following topics:

- Sidewalks
- Crosswalks/Street Crossings
- On-Street Parking
- Utilities
- Building Orientation
- Off-Street Parking and Driveways
- On-Site Landscaping
- Building Façade
- Building Signage and Lighting

The Project incorporates many of the recommended strategies applicable to commercial developments, including but not limited to providing continuous and adequate sidewalks along the Project Site, providing trees and landscape planters to provide adequate shade and habitat for a more comfortable mobility environment for pedestrians, and designing direct primary entrances for pedestrians to be visible and ADA accessible. Additionally, the Project incorporates neighborhood-serving ground floor commercial uses to encourage pedestrian engagement.

LADOT Transportation Technology Strategy – Urban Mobility in a Digital Age

The LADOT transportation technology strategy, based on *Urban Mobility in a Digital Age: A Transportation Technology Strategy for Los Angeles* (Ashley Z. Hand, August 2016), is designed to ensure the City stays on top of emerging transportation technologies as both a regulator and a transportation service provider. This strategy document includes the following goals:

- Data as a Service: Providing and receiving real-time data to improve the City's ability to serve transportation needs
- Mobility as a Service: Improving the experience of mobility consumers by encouraging partnerships across different modes and fostering clear communication between transportation service providers
- Infrastructure as a Service: Re-thinking how the City pays for, maintains, and operates public, physical infrastructure to provide more transparency

LADOT also developed *Technology Action Plan* (2019) to realize the vision developed in Transportation Technology Strategy. Key action steps include:

- Developing a comprehensive digital inventory of the City's signs, parking meters, curb paint, and regulatory tools
- Continuing to develop and maintain the Automated Traffic Surveillance and Control system
- Using active management strategies to dynamically monitor and control things like speed limits, parking availability, detour routes, etc.

- Developing a mobility data specification around which software tools can be developed and data can be accessed
- Developing a transportation tax model that minimizes data collection and retention in favor of user privacy

The Project does not interfere with any of the general policy recommendations and/or pilot proposals set forth by this document.

Mobility Hub Reader's Guide

Mobility Hubs: A Reader's Guide (LADCP, 2016) provides guidance for enhancing transportation connections and multi-modal improvements in proximity to new or existing transit stations. It specifically focuses on enhancing bicycle connections, providing vehicle sharing services, improving bus infrastructure, providing real-time transit and wayfinding information, and enhancing walkability and pedestrian connections.

The Project would implement many of the key features identified above, including LAMC-required short-term and long-term bicycle parking that both facilitates and encourages bicycling in and around the Project. The Project is, therefore, consistent with *Mobility Hubs: A Reader's Guide*.

LADOT Manual of Policies and Procedures (Design Standards)

Manual of Policies and Procedures (LADOT, December 2008) provides plans and requirements for traffic infrastructure features in the City, including driveway design and placement guidelines, loading zones, roadway striping and other markings, signage, on-street parking, crosswalks, and turn lanes.

The driveways and truck loading dock would be designed in accordance with the standards set forth in *Manual of Policies and Procedures*. The Project would not interfere with any of the policies and procedures contained in this document. Additionally, the Project would comply with all applicable LADOT design standards.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with nearby Related Projects to determine if there may be a cumulatively significant impact resulting from inconsistency with a particular program, plan, policy, or ordinance. In accordance with the TAG, the cumulative analysis must include consideration of any Related Projects within 0.25 miles of the Project site and any transportation system improvements in the vicinity. Related Projects located within 0.25 miles of the Project site are identified in Table 4.

Each of the Related Projects considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed and approved by the City, including a check for consistency with applicable policies. Collectively, the Project and the Related Projects add high-density development in a major commercial area with high-quality transit options and high levels of pedestrian activity. Therefore, the Project, together with the Related Projects identified in Table 4, would not create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

Section 3B: Threshold T-2.1
Causing Substantial VMT Analysis

Threshold T-2.1 states that a residential project would result in a significant VMT impact if it would generate household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which a project is located. Similarly, a commercial project would result in a significant VMT impact if it would generate work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC area in which the project is located. The VMT analysis presented below was conducted for the Project in accordance with the TAG, which satisfies State requirements under SB 743.

VMT METHODOLOGY

The following details the methodology that vehicle trips and VMT are calculated in *City of Los Angeles VMT Calculator Version 1.3* (July 2020) (VMT Calculator), as detailed in *City of Los Angeles VMT Calculator Documentation* (LADOT and LADCP, May 2020). LADOT developed the VMT Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for developments within City limits, which are based on the following types of one-way trips:

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

As detailed in *City of Los Angeles VMT Calculator Documentation*, the household VMT per capita threshold applies to Home-Based Work Production and Home-Based Other Production trips, and the work VMT per employee threshold applies to Home-Based Work Attraction trips,

as the location and characteristics of residences and workplaces are often the main drivers of VMT, as detailed in Appendix 1 of *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018).

Table 2.2-1 of the TAG details the following daily household VMT per capita and daily work VMT per employee impact criteria the APC areas:

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

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

Travel Behavior Zone (TBZ)

The City developed TBZ categories to determine the magnitude of VMT and vehicle trip reductions that could be achieved through TDM strategies. As detailed in *City of Los Angeles VMT Calculator Documentation*, the development of the TBZs considered the population

density, land use density, intersection density, and proximity to transit of each Census tract in the City and are categorized as follows:

1. *Suburban (Zone 1): Very low-density primarily centered around single-family homes and minimally connected street network.*
2. *Suburban Center (Zone 2): Low-density developments with a mix of residential and commercial uses with larger blocks and lower intersection density.*
3. *Compact Infill (Zone 3): Higher density neighborhoods that include multi-story buildings and well-connected streets.*
4. *Urban (Zone 4): High-density neighborhoods characterized by multi-story buildings with a dense road network.*

The VMT Calculator determines a project's TBZ based on the latitude and longitude of the project address.

Mixed-Use Development Methodology

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

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

VMT

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

Population and Employment Assumptions

As previously stated, the VMT thresholds identified in the TAG are based on household VMT per capita and work VMT per employee. Thus, the VMT Calculator contains population assumptions developed based on Census data for the City and employment assumptions derived from multiple data sources, including *2012 Developer Fee Justification Study* (Los Angeles Unified School District, 2012), the San Diego Association of Governments' Activity Based Model, *Trip Generation Manual, 9th Edition* (Institute of Transportation Engineers, 2012), the United States Department of Energy, and other modeling resources. A summary of population and employment assumptions for various land uses is provided in Table 1 of *City of Los Angeles VMT Calculator Documentation.*

TDM Measures

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

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

TDM strategies within each of these categories have been empirically demonstrated to reduce trip-making or mode choice in such a way as to reduce VMT, as documented in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).

PROJECT VMT ANALYSIS

The VMT Calculator was used to evaluate Project VMT for comparison to the VMT impact criteria. As noted in the TAG, small-scale retail/restaurant components less than 50,000 sf are considered to be local serving and, therefore, are assumed to have less than significant VMT impacts. The VMT Calculator was set up with the Project's land use program and the respective sizes as the primary inputs. Based on the Project's proposed land uses and location, the following assumptions were identified in the VMT Calculator:

- Total Employees: 439
- APC: Central
    - Household VMT Impact Threshold: N/A
    - Work VMT Impact Threshold: 7.6 VMT per employee
- TBZ: Compact Infill
- Maximum VMT Reduction: 40%

The VMT analysis results based on the VMT Calculator are summarized in Table 5. Detailed output from the VMT Calculator is provided in Appendix D. The Project does not include any residential uses. Therefore, per *City of Los Angeles VMT Calculator User Guide* (LADOT and LADCP, May 2020), the Project would not generate any household VMT per capita and would not result in a significant household VMT impact.

Project VMT

The Project includes several design features with measures to reduce the number of single occupancy vehicle trips to the Project Site. For the purposes of this analysis, the following Project design features were accounted for in the VMT evaluation:

- Reduced parking supply
- Bicycle parking supply per LAMC requirements
- Promotions and marketing of alternative transportation modes

As shown in Table 5, the VMT Calculator estimates that the Project would generate 3,275 total work VMT. Thus, based on the employee assumptions above, the Project would generate an average work VMT per employee of 7.5, which falls below the significance thresholds for the Central APC (7.6 work VMT per employee). Therefore, the Project would not result in a significant VMT impact, and no mitigation measures would be required.

CUMULATIVE ANALYSIS

Cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of *Connect SoCal – The 2020–2045 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments [SCAG], Adopted September 3, 2020) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals. In addition, as detailed stated in the TAG, projects that do not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., household VMT per capita, work VMT per employee) in the impact analysis, a less than significant impact conclusion is sufficient in demonstrating there is no cumulative VMT impact, as those projects are already shown to align with the long-term VMT and greenhouse gas goals of the RTP/SCS.

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

Furthermore, the Project is served by various local bus lines, as well as future rail stations along Wilshire Boulevard via the Metro D (Purple) Line Extension. In addition, the Project would be designed to further reduce single occupancy trips to the Project Site through various TDM strategies including, bicycle amenities and pedestrian facilities.

Thus, the Project encourages a variety of transportation options and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region. The Project would also contribute to the productivity and use of the regional transportation system by providing employment near transit and encourage active transportation by providing new bicycle parking and active street frontages, consistent with RTP/SCS goals.

TABLE 5
VMT ANALYSIS SUMMARY

Project Information	
Address	656 S. San Vicente Boulevard [a]
Project Land Uses	**Size**
Medical Office Building	140,305 sf
Restaurant	4,000 sf
Pharmacy	1,000 sf
Project Analysis [b]	
Resident Population	0
Employee Population [c]	439
Area Planning Commission	Central
Travel Behavior Zone [d]	Compact Infill
Maximum VMT Reduction [e]	*40%*
VMT Analysis [f]	
Daily Vehicle Trips	3,433
Daily VMT	24,422
Total Work VMT	3,275
Work VMT per Employee [g]	7.5
Impact Threshold	7.6
Significant Impact	NO

Notes:

[a] Project address latitude and longitude (34.064973, -118.372017) was used in the *City of Los Angeles VMT Calculator Version 1.3* (July 2020).

[b] Project Analysis is from *City of Los Angeles VMT Calculator Version 1.3* output reports provided in Appendix D.

[c] Total employment estimate is based on the following employment factor:

Medical Office: 3 employees / 1,000 sf
High-turnover Sit-Down Restaurant: 4.0 employees / 1,000 sf
Pharmacy/Drugstore: 2.0 employees / 1,000 sf

The employment factors are based on employee data from the Los Angeles Unified School District, 2012, SANDAG Activity Based Model, ITE trip generation rates, US Department of Energy, and other modeling resources.

[d] A "Compact Infill" TBZ is characterized in *City of Los Angeles VMT Calculator Documentation* (LADOT and DCP, May 2020) as higher density neighborhoods that include multi-story buildings and well connected streets.

[e] The maximum allowable VMT reduction is based on the Project's designated TBZ.

[f] The Project design features include:

1. Reduced parking supply of 25% as compared to standard City code requirements
2. Bicycle parking per LAMC requirements
3. Promotions and marketing of alternative transportation modes

[g] Work VMT per Employee is based on the "home-based work attraction" trip types.

Section 3C: Threshold T-2.2

Substantially Inducing Additional Automobile Travel Analysis

The intent of Threshold T-2.2 is to assess whether a transportation project would induce substantial VMT, 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 does not propose a transportation project that would induce automobile travel. Therefore, further evaluation would not be required, and the Project would not result in a significant impact under Threshold T-2.2.

Section 3D: Threshold T-3

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

Further evaluation is required for projects that propose new access points or modifications along the public right-of-way (i.e., street dedications) under Threshold T-3. A review of Project access points, internal circulation, and parking access would determine if the Project would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

Vehicular access to the on-site parking garage would be provided via driveways along the frontage road of San Vicente Boulevard and Orange Street. Access to the loading dock would be provided via a separate driveway along Orange Street. The driveways will be designed according to LADOT standards and will be reviewed by the City Bureau of Engineering during site plan review.

The proposed new vehicular driveways along the frontage road of San Vicente Boulevard would require curb cuts into public right-of-way. Any unused curb cuts and driveways would be removed and replaced with sidewalks to maintain pedestrian walkway continuity. The proposed driveway along Orange Street for the Project would require curb cuts into public right-of-way as no driveways currently exist. Potential access to the loading dock from the adjacent alley was reviewed. However, due to the existing geometric constraints and width of the alley, trucks would not be able to access the site via the alley and, thus, the Project proposes truck loading access on Orange Street. As no driveways currently exist on Orange Street, access to the loading dock would also require the installation of a new curb cut. All driveways would be designed, placed and configured to limit vehicle queues and bicycle/pedestrian-vehicle conflicts. The Project vehicular driveway and truck access to the loading dock along Orange Street would be located to provide some pedestrian refuge between the two driveways. Some on-street metered parking adjacent to the Project Site would be removed along Orange Street and the frontage road of San Vicente Boulevard to accommodate the new curb cuts. Thus, sight distance from the Project driveways would be further enhanced.

No unusual or new obstacles are presented in the design that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians.

Based on the site plan review and design assumptions, the Project does not present any geometric design hazards as it relates to traffic movement, mobility, or pedestrian accessibility, and is considered less than significant.

CUMULATIVE ANALYSIS

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

Chapter 4
Non-CEQA Transportation Analysis

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

NON-CEQA TRANSPORTATION ANALYSIS METHODOLOGY

Intersection operation conditions were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. A total of nine study intersections, seven signalized and two unsignalized, in the vicinity of the Project Site within LADOT and City of Beverly Hills jurisdictions were selected for detailed transportation analysis.

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

- Existing with Project Conditions (Year 2020) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project were built under existing conditions. In this analysis, the Project-generated traffic is added to the Existing Conditions.

- Future with Project Conditions (Year 2023) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project was fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2023).

Operational Evaluation

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using the *Highway Capacity Manual, 6th Edition* (Transportation

Research Board, 2016) (HCM) methodology, which was implemented using Synchro software and signal timing worksheets from the City to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections, while the HCM unsignalized methodology calculates the control delay, in seconds, for individual approaches of an intersection. Table 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 and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 85th percentile queue length, in feet, for each approach lane. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

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

TABLE 6
INTERSECTION LEVEL OF SERVICE DEFINITIONS

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

Notes

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

[a] Measured in seconds.

Section 4A
Project Traffic

This chapter describes the assumptions and methodology used in developing the traffic volumes associated with the proposed Project within the Study Area.

PROJECT TRIP GENERATION

The number of trips expected to be generated by the Project was estimated using rates published in *Trip Generation Manual, 10th Edition*. These rates are based on surveys of similar land uses at sites around the country and are provided as both daily rates and morning and afternoon peak hour rates. They relate the number of vehicle trips traveling to and from the Project Site to the size of development of each land use.

Appropriate trip generation reductions to account for public transit usage, trips shared between the different uses within the Project, and pass-by trips were made in consultation with LADOT. A 15% internal capture adjustment was applied to the pharmacy/drugstore and restaurant uses to account for person trips made between the different uses of the Project without using an off-site road system (e.g. medical office patrons and employees visiting the pharmacy and restaurant uses). A 15% transit/walk-in adjustment was applied to the Project to account for transit usage and walk-in arrivals from surrounding neighborhoods and adjacent commercial developments. Adjustments of 10%, 40%, and 20% were also applied to the medical office, pharmacy/drugstore, and restaurant uses, respectively, to account for pass-by trips (as allowed by the TAG), which are Project trips made by drivers passing on an adjacent roadway and stopping on the way from an origin to another destination. The pass-by trips are not new trips to the Study Area.

After accounting for the adjustments above and the removal of the existing uses, the Project is anticipated to generate 304 net new morning peak hour trips (234 inbound, 70 outbound) and 382 net new afternoon peak hour trips (113 inbound, 269 outbound), as summarized in Table 7.

Although the existing school was vacated around October 2018 and was operational within two years of the Project's Initial Study/Notice of Preparation, existing use credits were not assumed related to the removal of the school so as to provide a conservative transportation analysis.

PROJECT TRIP DISTRIBUTION

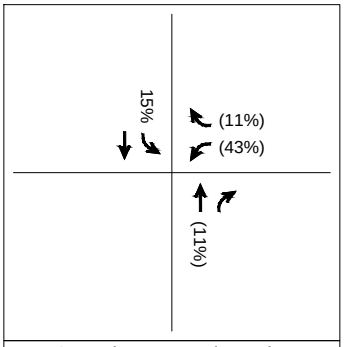
Similar to the trip distribution of traffic for the Related Projects described in Chapter 2, the geographic distribution of trips generated by the Project is dependent on the location of residential areas from which patrons and employees of the Project would be drawn, characteristics of the street system serving the Project Site, the level of accessibility of the routes to and from the Project Site, existing intersection traffic volumes, the Project ingress/egress availability based on the proposed site access and circulation scheme, and the location of the proposed driveways, as well as input from LADOT staff.

Access to the Project Site would be provided via separate ingress and egress employee-only driveways along the frontage road of San Vicente Boulevard and one employee-only driveway along Orange Street. Based on these considerations, traffic entering and exiting the Project was assigned to the surrounding street system. The intersection-level trip distribution patterns for the Project are shown in Figure 12. Regionally, the pattern is as follows:

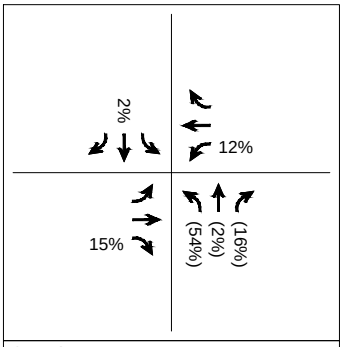
- 20% to/from the north
- 30% to/from the east
- 25% to/from the south
- 5% to/from the west

PROJECT TRIP ASSIGNMENT

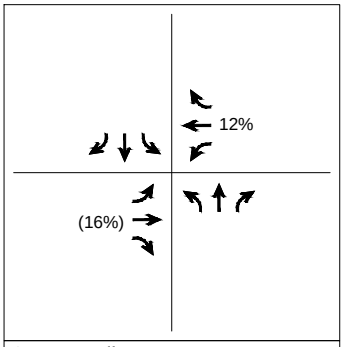
The Project trip generation estimates summarized in Table 7 and the trip distribution patterns shown in Figure 12 was used to assign the Project-generated traffic through the study intersections. Figure 13 illustrates the Project-only traffic volumes at the study intersections during typical weekday morning and afternoon peak hours.



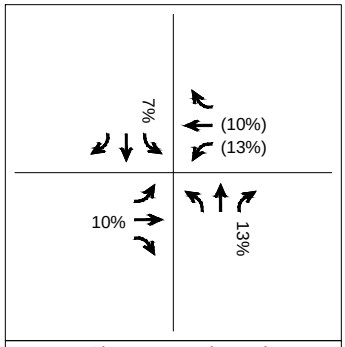
1. San Vicente Boulevard & 6th Street



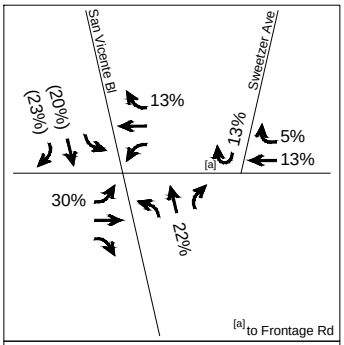
2. Sweetzer Avenue & 6th Street



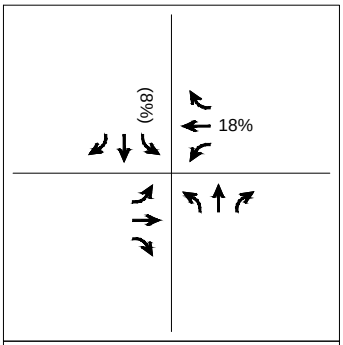
3. La Jolla Avenue & 6th Street



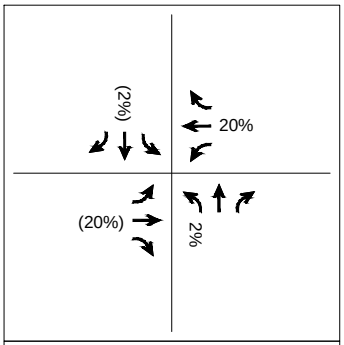
4. La Cienega Boulevard & Wilshire Boulevard



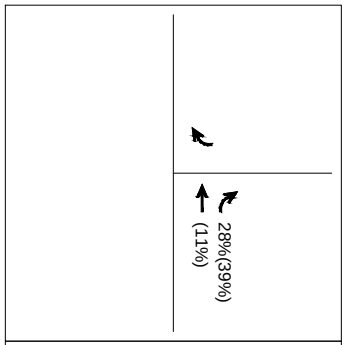
5. San Vicente Boulevard & Wilshire Boulevard



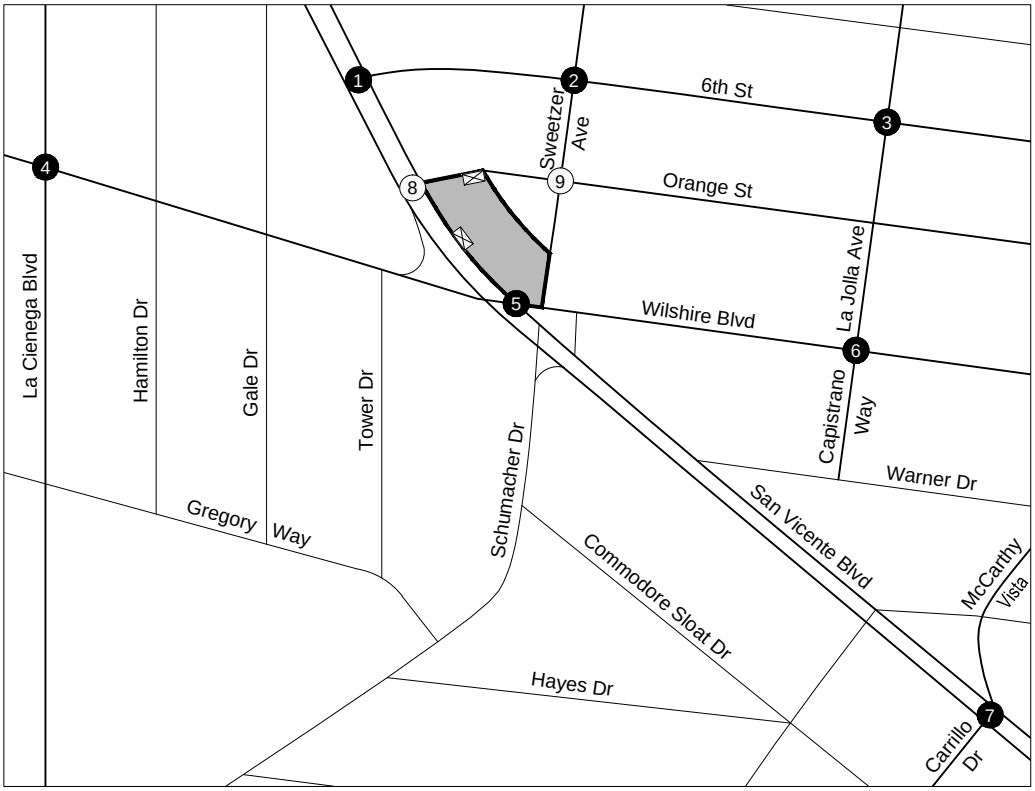
6. La Jolla Avenue / Capistrano Way & Wilshire Boulevard

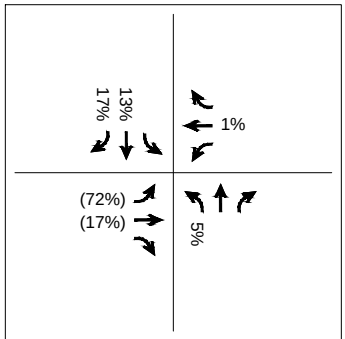


7. McCarthy Vista / Carrillo Dr & San Vicente Boulevard

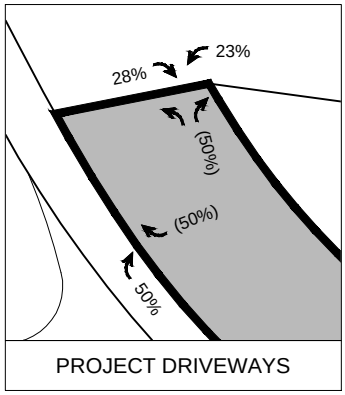


8. San Vicente Blvd Frontage Rd & Orange Street





9. Sweetzer Avenue & Orange Street



PROJECT DRIVEWAYS

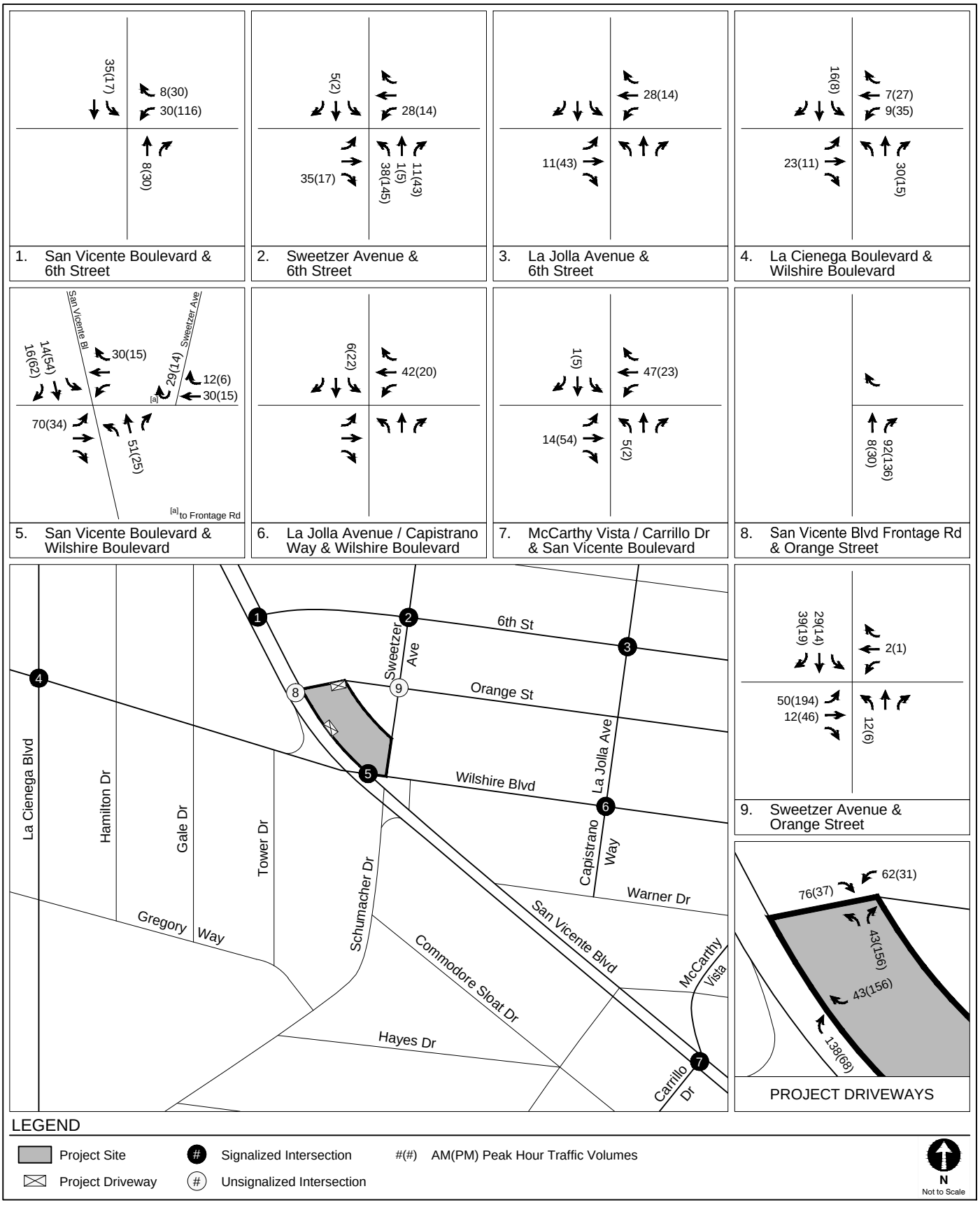
LEGEND

Project Site
Project Driveway
Signalized Intersection
Unsignalized Intersection
%(%) Inbound(Outbound) Trip Percentage

N
Not to Scale

PROJECT TRIP DISTRIBUTION

FIGURE 12



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
13

TABLE 7
PROJECT TRIP GENERATION

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Medical/Dental Office Building	720	per ksf	78%	22%	2.78	28%	72%	3.46
Pharmacy/Drugstore without Drive-Through	880	per ksf	65%	35%	2.94	49%	51%	8.51
High-Turnover (Sit-Down) Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
Sporting Goods Superstore	861	per ksf	80%	20%	0.34	48%	52%	2.02
TRIP GENERATION ESTIMATES								
Proposed Project								
Medical Office	720	140.305 ksf	304	86	390	136	349	485
Transit/Walk-In Adjustment - 15% [b]			*(46)*	*(13)*	*(59)*	*(20)*	*(53)*	*(73)*
Pass-By Trip Adjustment - 10% [c]			*(26)*	*(7)*	*(33)*	*(12)*	*(29)*	*(41)*
Pharmacy/Drugstore	880	1.000 ksf	2	1	3	4	5	9
Internal Capture Adjustment - 15% [d]			*0*	*0*	*0*	*(1)*	*0*	*(1)*
Transit/Walk-In Adjustment - 15% [b]			*0*	*0*	*0*	*0*	*(1)*	*(1)*
Pass-By Trip Adjustment - 40% [c]			*(1)*	*0*	*(1)*	*(1)*	*(2)*	*(3)*
High-Turnover (Sit-Down) Restaurant	932	4.000 ksf	22	18	40	24	15	39
Internal Capture Adjustment - 15% [d]			*(3)*	*(3)*	*(6)*	*(4)*	*(2)*	*(6)*
Transit/Walk-In Adjustment - 15% [b]			*(3)*	*(2)*	*(5)*	*(3)*	*(2)*	*(5)*
Pass-By Trip Adjustment - 20% [c]			*(3)*	*(3)*	*(6)*	*(3)*	*(3)*	*(6)*
TOTAL - PROPOSED			**246**	**77**	**323**	**120**	**277**	**397**
Existing to be Removed								
Sporting Goods Superstore	861	8.225 ksf	2	1	3	8	9	17
Transit/Walk-In Adjustment - 15% [b]			*0*	*0*	*0*	*(1)*	*(2)*	*(3)*
Pass-By Trip Adjustment - 15% [c]			*0*	*0*	*0*	*(1)*	*(1)*	*(2)*
Private School [e]	536	20 students	10	6	16	1	2	3
TOTAL - EXISTING TO BE REMOVED			**12**	**7**	**19**	**7**	**8**	**15**
TOTAL - NET NEW PROJECT TRIPS			**234**	**70**	**304**	**113**	**269**	**382**

Notes:

ksf: 1,000 square feet

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

[b] Per LADOT's *Transportation Assessment Guidelines,* the Project Site is located within a 1/4 mile walking distance from an existing RapidBus stop (Metro Rapid 720) as well as a proposed transit stop (Metro Purple Line Wilshire/La Cienega Station), therefore a 15% transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[c] Per Attachment H of LADOT's *Transportation Assessment Guidelines* , pass-by adjustments were taken into account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

[d] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

[e] Although the existing school was vacated approximately in October 2018 and was operational within two years of the Initial Study/Notice of Preparation, existing use credits were not assumed related to the removal of the school so as to provide a conservative transportation analysis.

Section 4B

Project Access, Safety, and Circulation Assessment

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

VEHICLES

Vehicular access to the parking garage would be accommodated via separate ingress and egress visitor-only driveways along the frontage road of San Vicente Boulevard and an employee-only driveway along Orange Street. Parking for the Project would be valet-operated within above-grade parking levels. The driveways would be designed to City standards, to the satisfaction of LADOT. The circulation aisle widths of the parking areas should be designed to allow adequate and safe circulation of vehicles without significant conflicts. Access to the loading dock would be provided via a driveway along Orange Street separated from the visitor and employee circulation aisles.

Some on-street metered parking adjacent to the Project Site would be removed along Orange Street and the frontage road of San Vicente Boulevard to accommodate the new curb cuts. Currently, there are three metered parking spaces along Orange Street and seven metered parking spaces along the frontage road of San Vicente Boulevard. Although the Project would replace most of the spaces, up to 10 metered spaces may be affected.

Visitor pick-up/drop-off operations, including rideshare and valet parking, will be provided within the ground floor (Level 1) of the parking garage. Visitor vehicles would enter via the visitor entrance driveway along the frontage road of San Vicente Boulevard to access the pick-up/drop-off area near the lobby and depart via the visitor exit driveway to the frontage road of San Vicente Boulevard. The valets would utilize the parking ramp to travel between the above-grade parking levels and the pick-up/drop-off area on the ground level. The Project provides up to three lanes for valet-service and passenger drop-off/pick-up operations on the ground floor,

which allows for a pick-up/drop-off lane, a bypass lane and a valet vehicle return lane. The pick-up/drop-off area will provide adequate queue storage, as well as managed valet staff to accommodate the anticipated passenger loading demand so as to minimize any queue spillover onto public right-of-way.

PEDESTRIANS AND BICYCLES

Pedestrian access to the Project Site would be provided via commercial and medical office lobby entrances served from the sidewalks along San Vicente Boulevard and Sweetzer Avenue. The Project access locations will be designed to provide adequate sight distance and sidewalk widths and connectivity that meet the City's requirements to further protect pedestrian safety. The design is sensitive to not place street trees and other potential impediments in the sidewalk that would affect sight distance and visibility. Pedestrian entrances will also provide access from the adjacent streets and parking facilities.

Patrons and employees arriving by bicycle would have the same access opportunities as pedestrian visitors. There are currently no bicycle lanes along the Project frontages; however, bicycle lanes are provided along San Vicente Boulevard on the east side of the street north of Orange Street. Additionally, the corridor of San Vicente Boulevard within the Study Area is identified as part of the Bicycle Network in the Mobility Plan. In order to facilitate bicycle use, short-term and long-term bicycle parking spaces would be provided, consistent with LAMC Section 12.21 A16.

Section 4C

Pedestrian, Bicycle, and Transit Assessment

This section assesses the Project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the Project Site.

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

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

PEDESTRIANS AND BICYCLES

The Project would not directly or indirectly result in a permanent removal or modification that would lead to the degradation of pedestrian or bicycle facilities. Although the Project may intensify use of existing pedestrian and bicycle facilities, the Project would provide adequate measures to ensure the safety of those accessing the site and utilizing the street system surrounding it.

TRANSIT

As detailed in Chapter 2, the Study Area is served by established transit routes operated by Metro and AVTA. Although the Project (and other Related Projects) will cumulatively add transit ridership, the Project Site and the Study Area are served by numerous transit services, as detailed in Table 2, as well as the future rail station per the Metro D (Purple) Line Extension. As shown in Tables 3A and 3B, the total residual capacity of the bus and rail lines within the Study Area during the morning and afternoon peak hours is approximately 2,218 and 1,853 transit trips, respectively. As shown in Table 7, the total Project trips expected to use transit during the

morning and afternoon peak hours are projected at 64 and 79 vehicle trips, respectively. Based on the average vehicle occupancy (AVO) factor of 1.55 for all trip purposes in Los Angeles County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (SCAG, March 2016), the total Project transit trips correspond to 100 and 123 person trips by transit in the morning and afternoon peak hours, respectively. This equates to approximately 4.3% of the total residual capacity of the transit lines within the Study Area during morning and afternoon peak. Overall, the total transit capacity along the routes of those lines can accommodate the Project's transit trips, without placing a significant strain on capacity. Further, additional transit capacity is envisioned with the completion of the Metro D (Purple) Line Extension.

Section 4D
Operational Evaluation

This section provides a quantitative evaluation of the Project's access and circulation operations, including the anticipated LOS at the study intersections and anticipated traffic queues.

LOS ANALYSIS

The intersection analysis was conducted at each of the study intersections based on the HCM methodologies to identify delay and LOS according to the LOS definitions provided in Table 6. Detailed LOS calculation worksheets are provided in Appendix E.

Existing with Project Conditions

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Section 4A and shown in Figure 13 were added to the Existing morning and afternoon peak hour traffic volumes shown in Figure 7. The resulting volumes are illustrated in Figure 14 and represent Existing with Project Conditions, assuming Project operation under existing conditions.

Intersection LOS. Table 8 summarizes the results of the Existing and Existing with Project Conditions during the weekday morning and afternoon peak hours for the nine study intersections. Based on observations of existing intersection operations, it is recognized that the HCM methodology for individual intersections along major Arterial Streets does not in every case account for vehicular queues, pedestrian conflicts, etc. Thus, the calculated average operating conditions may appear better than is observed. The LOS results for the intersection of San Vicente Boulevard & Wilshire Boulevard (Intersection #5) presented in Table 8 reflect observed conditions and provide a worst-case analysis.

As shown in Table 8, eight of the nine study intersections are anticipated to continue to operate at LOS D or better during both the morning and afternoon peak hours under Existing with Project Conditions. The remaining intersection of San Vicente Boulevard & Wilshire Boulevard (Intersection #5) is anticipated to continue to operate at LOS F during both the morning and afternoon peak hours.

Future with Project Conditions

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

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Section 4A and shown in Figure 13 were added to the Future without Project (Year 2023) morning and afternoon peak hour traffic volumes shown in Figure 10. The resulting volumes are illustrated in Figure 15 and represent Future with Project Conditions after development of the Project in Year 2023.

Intersection LOS. Table 9 summarizes the results of the Future without Project (Year 2023) and Future with Project Conditions during the weekday morning and afternoon peak hours for the nine study intersections. As shown in Table 9, eight of the nine study intersections are anticipated to continue to operate at LOS D or better during both the morning and afternoon peak hours under Future with Project Conditions. The remaining intersection of San Vicente Boulevard & Wilshire Boulevard (Intersection #5) is anticipated to continue to operate at LOS F during both the morning and afternoon peak hours.

INTERSECTION QUEUING ANALYSIS

The Project driveways along the frontage road of San Vicente Boulevard and Orange Street, as well as intersections in the immediate Project vicinity, were analyzed to determine whether the lengths of intersection turning lanes were adequate to accommodate vehicle queue lengths. The intersections include two unsignalized study intersections (Intersections #8 and #9).

The queue lengths were estimated using Synchro software, which reports the 85th percentile queue length for signalized intersection at each approach lane and 95th percentile queue length for unsignalized intersections. Synchro queue results that are reported in vehicle-length were converted to feet by multiplying each vehicle by 25 feet to account for the average length of a vehicle plus distance between vehicles in the queue. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

Based on review of the vehicle queues at the Project driveways and immediate intersections adjacent to the Project Site, the Project would not cause vehicle queues to extend into the adjacent street system.

Detailed queuing analysis worksheets are provided in Appendix E.

RECOMMENDED ACTIONS

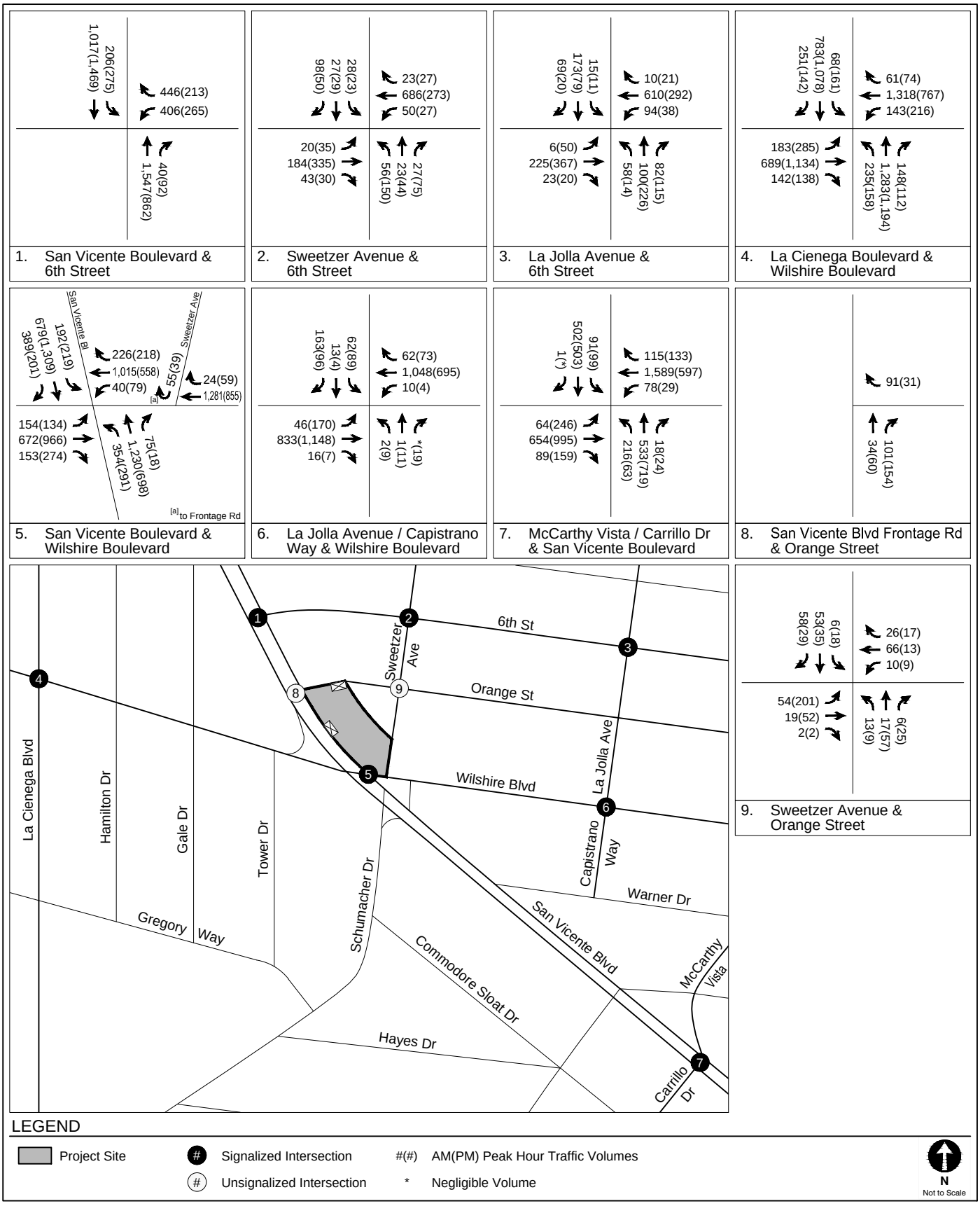
It is anticipated that the Project will add to the cumulative traffic within the Study Area. As described in Section 3B, the Project will implement various TDM strategies as part of its TDM program to reduce single occupancy trips to the Project Site and Project traffic throughout the Study Area. The Project's TDM program would be subject to review and approval by the City.

A TDM program can include a comprehensive program of design features, transportation services, education programs, and incentive programs intended to reduce the impact of traffic from residents, employees and visitors to the Project Site during the most congested time periods of the day. The strategies in the TDM program can include, but are not necessarily limited to, the following:

- Transportation Information Center, educational programs, kiosks and/or other measures for promotions and marketing on alternative transportation modes
- Promotion and support of carpools and rideshares
- Pedestrian-friendly environment
- Bicycle amenities such as racks, lockers, showers, etc.
- Bicycle parking supply per LAMC requirements

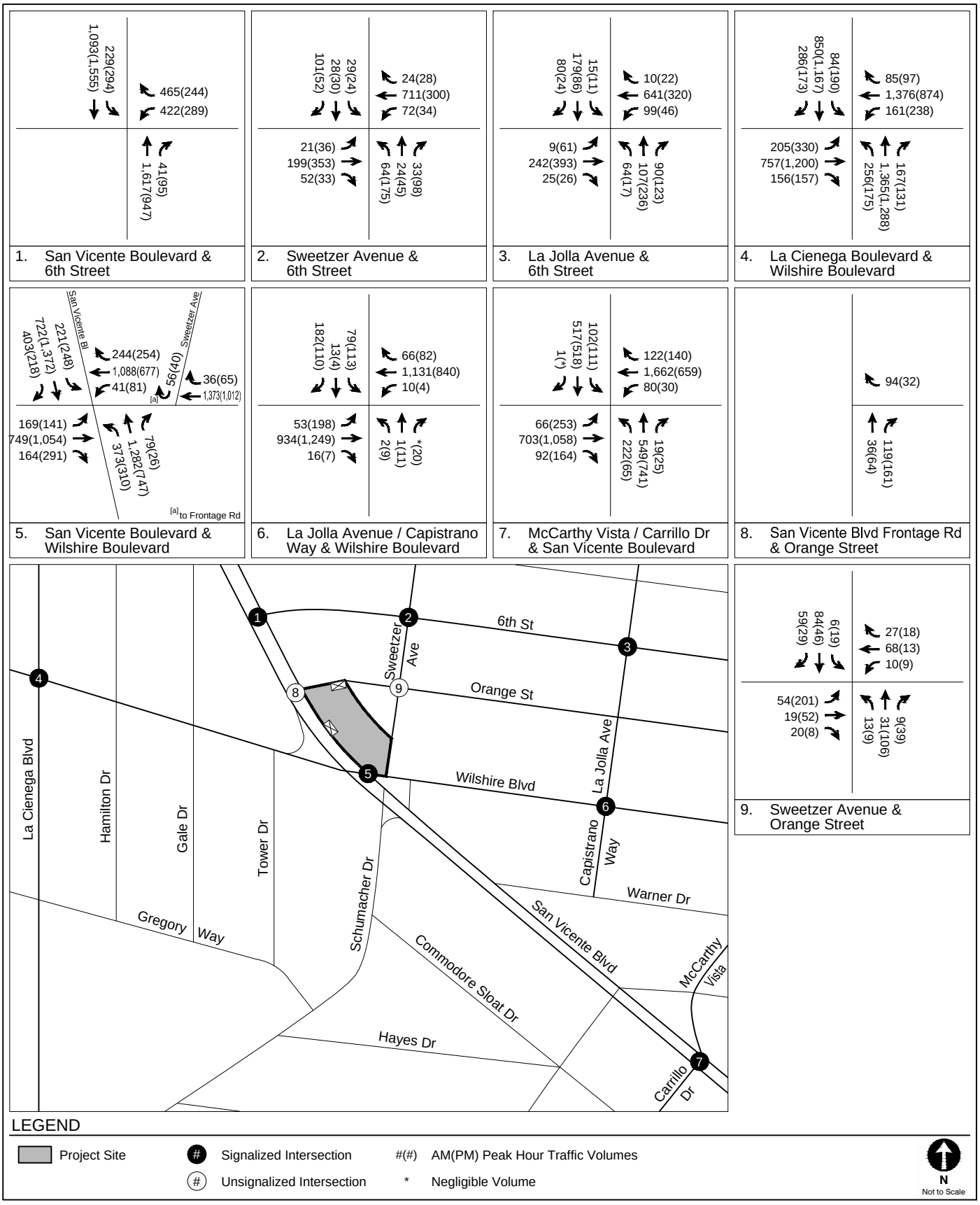
- Incentives for using alternative travel modes
- Employee parking management programs

The combined effect of the various strategies implemented as part of the TDM program would result in a reduction in peak hour trip generation by offering services, actions, specific facilities, etc., aimed at encouraging use of alternative transportation modes (e.g., transit, bus, walking, bicycling, carpool, etc.) *Trip Generation Handbook, 3rd Edition* (Institute of Transportation Engineers, September 2017) provides a summary of research of TDM programs at many different employers. At places that had the most comprehensive programs, including both economic incentives (e.g., transit passes, etc.) and support services, the programs resulted in an average 24% reduction in commuter vehicles. In addition to the TDM Program, the Project will explore opportunities to manage site access and circulation operations as well as provide road safety enhancements for pedestrian, bicycle, and transit users.



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

FIGURE 14



FUTURE WITH PROJECT CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 15

TABLE 8
EXISTING WITH PROJECT CONDITIONS (YEAR 2020)
INTERSECTION LEVELS OF SERVICE ANALYSIS

No	City	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
				Delay	LOS	Delay	LOS
1.	LA	San Vicente Boulevard &	AM	16.1	B	18.6	B
		6th Street	PM	9.8	A	13.4	B
2.	LA	Sweetzer Avenue &	AM	6.1	A	6.8	A
		6th Street	PM	6.8	A	13.9	B
3.	LA	La Jolla Avenue &	AM	16.3	B	16.8	B
		6th Street	PM	10.4	B	10.2	B
4.	BH	La Cienega Boulevard &	AM	35.9	D	36.7	D
		Wilshire Boulevard	PM	37.4	D	39.8	D
5.	LA	San Vicente Boulevard &	AM	39.4	F *	46.9	F *
[a]		Wilshire Boulevard	PM	40.5	F *	42.3	F *
6.	LA	La Jolla Avenue &	AM	9.8	A	10.0	A
		Wilshire Boulevard	PM	8.2	A	9.0	A
7.	LA	McCarthy Vista/Carrillo Drive &	AM	32.7	C	33.5	C
		San Vicente Boulevard	PM	27.1	C	27.7	C
8.	LA	San Vicente Boulevard &	AM	8.8	A	9.2	A
[b]		Orange Street	PM	8.6	A	9.2	A
9.	LA	Sweetzer Avenue &	AM	9.5	A	10.9	B
[b]		Orange Street	PM	9.8	A	13.3	B

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 10 (HCM methodology)

[a] LOS based on field observations, as the HCM methodology for individual intersections does not in every case account for vehicular queues along corridors, pedestrian, conflicts, etc., and thus, the calculated average operating conditions may appear better than is observed.

[b] Intersection analysis based on the HCM Unsignalized methodology. Reported results reflect the control delay for the worst-case approach. The average intersection delay is provided in Appendix D.

TABLE 9
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)
INTERSECTION LEVELS OF SERVICE ANALYSIS

No	City	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
				Delay	LOS	Delay	LOS
1.	LA	San Vicente Boulevard &	AM	17.8	B	21.3	C
		6th Street	PM	10.5	B	14.6	B
2.	LA	Sweetzer Avenue &	AM	6.2	A	6.9	A
		6th Street	PM	8.6	A	14.8	B
3.	LA	La Jolla Avenue &	AM	17.3	B	17.8	B
		6th Street	PM	10.8	B	10.8	B
4.	BH	La Cienega Boulevard &	AM	44.0	D	46.0	D
		Wilshire Boulevard	PM	46.6	D	51.1	D
5.	LA	San Vicente Boulevard &	AM	41.7	F *	53.6	F *
[a]		Wilshire Boulevard	PM	43.3	F *	45.8	F *
6.	LA	La Jolla Avenue &	AM	11.2	B	11.5	B
		Wilshire Boulevard	PM	9.9	A	10.8	B
7.	LA	McCarthy Vista/Carrillo Drive &	AM	37.7	D	38.4	D
		San Vicente Boulevard	PM	32.1	C	33.4	C
8.	LA	San Vicente Boulevard &	AM	8.9	A	9.2	A
[b]		Orange Street	PM	8.7	A	9.2	A
9.	LA	Sweetzer Avenue &	AM	10.1	B	11.3	B
[b]		Orange Street	PM	10.0	A	15.1	C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 10 (HCM methodology)

[a] LOS based on field observations, as the HCM methodology for individual intersections does not in every case account for vehicular queues along corridors, pedestrian, conflicts, etc., and thus, the calculated average operating conditions may appear better than is observed.

[b] Intersection analysis based on the HCM Unsignalized methodology. Reported results reflect the control delay for the worst-case approach. The average intersection delay is provided in Appendix D.

Section 4E
Residential Street Cut-Through Analysis

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

SCREENING CRITERIA

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets. Based on the screening criteria, a residential street cut-through analysis would be required. The vehicle trips generated by the non-residential components of the Project (i.e., commercial and medical office uses) were analyzed as part of the residential street segment analysis.

METHODOLOGY FOR DETERMINATION OF ANALYSIS

The TAG identifies an analysis methodology and threshold criteria for substantial residential local street diversion, based on the addition of project traffic on the future traffic conditions of neighborhood streets. The following three conditions must be present when selecting residential street segments for analyses:

1. The Project is located along a currently congested Boulevard or Avenue and add trips that may lead to trip diversion to parallel routes along residential Local Streets. The congestion level of the Boulevard or Avenue can be determined based on the estimated peak hour LOS under project conditions of the study intersection(s). LOS E and F are considered to represent congested conditions.

2. The project is projected to add a substantial amount of automobile traffic to the congested Boulevard(s), Avenue(s), or Collector(s) that could potentially shift to an alternative route(s).

3. Nearby local residential street(s) (defined as Local Streets passing through a residential neighborhood) provides motorists with a viable alternative route. A viable alternative route is defined as one that is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route.

Section 3.5.3 of the TAG states that a local residential street shall be deemed excessively burdened based on an increase in the projected ADT volumes as shown in Table 3.5-1 of the TAG and shown below:

Projected ADT with Project (Final ADT)	Project Related Increase in ADT
0 to 999	120 or more
1,000 to 1,999	12% or more of final ADT
2,000 to 2,999	10% or more of final ADT
3,000 or more	8% or more of final ADT

RESIDENTIAL STREET SEGMENT ANALYSIS

Upon review of local residential streets that would provide viable alternative routes to and from the Project Site, Orange Street between Sweetzer Avenue and La Jolla Avenue was identified for the residential street segment analysis. Project traffic is not anticipated to add a substantial amount of traffic to any other adjacent residential streets as they do not provide direct access to the Project Site and use of those segments would require multiple turns to and from surrounding adjacent Arterial Streets.

Existing ADT traffic volumes were conducted in January 2020 along the segment of Orange Street. Orange Street currently carries a total of 1,012 daily vehicles. Future without Project traffic volumes were developed by factoring up the existing traffic volumes by an ambient growth rate of 1% per year and adding traffic generated by Related Projects. The Future without Project traffic volume along Orange Street is projected to be 1,122 daily vehicles.

The Project residential street segment analysis was assessed based on the daily trip estimate calculated using the VMT Calculator, which estimated a total of 3,433 daily trips. This is a conservative estimate as it does not account for the removal of trips generated by the existing uses on site. Based on the Project's traffic distribution patterns shown in Figure 12, approximately 309 new Project daily vehicle trips may utilize Orange Street, which also provides direct access to the Project Site. The Final ADT traffic volumes were developed by adding the projected Future without Project traffic volumes and the estimated Project daily trips, which resulted in 1,431 daily vehicles.

Based on the criteria detailed in the table above, with an ADT between 1,000 and 1,999, Orange Street would be deemed excessively burdened if the Project-related increase in ADT added 12% or more of the final ADT, or 175 vehicles. The additional 309 new Project daily vehicle trips exceed the 175-vehicle threshold as identified above and, thus, the street segment of Orange Street between Sweetzer Avenue and La Jolla Avenue may be considered excessively burdened. It is important to note that, although Project trips are anticipated to travel along Orange Street between Sweetzer Avenue and La Jolla Street, Orange Street provides direct access to the Project. Furthermore, based on the projected final ADT, Orange Street is still anticipated to function as a Local Street in the future.

RECOMMENDED ACTIONS

The Project would implement a TDM program to promote non-automobile travel and reduce the use of single-occupant vehicle trips and Project traffic throughout the Study Area, including along Orange Street and through adjacent neighborhoods. Additionally, the Project could contribute toward neighborhood improvements and traffic calming measures as part of a NTMP. The NTMP would explore a range of traffic calming measures that have been shown to reduce neighborhood intrusion traffic. Those measures can include non-restrictive traffic control measures such as traffic circles, speed humps, roadway narrowing (e.g., raised medians and traffic chokers), landscaping features, roadway striping changes (e.g., bicycle lanes or parking striping to reduce the perceived width of the roadway), stop signs, new sidewalks, and new pedestrian amenities.

Section 4F
Construction Impact Analysis

This section summarizes the construction schedule and construction impact analysis for the Project. The construction impact analysis relates to the temporary impacts that may result from the construction activities associated with the Project and was performed in accordance with the TAG.

CONSTRUCTION EVALUATION CRITERIA

Section 3.4.3 of the TAG identifies three types of in-street construction impacts that require further analysis to assess the effects of Project construction on the existing pedestrian, bicycle, transit, or vehicle circulation. The three types of impacts and related populations are:

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

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

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

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

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over a 24-month period, with completion anticipated in Year 2023. Construction activity would occur in accordance with LAMC requirements, which prohibit construction from 9:00 PM to 7:00 AM on weekdays, 6:00 PM to 8:00 AM on Saturday, and any time on Sunday. Haul truck activity is typically restricted to the non-commuter peak hours (e.g., 9:00 AM to 3:00 PM). The Applicant will request to extend the haul truck activity hours from 7:00 AM to 3:00 PM on weekdays and 8:00 AM to 4:00 PM on Saturday. The majority of construction workers will arrive before the morning peak hour and depart before the afternoon peak hour, as per typical construction day schedules. Peak haul truck activity occurs during excavation and peak worker activity occurs during building construction. These two phases of construction were studied in greater detail.

EXCAVATION AND GRADING PHASE

The peak period of truck activity during construction would occur during excavation and grading of the Project Site. 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 impacts are expected during the excavation and grading phase of construction.

Haul trucks would travel on approved truck routes designated within the City. Given the Project Site's proximity to I-10, haul truck traffic would take the most direct route to the appropriate freeway ramps. The haul route will be reviewed and approved by the City.

Excavation Phase Trip Generation

Based on projections compiled for the Project, 12,222 cubic yards (CY) of material would be excavated and removed from the Project Site over a 23-workday period, or 531 CY per day, which would require approximately 53 haul trucks per work day based on an anticipated haul truck capacity of 10 CY each. Thus, a total of up to 106 daily truck trips (53 inbound, 53 outbound) are forecast to occur during the excavation and grading period, with approximately 14 trips per hour (seven inbound, seven outbound) uniformly over a typical eight-hour workday.

Because construction trucks (such as earth-hauling trucks and cement trucks) are larger and slower than the passenger vehicles that make up the majority of the vehicles on the roads, they have an effect on traffic that is greater than a passenger vehicle's effect. *Transportation Research Circular No. 212, Interim Materials on Highway Capacity* (Transportation Research Board, 1980) defines passenger car equivalency (PCE) for a heavy vehicle as the number of through moving passenger cars to which it is equivalent based on the heavy vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 22.11 of the HCM suggest a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 106 truck trips would be equivalent to 212 daily PCE trips. The 14 hourly truck trips would be equivalent to 28 PCE trips (14 inbound, 14 outbound) per hour.

In addition, a maximum of 20 construction workers is anticipated during the excavation and grading period. Assuming minimal carpooling amongst construction workers, an AVO of 1.135 persons per vehicle was applied, as provided in *CEQA Air Quality Handbook* (South Coast Air Quality Management District, 1993). Therefore, 20 construction workers would result in approximately 18 vehicle trips 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. Therefore, no peak hour construction traffic impacts are expected during the excavation and grading phase of construction.

BUILDING CONSTRUCTION PHASE

During the building construction phase, parking for construction workers would generally be provided on-site, in local public parking facilities or, if needed, a remote site with shuttle service provided. Restrictions against workers parking in the public right-of-way 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 generally be contained on-site, with possible intermittent use of the curbside lane along the frontage road of San Vicente Boulevard, adjacent to the Project Site.

The traffic impacts 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.

According to construction projections prepared for the Project, the building subphase of construction would employ the most construction workers, with a maximum of 100 workers per day for all components of the building. However, since the different building components would not be constructed or installed simultaneously, this cumulative estimate overstates the number of workers that would be expected on the peak construction day. Furthermore, on most of the estimated workdays to complete the Project, there would be far fewer workers than on the peak day. Therefore, the estimate of 100 workers per day used for the purposes of this analysis represents a higher-than-expected estimate.

Assuming an AVO of 1.135 persons per vehicle, 100 workers would result in a total of approximately 88 vehicles that would arrive and depart from the Project Site each day. The estimated number of daily trips associated with the construction workers is approximately 176 (88 inbound and 88 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 a significant traffic impact at any of the study intersections.

During construction, adequate parking for construction workers would be secured on-site or leased from nearby off-site parking areas. Shuttle service would also be provided for those construction workers who park in off-site parking areas. Restrictions against workers parking in the public right-of-way in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan, described below.

POTENTIAL IMPACTS 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. The construction-related impacts associated with access and transit are anticipated to be less than significant, and the implementation of the Construction Management Plan described below would further reduce those impacts.

Access

Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences will encroach into the public right-of-way (e.g., sidewalks and roadways) adjacent to the Project Site. Temporary traffic controls would be provided to direct traffic around any closures as required in the Construction Management Plan. Travel lanes would be maintained on Orange Street and Sweetzer Avenue, while partial roadway would be utilized along the frontage road of San Vicente Boulevard and the adjacent alley during construction. One travel lane would be maintained around the perimeter of the Project Site to minimize any detour of traffic to adjacent developments.

The use of the public right-of-way along the frontage road of San Vicente Boulevard, Orange Street, and Sweetzer Avenue would require temporary re-routing of pedestrian and bicycle traffic as the sidewalks fronting the Project Site would be closed. 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, maintenance of continuous and unobstructed pedestrian paths, and/or provision of overhead covering).

Transit

There are no existing bus stops located adjacent to the Project Site and, thus, no temporary relocation of any bus stop is anticipated due to the construction of the Project.

Parking

Temporary closures of the curbside would occur during construction. The metered parking lanes along the frontage road of San Vicente Boulevard and Orange Street adjacent to the Project Site would be utilized for construction staging. Thus, construction activities would result in a temporary loss of up to 26 metered parking spaces. Coordination with LADOT should be included in the Construction Management Plan regarding any temporary loss of on-street metered parking spaces during construction.

CONSTRUCTION MANAGEMENT PLAN

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

- Advance notification of adjacent property owners and occupants, as well as nearby schools, of upcoming construction activities, including durations and daily hours of construction.
- Prohibition of construction worker and construction-related vehicle parking on adjacent public streets.

- Temporary pedestrian and vehicular traffic controls during all construction activities adjacent to the frontage road of San Vicente Boulevard and Orange Street, adjacent to the Project Site, to ensure traffic safety on public rights of way. These controls shall include, but are not limited to, flag people trained in pedestrian and student safety.

- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag men).

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

- Scheduling of construction activities to reduce the effect on traffic flow on surrounding Arterial Streets.

- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate.

- Advanced notification of temporary parking removals and duration of removals.

- Detour plans to address temporary road closure during construction.

It is likely that, prior to the start of construction activities, the Related Projects will each submit a construction management plan for approval to the City. As part of the established LADOT and/or Los Angeles Department of Building and Safety 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.

Chapter 5

Summary and Conclusions

This study was undertaken to analyze the potential transportation impacts of the Project on the Study Area street system. The following summarizes the results of this analysis:

- The Project proposes to construct a 140,305 sf medical office building and approximately 5,000 sf of commercial space, including 4,000 sf of restaurant use and 1,000 sf of pharmacy use. The Project is anticipated to be completed in Year 2023.

- The Project would provide a total of 418 vehicle parking spaces and a total of 716 bicycle parking spaces.

- Vehicular access to the parking garage would be accommodated via separate ingress and egress visitor-only driveways along the frontage road of San Vicente Boulevard and an employee-only driveway along Orange Street.

- The Project would be consistent with the City's plans, programs, ordinances, and policies and would not generate any geometric design hazard impacts. The Project would not result in VMT impacts upon implementation of the TDM strategies as part of the Project design features.

- The Project's primary TDM strategies included as part of the Project design features include:

    - Provision of LAMC-required bicycle parking spaces
    - Provision of additional pedestrian and bicycle amenities within the Project Site

- After application of appropriate trip reduction credits, the Project is estimated to generate 304 net new morning peak hour trips and 382 net new afternoon peak hour trips. The Project will implement a TDM program to reduce single occupancy trips to the Project Site and Project traffic throughout the Study Area.

- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.

- The Project would incorporate pedestrian and bicycle-friendly designs, such as bicycle parking, wider sidewalks, and open spaces.

- The Project-related increase in ADT along the segment of Orange Street between Sweetzer Avenue and La Jolla Avenue would result in the street being deemed

excessively burdened based on the TAG thresholds. It is important to note that Orange Street provides direct access to the Project Site and the projected final ADT volumes along Orange Street show that the street would still operate and function as a Local Street. The Project could contribute toward neighborhood improvements and traffic calming measures as part of the NTMP.

- All construction activities would occur outside of the commuter morning and afternoon peak hours to the extent feasible and would not result in substantial interference. A Construction Management Plan will ensure that construction impacts are less than significant.

References

2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element, Los Angeles Department of City Planning, adopted March 1, 2011.

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

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City of Los Angeles California Environmental Quality Act (CEQA) Transportation Thresholds, Los Angeles Department of Transportation, 2019.

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

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

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

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Mobility Hubs: A Reader's Guide, Los Angeles Department of City Planning, 2016.

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

References, cont.

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

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

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

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

Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, September 2017.

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

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

Urban Mobility in a Digital Age: A Transportation Technology Strategy for Los Angeles (Ashley Z. Hand, August 2016.

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

Wilshire Community Plan, Los Angeles Department of City Planning, 2001.

Appendix A

Memorandum of Understanding

LADOT

Transportation Assessment Memorandum of Understanding (MOU)

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

I. PROJECT INFORMATION

Project Name: 656 San Vicente Medical Office Building (MOB)

Project Address: 656 South San Vicente Boulevard, Los Angeles, CA 90048

Project Description: The Project will construct up to 140,305 square feet (sf) of medical office use and 5,000 sf of ground floor commercial space, of which could include up to 4,000 sf of restaurant space and 1,000 sf of pharmacy goods store. The existing sporting goods store and recently vacant private school, as well as surface parking lot, would be removed.

LADOT Project Case Number: _____ Project Site Plan attached? *(Required)* ■ Yes ☐ No

II. TRIP GENERATION

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

Illustration of Project trip distribution percentages at Study intersections attached? *(Required)* ■ Yes ☐ No

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

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

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

	IN	OUT	TOTAL
AM Trips	234	70	304
PM Trips	113	269	382

Daily Trips 3,552* (From VMT Calculator)

*Based on VMT Calculator Screening Analysis

III. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2023 Ambient Growth Rate: 1 % Per Yr.

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

Map of Study Intersections/Segments attached? ■ Yes ☐ No

STUDY INTERSECTIONS *(May be subject to LADOT revision after access, safety and circulation analysis)*

1 See Table 1 4 _____

2 _____ 5 _____

3 _____ 6 _____

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

IV. ACCESS ASSESSMENT

Is the project on a lot that is 0.5-acre or more in total gross area? ■ Yes ☐ No

Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ■ Yes ☐ No

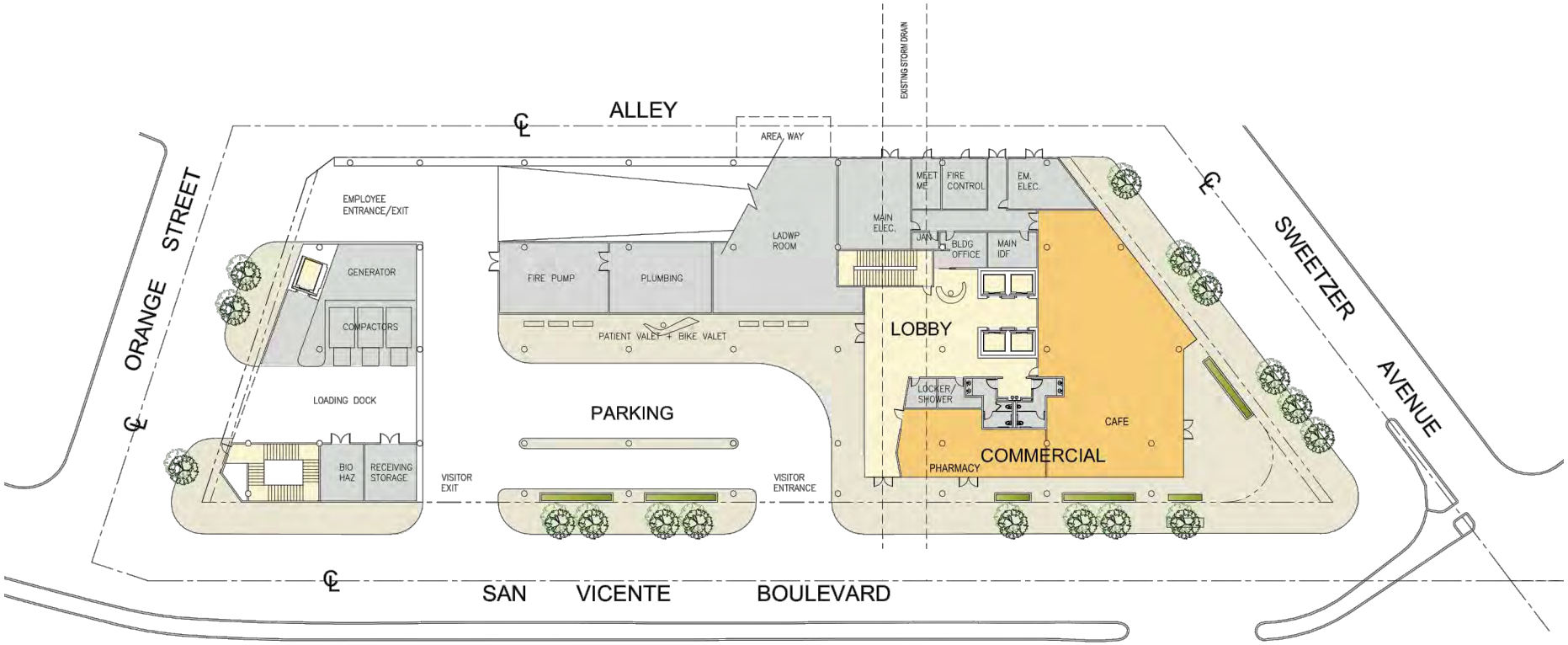
Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ■ Yes ☐ No

V. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	656-676 SSV Property Owner, LLC and 650 SSV Property Owner, LLC
Address:	555 W. 5th St., Suite 3375, Los Angeles, CA 90013	1900 Ave. of the Stars, 7th Floor, Los Angeles, CA 90067
Phone Number:	(213) 683-0088	(310) 712-6833
E-Mail:	cle@gibsontrans.com	nb4@JMBM.com

Approved by:	x			x		
	Casey Tonale	2/4/2020		peter eyre	2/5/2020	
	Consultant's Representative	Date		LADOT Representative	*Date	

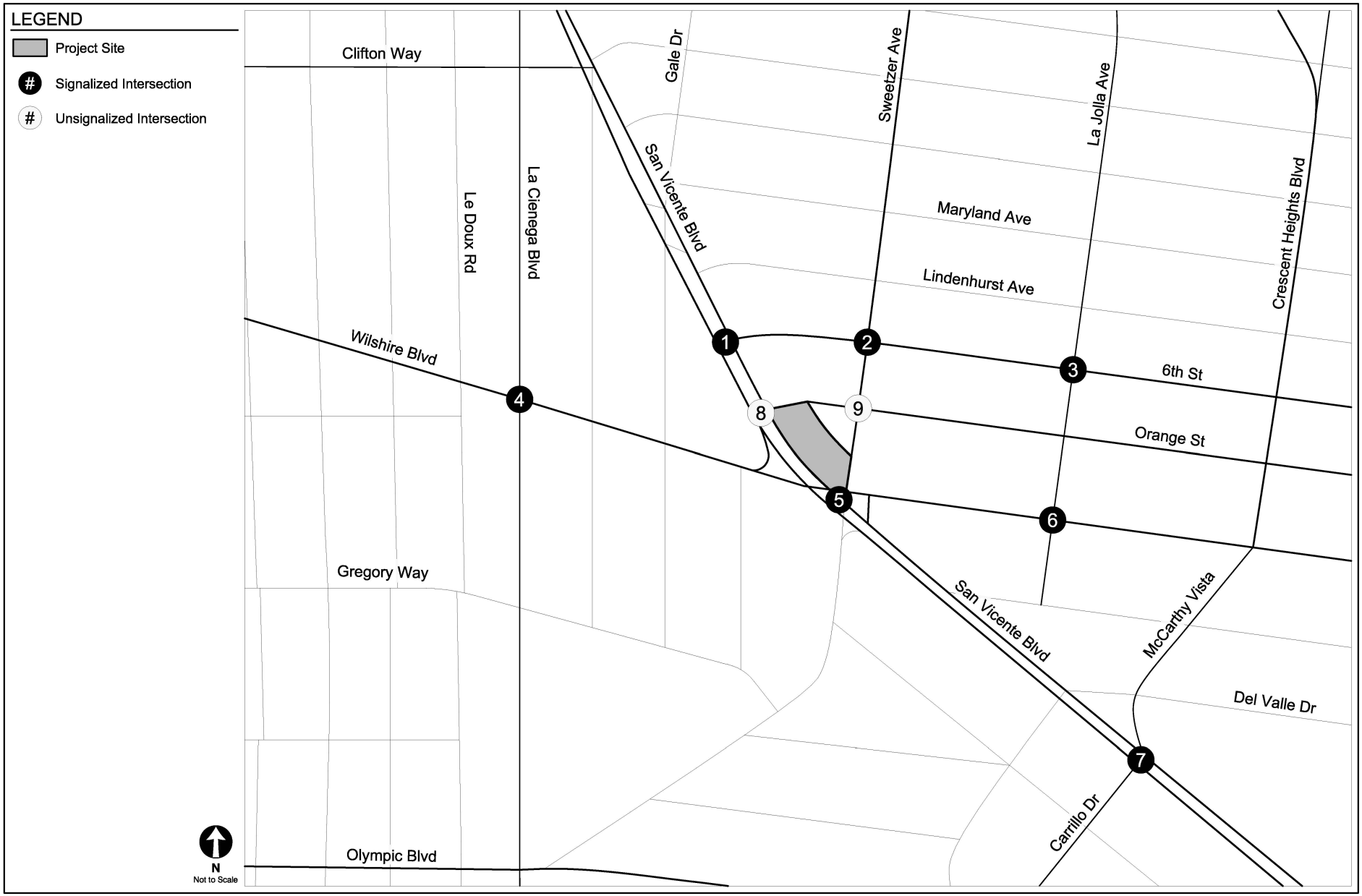
*MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.



Source: ZGF Architects. September, 2019.

PROJECT SITE PLAN

FIGURE 1

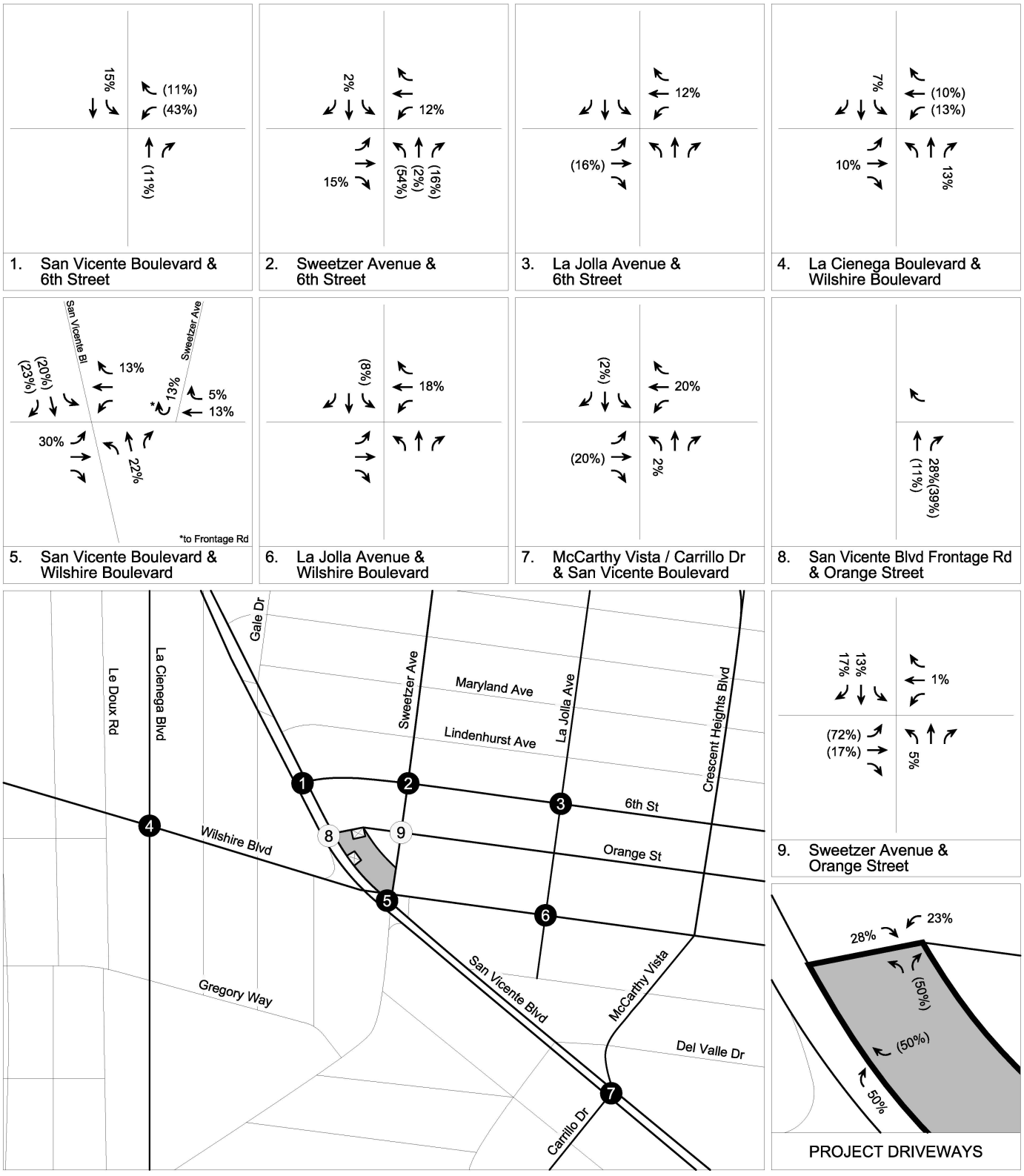


STUDY AREA & ANALYZED INTERSECTIONS

FIGURE 2

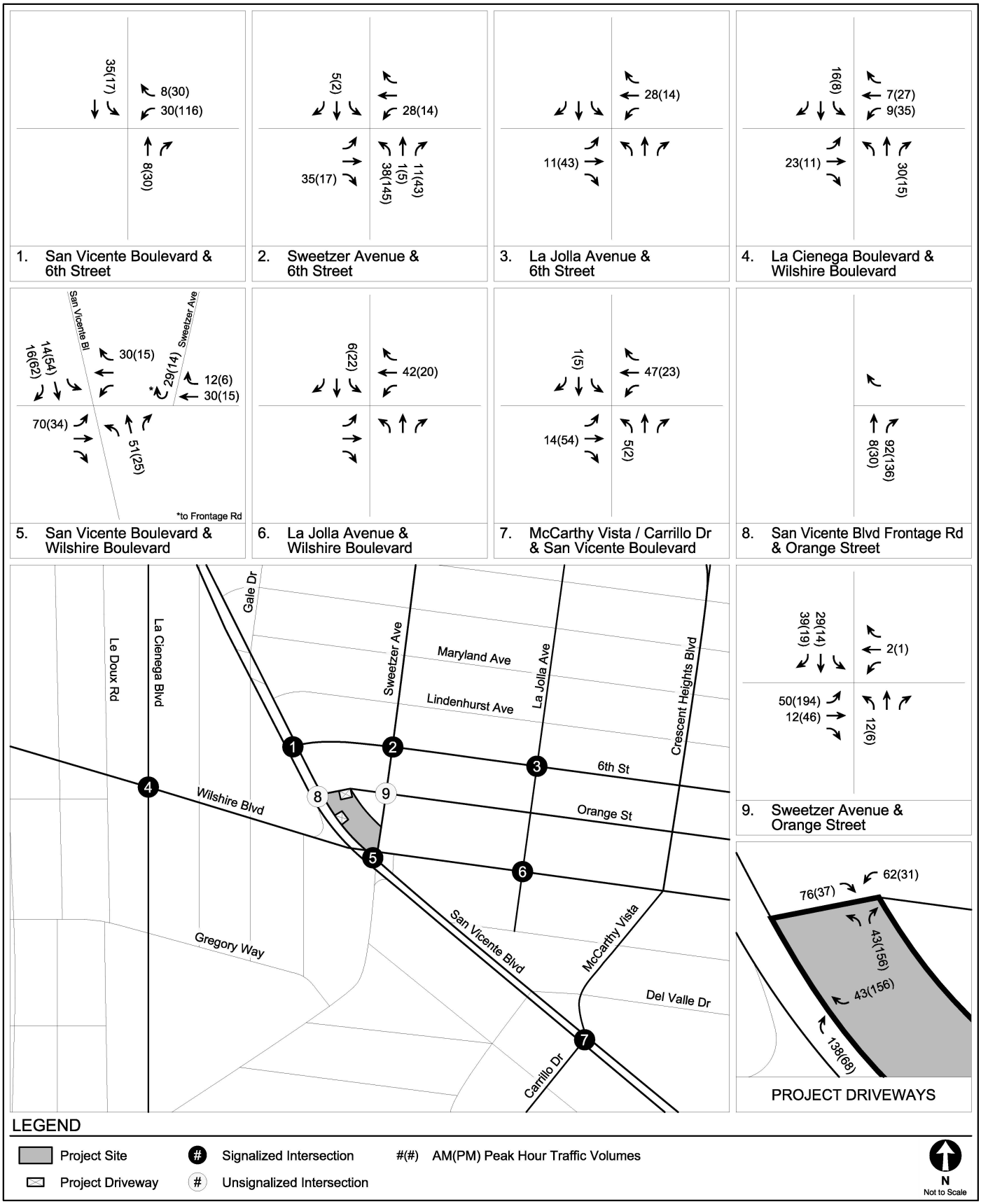
TABLE 1
STUDY INTERSECTIONS

No.	North/South Street	East/West Street	Jurisdiction
Signalized Intersections			
1	San Vicente Boulevard	6th Street	City of Los Angeles
2	Sweetzer Avenue	6th Street	City of Los Angeles
3	La Jolla Avenue	6th Street	City of Los Angeles
4	La Cienega Boulevard	Wilshire Boulevard	City of Beverly Hills
5	San Vicente Boulevard	Wilshire Boulevard	City of Los Angeles
6	La Jolla Avenue	Wilshire Boulevard	City of Los Angeles
7	McCarthy Vista/Carrillo Drive	San Vicente Boulevard	City of Los Angeles
Unsignalized Intersections			
8	San Vicente Boulevard Frontage Rd	Orange Street	City of Los Angeles
9	Sweetzer Avenue	Orange Street	City of Los Angeles



TRIP DISTRIBUTION

FIGURE 3



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4

TABLE 2
PROJECT TRIP GENERATION ESTIMATES

Land Use	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
TRIP GENERATION RATES [a]								
Medical/Dental Office Building	720	per ksf	78%	22%	2.78	28%	72%	3.46
Pharmacy/Drugstore without Drive-Through	880	per ksf	65%	35%	2.94	49%	51%	8.51
High-Turnover (Sit-Down) Restaurant	932	per ksf	55%	45%	9.94	62%	38%	9.77
Sporting Goods Superstore	861	per ksf	80%	20%	0.34	48%	52%	2.02
TRIP GENERATION ESTIMATES								
Proposed Project								
Medical Office	720	140.305 ksf	304	86	390	136	349	485
Transit/Walk-In Adjustment - 15% [b]			*(46)*	*(13)*	*(59)*	*(20)*	*(53)*	*(73)*
Pass-By Trip Adjustment - 10% [c]			*(26)*	*(7)*	*(33)*	*(12)*	*(29)*	*(41)*
Pharmacy/Drugstore	880	1.000 ksf	2	1	3	4	5	9
Internal Capture Adjustment - 15% [d]			*0*	*0*	*0*	*(1)*	*0*	*(1)*
Transit/Walk-In Adjustment - 15% [b]			*0*	*0*	*0*	*0*	*(1)*	*(1)*
Pass-By Trip Adjustment - 40% [c]			*(1)*	*0*	*(1)*	*(1)*	*(2)*	*(3)*
High-Turnover (Sit-Down) Restaurant	932	4.000 ksf	22	18	40	24	15	39
Internal Capture Adjustment - 15% [d]			*(3)*	*(3)*	*(6)*	*(4)*	*(2)*	*(6)*
Transit/Walk-In Adjustment - 15% [b]			*(3)*	*(2)*	*(5)*	*(3)*	*(2)*	*(5)*
Pass-By Trip Adjustment - 20% [c]			*(3)*	*(3)*	*(6)*	*(3)*	*(3)*	*(6)*
TOTAL - PROPOSED			***246***	***77***	***323***	***120***	***277***	***397***
Existing to be Removed								
Sporting Goods Superstore	861	8.225 ksf	2	1	3	8	9	17
Transit/Walk-In Adjustment - 15% [b]			*0*	*0*	*0*	*(1)*	*(2)*	*(3)*
Pass-By Trip Adjustment - 15% [c]			*0*	*0*	*0*	*(1)*	*(1)*	*(2)*
Private School [e]	536	20 students	10	6	16	1	2	3
TOTAL - EXISTING TO BE REMOVED			***12***	***7***	***19***	***7***	***8***	***15***
TOTAL - NET NEW PROJECT TRIPS			**234**	**70**	**304**	**113**	**269**	**382**

Notes:

ksf: 1,000 square feet

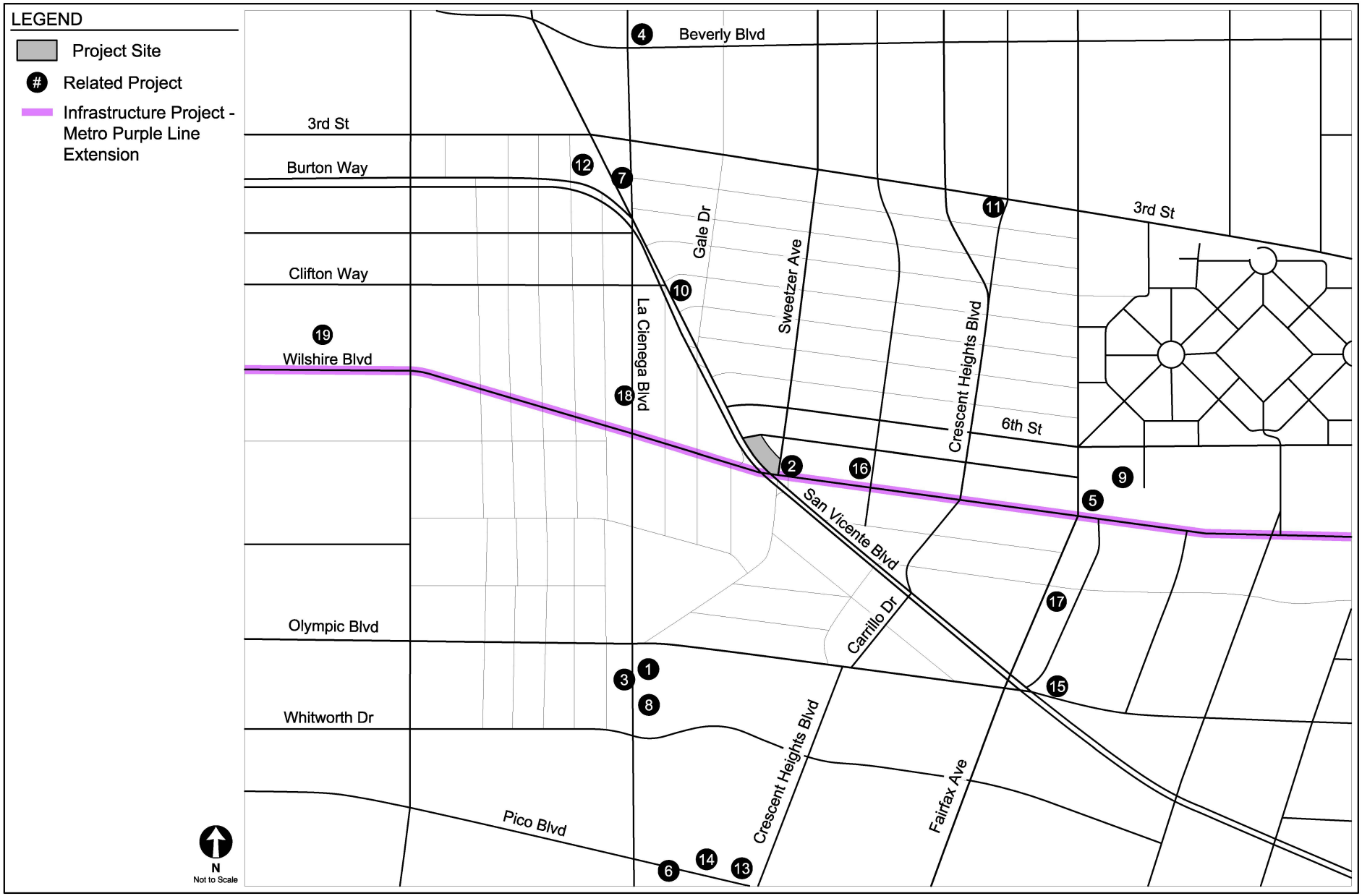
[a] Trip generation rates are from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017).

[b] Per LADOT's *Transportation Assessment Guidelines,* the Project Site is located within a 1/4 mile walking distance from an existing RapidBus stop (Metro Rapid 720) as well as a proposed transit stop (Metro Purple Line Wilshire/La Cienega Station), therefore a 15% transit reduction is applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments.

[c] Per Attachment H of LADOT's *Transportation Assessment Guidelines* , pass-by adjustments were taken into account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

[d] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

[e] Although the existing school on-site has been vacated since October 2018, counts were conducted in 2017 and predate the closure of the school. Thus, existing trips generated by the school were taken into account as a reduction of project trips.



LOCATIONS OF RELATED PROJECTS

FIGURE 5

TABLE 3
RELATED PROJECTS

No.	Project	Address	Use	Trip Generation						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
***City of Los Angeles* [a]**										
1.	S La Cienega Blvd Eldercare Facility	1022 S La Cienega Blvd	183 beds assisted living, 22 units skilled nursing	242	14	(6)	8	6	16	22
2.	Mixed Use	6535 Wilshire Blvd	57,000 sf office, 21 apt units, 6,000 sf retail	786	61	17	78	20	63	86
3.	Temple Beth Am Private School - Pressman Academy	1055 S La Cienega Blvd	38 students (early childhood center), 120 students (K-8), 6,200 sf gym	423	75	58	133	46	54	100
4.	Mixed-Use	316 N La Cienega Blvd	50 apt units, 6 affordable units, 4,096 sf retail	119	5	15	20	15	11	26
5.	Academy Museum of Motion Pictures	6067 W Wilshire Blvd	5,000 museum visitors, 135 employees, 5,000 sf store, 4,000 sf restaurant	2,693	0	0	0	56	261	317
6.	Mixed-Use	6132 W Pico Blvd	100 apt units, 14,000 sf retail	807	5	34	39	47	30	77
7.	333 La Cienega Bl Proj (Caruso) Sched Comp 2020	333 S La Cienega Blvd	145 apt units, 27,685 sf supermarket, 3,370 sf restaurant	2,020	35	71	106	114	77	191
8.	Amoroso Apartments	1056 S La Cienega Blvd	114 apt units	620	3	40	43	39	17	56
9.	LACMA Renovation	5905 W Wilshire Blvd	Replace 392,871 sf museum with 368,300 sf museum	668	43	2	45	15	53	68
10.	Mixed-Use	488 S San Vincente Blvd	53 apt units, 6,585 sf retail	281	1	20	21	18	9	27
11.	Third Street Mixed-Use	8000 W 3rd Street	50 apt units, 7,252 sf ground floor commercial	428	9	17	26	23	13	36
12.	Mt Lebanon Mixed-Use	333 S San Vincente Blvd	153 apt units, 31,342 sf church floor area	650	11	32	43	32	21	53
13.	Residential	6055 W Pico Blvd	125 apt units, 4,140 sf retail	313	(2)	24	22	16	4	20
14.	6091 Pico Blvd Mixed-Use TOC	6075 W Pico Blvd	110 hotel rooms, 45 apt units, 2,500 sf retail, 3,800 sf restaurant	1,064	15	27	42	43	27	70
15.	Residential	6001 W Olympic Blvd	51 apt units, 6 affordable units, 1,596 sf restaurant	99	6	13	19	5	(2)	3
16.	Wilshire & La Jolla Tower	6401-6419 Wilshire Blvd	90 apartment units & 5,100 sf retail	817	12	39	51	45	30	75
17.	830-840 Fairfax Avenue	800 S Fairfax Ave	209 apt units, 1,600 sf restaurant, 750 sf small restaurant	890	26	44	70	45	31	76
City of Beverly Hills [b]										
18.	55 N La Cienega Blvd	55 N La Cienega Blvd	200 hotel rooms	1,672	55	39	94	61	59	120
19.	154-168 N La Peer Dr	154-168 N La Peer Dr	16 condo units	87	2	4	6	4	3	7

Infrastructure Projects [c]

No.	Project	Extents	Description
1.	Metro Purple Line Extension	Metro Wilshire/Western Station to Metro Westwood/Veterans Administration Hospital Station	Provide extended rail service with seven new transit stations by year 2035.

Notes

[a] Source: Related projects information and trip generation estimates provided by Los Angeles Department of Transportation, January 2020.

[b] Source: Related projects information and trip generation estimates provided by City of Beverly Hills, January 2020.Trip generation estimates based onTrip Generation, 10th Edition,Institute of Transportation Engineers, 2017.

[c] Source: *Westside Subway Extension Final Environmental Impact Statement/Environmental Impact Report,* Los Angeles County Metropolitan Transportation Authority, United States Department of Transportation, and Federal Transit Administration, March 2012.

Attachment

CITY OF LOS ANGELES VMT CALCULATOR Version 1.2

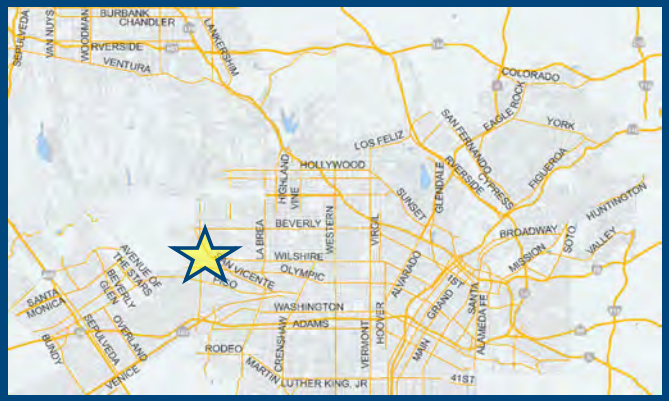
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 656 San Vicente MOB

Scenario:

Address: 34.064973, -118.372017



If the project is replacing an existing number of residential units with a smaller number of residential units, is the proposed project located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Retail | Home Improvement Superstore	8.225	ksf
School | Private School (K-12)	20	Students
Retail | General Retail	8.225	ksf

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

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | High-Turnover Sit-Down Restaurant	4	ksf
Retail | Pharmacy/Drugstore	1	ksf
Retail | High-Turnover Sit-Down Restaurant	4	ksf
Office | Medical Office	140.305	ksf

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

Project Screening Summary

Existing Land Use	Proposed Project
284 Daily Vehicle Trips	3,836 Daily Vehicle Trips
1,997 Daily VMT	27,257 Daily VMT

Tier 1 Screening Criteria

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

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	3,552 Net Daily Trips
The net increase in daily VMT ≤ 0	25,260 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	5.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

2/3/2020

Appendix B

Traffic Counts

Turning Movement Count Report AM

Location ID: 1
North/South: San Vicente Boulevard
East/West: 6th Street

Date: 01/28/20
City: Los Angeles, 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	0	101	9	67	0	38	0	300	0	0	0	0	515
7:15	0	105	11	85	0	40	0	346	0	0	0	0	587
7:30	0	160	24	103	0	56	3	326	0	0	0	0	672
7:45	0	190	31	105	0	67	4	417	0	0	0	0	814
8:00	0	195	32	98	0	67	9	406	0	0	0	0	807
8:15	0	266	37	98	0	89	4	360	0	0	0	0	854
8:30	0	256	52	116	0	87	9	366	0	0	0	0	886
8:45	0	256	42	128	0	92	11	359	0	0	0	0	888
9:00	0	254	41	112	0	100	6	384	0	0	0	0	897
9:15	0	251	36	82	0	97	14	430	0	0	0	0	910
9:30	0	239	30	80	0	81	6	407	0	0	0	0	843
9:45	0	238	48	80	0	64	20	413	0	0	0	0	863
Total Volume:	0	2511	393	1154	0	878	86	4514	0	0	0	0	9536
Approach %	0%	86%	14%	57%	0%	43%	2%	98%	0%	0%	0%	0%	
Peak Hr Begin:	8:30												
PHV	0	1017	171	438	0	376	40	1539	0	0	0	0	3581
PHF	0.964			0.925			0.889			0.000			0.984

Turning Movement Count Report PM

Location ID: 1
North/South: San Vicente Boulevard
East/West: 6th Street

Date: 01/28/20
City: Los Angeles, 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	0	309	61	56	0	37	23	204	0	0	0	0	690
15:15	0	364	67	54	0	22	18	200	0	0	0	0	725
15:30	0	385	64	55	0	38	25	221	0	0	0	0	788
15:45	0	347	42	36	0	41	19	228	0	0	0	0	713
16:00	0	385	75	51	0	32	24	189	0	0	0	0	756
16:15	0	352	77	41	0	38	24	194	0	0	0	0	726
16:30	0	375	96	40	0	32	18	198	0	0	0	0	759
16:45	0	335	63	46	0	32	22	200	0	0	0	0	698
17:00	0	383	65	46	0	31	23	183	0	0	0	0	731
17:15	0	329	73	52	0	47	26	211	0	0	0	0	738
17:30	0	361	75	44	0	40	23	225	0	0	0	0	768
17:45	0	316	79	47	0	32	19	253	0	0	0	0	746
Total Volume:	0	4241	837	568	0	422	264	2506	0	0	0	0	8838
Approach %	0%	84%	16%	57%	0%	43%	10%	90%	0%	0%	0%	0%	
Peak Hr Begin:	15:30												
PHV	0	1469	258	183	0	149	92	832	0	0	0	0	2983
PHF	0.939			0.892			0.935			0.000			0.946

Pedestrian/Bicycle Count Report

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

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	4	1	2	0	0	0	0	0
15:15	6	1	5	0	0	0	0	0
15:30	5	0	5	1	0	0	0	0
15:45	16	0	3	0	0	0	0	0
16:00	13	0	4	0	0	0	0	0
16:15	5	0	5	0	0	0	0	0
16:30	5	0	6	0	0	0	0	0
16:45	7	0	8	0	0	0	0	0
17:00	8	1	4	0	0	0	0	0
17:15	4	0	2	0	0	1	0	0
17:30	5	0	6	0	0	0	0	0
17:45	7	0	5	0	0	0	0	0

Turning Movement Count Report AM

Location ID: 2
North/South: Sweetzer Avenue
East/West: 6th Street

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	6	1	6	2	95	2	2	0	1	1	8	1	125
7:15	6	2	2	3	127	2	1	1	2	0	12	0	158
7:30	13	3	6	3	135	3	1	0	0	1	26	0	191
7:45	9	4	3	4	149	7	2	3	5	1	35	2	224
8:00	18	7	1	5	154	4	3	4	3	1	37	1	238
8:15	17	8	4	2	155	3	3	1	2	2	36	2	235
8:30	28	6	8	1	183	4	2	6	4	3	56	3	304
8:45	21	3	7	9	186	11	8	7	3	0	45	5	305
9:00	31	10	9	7	169	4	2	5	7	1	42	6	293
9:15	18	3	4	6	148	3	4	4	4	4	41	6	245
9:30	12	6	7	3	143	3	3	0	3	2	35	4	221
9:45	12	6	8	0	124	3	1	6	3	7	46	6	222

Total Volume:	191	59	65	45	1768	49	32	37	37	23	419	36	2761
Approach %	61%	19%	21%	2%	95%	3%	30%	35%	35%	5%	88%	8%	

Peak Hr Begin:	8:30												
PHV	98	22	28	23	686	22	16	22	18	8	184	20	1147
PHF	0.740			0.887			0.778			0.855			0.940

Turning Movement Count Report PM

Location ID: 2
North/South: Sweetzer Avenue
East/West: 6th Street

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	13	3	8	2	74	3	6	10	4	5	70	13	211
15:15	11	4	8	3	64	0	9	3	0	7	66	4	179
15:30	11	3	4	0	71	7	1	2	1	7	73	7	187
15:45	17	6	0	5	58	5	6	2	2	6	45	5	157
16:00	6	5	10	3	65	3	9	6	2	6	94	8	217
16:15	11	6	7	1	64	0	5	5	2	4	84	5	194
16:30	6	4	8	7	62	3	11	3	1	4	103	3	215
16:45	9	1	6	4	73	6	8	6	1	6	72	9	201
17:00	11	5	5	3	63	5	5	9	1	4	85	5	201
17:15	12	6	9	7	78	0	5	12	3	3	82	8	225
17:30	13	6	3	8	71	4	9	10	0	2	92	10	228
17:45	14	10	6	9	61	4	13	8	1	4	76	12	218
Total Volume:	134	59	74	52	804	40	87	76	18	58	942	89	2433
Approach %	50%	22%	28%	6%	90%	4%	48%	42%	10%	5%	87%	8%	
Peak Hr Begin:	17:00												
PHV	50	27	23	27	273	13	32	39	5	13	335	35	872
PHF	0.833			0.921			0.864			0.921			0.956

Pedestrian/Bicycle Count Report

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

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

Turning Movement Count Report AM

Location ID: 3
North/South: La Jolla Avenue
East/West: 6th Street

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	7	0	2	96	15	4	2	2	2	15	1	148
7:15	3	6	3	1	122	16	8	4	3	3	16	0	185
7:30	3	10	0	1	132	14	11	11	4	4	30	1	221
7:45	5	14	3	3	149	11	13	16	6	4	35	0	259
8:00	5	12	1	1	147	14	15	18	4	2	45	1	265
8:15	12	34	2	3	151	22	24	16	3	1	45	2	315
8:30	18	25	2	2	165	18	22	23	11	4	63	1	354
8:45	17	50	3	2	153	24	23	20	16	7	56	0	371
9:00	24	59	5	4	136	27	19	29	17	5	51	3	379
9:15	10	39	5	2	128	25	18	28	14	7	44	2	322
9:30	3	17	2	0	139	19	14	21	6	7	34	1	263
9:45	5	31	1	5	113	24	17	21	6	6	57	0	286
Total Volume:	107	304	27	26	1631	229	188	209	92	52	491	12	3368
Approach %	24%	69%	6%	1%	86%	12%	38%	43%	19%	9%	88%	2%	
Peak Hr Begin:	8:30												
PHV	69	173	15	10	582	94	82	100	58	23	214	6	1426
PHF	0.730			0.927			0.923			0.893			0.941

Turning Movement Count Report PM

Location ID: 3
North/South: La Jolla Avenue
East/West: 6th Street

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	2	13	1	4	73	13	35	39	1	5	73	2	261
15:15	4	7	4	4	63	7	26	32	3	3	77	2	232
15:30	1	13	2	2	74	6	25	22	2	5	72	3	227
15:45	3	17	3	0	63	10	23	27	0	10	42	4	202
16:00	2	9	9	4	71	9	26	35	5	8	99	6	283
16:15	4	16	1	4	60	5	25	46	3	8	82	8	262
16:30	5	17	3	1	63	12	32	40	4	6	93	16	292
16:45	8	20	2	7	73	13	26	45	2	3	70	11	280
17:00	2	24	5	7	66	7	31	62	4	7	74	11	300
17:15	5	18	1	6	76	6	26	79	4	4	87	12	324
17:30	7	21	4	2	77	5	11	50	6	6	72	17	278
17:45	2	22	4	13	70	5	13	28	0	14	72	14	257
Total Volume:	45	197	39	54	829	98	299	505	34	79	913	106	3198
Approach %	16%	70%	14%	6%	85%	10%	36%	60%	4%	7%	83%	10%	
Peak Hr Begin:	16:30												
PHV	20	79	11	21	278	38	115	226	14	20	324	50	1196
PHF	0.887			0.906			0.814			0.857			0.923

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

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

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

Turning Movement Count Report AM

Location ID: 4
North/South: La Cienega Boulevard
East/West: Wilshire Boulevard

Date: 02/12/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	35	236	5	10	237	30	17	202	52	23	67	23	937
7:15	56	183	13	5	296	26	30	281	66	25	86	17	1084
7:30	58	208	14	9	336	27	31	315	61	21	112	31	1223
7:45	63	209	16	14	324	29	39	321	57	33	157	42	1304
8:00	39	175	20	10	331	16	29	360	68	22	164	47	1281
8:15	65	208	14	12	319	32	28	353	68	30	164	49	1342
8:30	56	192	13	9	349	28	27	319	66	42	152	37	1290
8:45	57	169	13	13	318	49	36	329	52	30	188	51	1305
9:00	73	214	12	27	325	25	27	282	49	40	162	46	1282
9:15	65	189	19	22	317	24	32	285	49	35	196	56	1289
9:30	61	235	16	19	266	38	36	276	32	44	175	56	1254
9:45	54	230	13	21	232	43	32	261	48	54	138	53	1179
Total Volume:	682	2448	168	171	3650	367	364	3584	668	399	1761	508	14770
Approach %	21%	74%	5%	4%	87%	9%	8%	78%	14%	15%	66%	19%	
Peak Hr Begin:	8:15												
PHV	251	783	52	61	1311	134	118	1283	235	142	666	183	5219
PHF	0.908			0.975			0.911			0.921			0.972

Turning Movement Count Report PM

Location ID: 4
North/South: La Cienega Boulevard
East/West: Wilshire Boulevard

Date: 02/12/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	27	235	33	14	184	32	22	255	35	39	220	60	1156
15:15	62	230	39	15	148	32	36	262	32	28	258	51	1193
15:30	42	238	42	10	155	27	17	264	38	45	263	63	1204
15:45	37	251	38	11	159	25	24	276	43	40	267	62	1233
16:00	48	207	25	12	171	45	20	246	26	38	290	45	1173
16:15	39	304	32	8	156	43	18	283	45	30	291	70	1319
16:30	37	281	37	14	152	42	21	316	37	29	252	69	1287
16:45	31	232	30	14	154	42	27	312	43	27	273	59	1244
17:00	49	254	55	18	192	44	29	301	40	26	303	70	1381
17:15	30	289	29	18	160	50	22	311	32	42	263	73	1319
17:30	26	304	29	19	198	54	22	295	45	29	291	69	1381
17:45	37	231	40	19	190	33	24	287	41	41	266	73	1282
Total Volume:	465	3056	429	172	2019	469	282	3408	457	414	3237	764	15172
Approach %	12%	77%	11%	6%	76%	18%	7%	82%	11%	9%	73%	17%	
Peak Hr Begin:	17:00												
PHV	142	1078	153	74	740	181	97	1194	158	138	1123	285	5363
PHF	0.956			0.918			0.979			0.969			0.971

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	19	1	6	1	6	0	7	0
7:15	20	0	4	0	9	0	11	0
7:30	22	0	2	0	15	1	17	0
7:45	12	0	8	0	14	1	11	0
8:00	34	0	6	0	13	3	19	0
8:15	18	0	6	0	18	1	7	1
8:30	18	0	3	0	26	0	22	0
8:45	15	0	5	0	29	0	18	0
9:00	14	0	5	1	25	0	15	0
9:15	16	1	9	2	28	0	36	0
9:30	16	0	7	0	15	0	15	0
9:45	28	0	18	0	17	2	36	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	14	0	10	0	13	1	20	0
15:15	6	0	9	1	12	3	17	1
15:30	11	0	1	0	14	1	24	0
15:45	17	0	11	1	34	3	39	0
16:00	17	0	7	0	17	0	25	0
16:15	15	0	10	3	23	1	20	0
16:30	7	0	6	0	23	1	21	0
16:45	20	0	8	1	37	1	28	0
17:00	4	0	9	1	31	1	14	0
17:15	11	0	8	0	23	5	21	0
17:30	7	0	5	1	20	0	21	0
17:45	8	0	12	1	17	1	15	0

Turning Movement Count Report AM

Location ID: 5
North/South: San Vicente Boulevard
East/West: Wilshire Boulevard

Date: 02/12/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	37	54	18	42	217	3	9	252	45	14	55	13	759
7:15	53	66	22	44	209	1	3	263	63	26	95	10	855
7:30	76	126	26	52	286	9	4	286	85	23	125	13	1111
7:45	59	114	38	47	239	4	7	326	85	31	148	16	1114
8:00	76	153	40	55	259	8	8	283	93	34	163	17	1189
8:15	94	157	51	44	247	5	23	305	88	41	161	23	1239
8:30	82	175	48	68	293	11	15	294	81	39	150	18	1274
8:45	105	159	40	53	200	13	16	323	90	47	187	24	1257
9:00	92	174	53	31	275	11	21	257	95	26	174	19	1228
9:15	90	140	36	25	198	8	12	264	108	32	185	33	1131
9:30	69	120	51	32	168	10	21	281	90	42	193	22	1099
9:45	89	168	50	42	168	6	8	318	83	36	123	25	1116

Total Volume:	922	1606	473	535	2759	89	147	3452	1006	391	1759	233	13372
Approach %	31%	54%	16%	16%	82%	3%	3%	75%	22%	16%	74%	10%	

Peak Hr Begin:	8:15												
PHV	373	665	192	196	1015	40	75	1179	354	153	672	84	4998
PHF	0.964			0.841			0.937			0.881			0.981

Turning Movement Count Report PM

Location ID: 5
North/South: San Vicente Boulevard
East/West: Wilshire Boulevard

Date: 02/12/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	49	227	66	33	156	14	10	127	44	70	218	13	1027
15:15	30	286	60	26	101	18	13	131	41	64	201	12	983
15:30	26	354	70	31	117	16	11	157	43	76	226	26	1153
15:45	50	316	62	39	113	11	9	155	50	59	224	13	1101
16:00	43	297	67	33	149	20	9	164	46	80	242	13	1163
16:15	34	298	68	39	108	15	5	129	54	72	263	12	1097
16:30	24	326	58	37	141	24	9	138	64	86	227	15	1149
16:45	36	325	53	46	116	8	5	152	58	69	243	19	1130
17:00	31	296	70	42	148	20	6	156	74	69	269	24	1205
17:15	36	312	48	45	111	21	4	174	85	70	212	30	1148
17:30	44	315	55	58	155	21	3	147	70	73	273	20	1234
17:45	28	332	46	58	144	17	5	196	62	62	212	26	1188
Total Volume:	431	3684	723	487	1559	205	89	1826	691	850	2810	223	13578
Approach %	9%	76%	15%	22%	69%	9%	3%	70%	27%	22%	72%	6%	
Peak Hr Begin:	17:00												
PHV	139	1255	219	203	558	79	18	673	291	274	966	100	4775
PHF	0.974			0.897			0.933			0.915			0.967

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	2	0	1	0	0	0
7:15	1	0	5	0	10	1	4	0
7:30	5	0	7	1	24	0	2	0
7:45	1	0	5	1	15	0	3	0
8:00	3	0	4	0	18	0	3	0
8:15	2	0	5	0	17	0	5	0
8:30	5	0	8	0	14	0	6	1
8:45	11	0	7	0	19	1	5	0
9:00	7	0	5	0	32	0	2	0
9:15	12	0	5	0	7	0	8	0
9:30	8	0	0	0	5	0	17	0
9:45	9	0	4	1	10	0	11	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	3	0	9	0	16	0	14	1
15:15	3	0	9	0	17	0	10	0
15:30	7	0	8	0	10	0	8	0
15:45	5	0	4	1	6	0	13	0
16:00	4	0	7	0	15	0	6	0
16:15	5	0	7	0	13	0	8	0
16:30	3	0	10	0	24	0	8	0
16:45	2	0	7	1	17	1	10	0
17:00	4	0	3	0	12	0	9	0
17:15	3	0	2	0	8	0	11	0
17:30	2	0	2	1	11	0	6	0
17:45	5	0	3	0	2	0	3	0

Turning Movement Count Report AM

Location ID: 5 B
North/South: Sweetzer Avenue
East/West: Wilshire Boulevard

Date: 02/12/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	1	0	0	2	0	0	0	0	0	0	0	0	3
7:30	0	0	0	3	0	0	0	0	0	0	0	0	3
7:45	2	0	0	1	0	0	0	0	0	0	0	0	3
8:00	3	0	0	2	0	0	0	0	0	0	0	0	5
8:15	7	0	0	4	0	0	0	0	0	0	0	0	11
8:30	7	0	0	2	0	0	0	0	0	0	0	0	9
8:45	7	0	0	1	0	0	0	0	0	0	0	0	8
9:00	5	0	0	5	0	0	0	0	0	0	0	0	10
9:15	3	0	0	2	0	0	0	0	0	0	0	0	5
9:30	3	0	0	8	0	0	0	0	0	0	0	0	11
9:45	5	0	0	7	0	0	0	0	0	0	0	0	12
Total Volume:	43	0	0	37	0	0	0	0	0	0	0	0	80
Approach %	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	
Peak Hr Begin:	8:15												
PHV	26	0	0	12	0	0	0	0	0	0	0	0	38
PHF	0.929			0.600			0.000			0.000			0.864

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 0
North/South: Sweetzer Avenue
East/West: Wilshire Boulevard

Date: 02/12/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	4	0	0	6	0	0	0	0	0	0	0	0	10
15:15	5	0	0	4	0	0	0	0	0	0	0	0	9
15:30	5	0	0	4	0	0	0	0	0	0	0	0	9
15:45	7	0	0	13	0	0	0	0	0	0	0	0	20
16:00	6	0	0	7	0	0	0	0	0	0	0	0	13
16:15	5	0	0	7	0	0	0	0	0	0	0	0	12
16:30	6	0	0	6	0	0	0	0	0	0	0	0	12
16:45	8	0	0	7	0	0	0	0	0	0	0	0	15
17:00	4	0	0	11	0	0	0	0	0	0	0	0	15
17:15	7	0	0	7	0	0	0	0	0	0	0	0	14
17:30	6	0	0	28	0	0	0	0	0	0	0	0	34
17:45	2	0	0	10	0	0	0	0	0	0	0	0	12
Total Volume:	65	0	0	110	0	0	0	0	0	0	0	0	175
Approach %	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	
Peak Hr Begin:	16:45												
PHV	25	0	0	53	0	0	0	0	0	0	0	0	78
PHF	0.781			0.473			0.000			0.000			0.574

Turning Movement Count Report AM

Location ID: 6
North/South: La Jolla Avenue
East/West: Wilshire Boulevard

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	22	0	6	7	246	1	0	0	0	1	96	7	386
7:15	25	1	1	6	287	1	0	0	0	1	105	5	432
7:30	41	3	7	14	275	1	0	0	0	0	134	7	482
7:45	28	4	9	9	269	4	0	0	0	2	203	7	535
8:00	37	3	16	15	321	0	0	0	0	1	211	8	612
8:15	51	3	12	14	231	3	0	1	1	6	197	20	539
8:30	47	3	19	24	185	3	0	0	1	7	222	11	522
8:45	53	3	31	20	156	4	2	0	0	4	221	20	514
9:00	41	5	29	16	168	1	1	0	1	10	226	18	516
9:15	49	4	14	15	164	4	1	0	0	7	229	12	499
9:30	50	9	19	14	187	1	1	0	0	1	199	18	499
9:45	44	3	24	13	168	1	0	1	2	7	195	16	474

Total Volume:	488	41	187	167	2657	24	5	2	5	47	2238	149	6010
Approach %	68%	6%	26%	6%	93%	1%	42%	17%	42%	2%	92%	6%	

Peak Hr Begin:	7:45												
PHV	163	13	56	62	1006	10	0	1	2	16	833	46	2208
PHF	0.841			0.802			0.375			0.932			0.902

Turning Movement Count Report PM

Location ID: 6
North/South: La Jolla Avenue
East/West: Wilshire Boulevard

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	21	0	30	13	154	1	9	1	3	4	235	21	492
15:15	17	0	12	12	127	3	2	1	3	1	251	13	442
15:30	16	0	11	24	165	1	1	2	1	1	259	14	495
15:45	20	0	22	13	162	0	0	2	0	3	271	27	520
16:00	26	0	28	17	150	0	3	2	2	3	329	27	587
16:15	23	0	9	20	152	0	5	0	2	1	301	47	560
16:30	29	1	19	25	129	0	2	2	1	0	271	42	521
16:45	16	2	22	25	164	1	1	2	2	1	283	38	557
17:00	21	1	11	20	155	0	7	6	5	2	300	36	564
17:15	32	1	12	20	161	1	6	3	1	2	280	37	556
17:30	24	0	22	18	186	2	5	1	0	1	297	45	601
17:45	19	2	22	15	173	1	1	1	3	2	271	52	562
Total Volume:	264	7	220	222	1878	10	42	23	23	21	3348	399	6457
Approach %	54%	1%	45%	11%	89%	0%	48%	26%	26%	1%	89%	11%	
Peak Hr Begin:	17:00												
PHV	96	4	67	73	675	4	19	11	9	7	1148	170	2283
PHF	0.908			0.913			0.542			0.966			0.950

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	6	0	6	0	2	0	3	0
7:15	7	0	7	0	7	0	8	1
7:30	6	0	1	0	10	1	7	0
7:45	8	0	6	1	19	0	6	0
8:00	13	0	8	0	20	1	13	0
8:15	15	0	5	0	14	2	12	1
8:30	18	0	11	0	13	1	12	1
8:45	8	3	9	0	23	1	9	0
9:00	9	0	13	0	15	0	8	0
9:15	18	0	4	0	23	1	18	0
9:30	15	0	15	0	21	0	6	0
9:45	11	2	6	0	32	1	4	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	15	2	15	0	44	0	16	0
15:15	15	0	17	0	22	0	7	0
15:30	14	0	16	0	25	2	9	0
15:45	9	0	21	0	36	0	7	0
16:00	12	2	14	0	34	0	13	0
16:15	8	0	12	0	23	0	7	0
16:30	12	0	13	1	29	1	4	0
16:45	8	0	13	0	25	1	9	0
17:00	16	1	10	0	27	0	6	1
17:15	10	0	9	0	27	2	5	0
17:30	9	2	10	0	15	0	6	0
17:45	14	2	7	0	23	0	8	0

Turning Movement Count Report AM

Location ID: 7
North/South: McCarthy Vista/Carillo Drive
East/West: San Vicente Boulevard

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	64	28	12	319	8	3	32	24	8	73	2	573
7:15	1	98	23	19	321	11	10	43	19	3	86	6	640
7:30	0	104	27	21	325	19	3	88	37	18	92	6	740
7:45	0	132	23	25	412	23	9	112	56	8	159	10	969
8:00	0	120	32	20	367	21	12	116	44	15	134	16	897
8:15	0	127	34	22	367	26	5	132	50	18	205	18	1004
8:30	1	149	27	35	354	13	4	138	52	32	158	12	975
8:45	0	119	16	36	416	20	3	140	54	27	141	20	992
9:00	0	106	14	22	405	19	6	123	55	12	136	14	912
9:15	0	96	20	15	417	20	4	116	59	21	160	18	946
9:30	1	85	13	33	356	24	7	97	64	30	161	17	888
9:45	0	71	29	22	384	15	2	108	55	25	164	16	891

Total Volume:	3	1271	286	282	4443	219	68	1245	569	217	1669	155	10427
Approach %	0%	81%	18%	6%	90%	4%	4%	66%	30%	11%	82%	8%	

Peak Hr Begin:	8:15												
PHV	1	501	91	115	1542	78	18	533	211	89	640	64	3883
PHF	0.838			0.919			0.967			0.823			0.967

Turning Movement Count Report PM

Location ID: 7
North/South: McCarthy Vista/Carillo Drive
East/West: San Vicente Boulevard

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	0	73	23	29	154	15	5	104	21	50	204	26	704
15:15	0	97	25	18	135	6	1	121	40	45	262	45	795
15:30	1	82	22	16	160	9	8	135	24	41	284	35	817
15:45	0	133	30	25	157	12	4	152	34	49	243	50	889
16:00	0	116	10	28	124	7	10	171	29	42	228	69	834
16:15	0	102	18	26	102	9	5	188	29	37	254	45	815
16:30	0	117	24	35	132	6	2	182	15	33	197	50	793
16:45	0	102	15	29	105	14	4	193	21	46	240	52	821
17:00	0	130	29	27	118	5	7	185	13	41	224	64	843
17:15	0	124	33	35	125	5	6	150	12	49	236	64	839
17:30	0	112	19	38	167	6	7	199	19	37	237	65	906
17:45	0	132	18	33	164	13	4	185	17	32	244	53	895

Total Volume:	1	1320	266	339	1643	107	63	1965	274	502	2853	618	9951
Approach %	0%	83%	17%	16%	79%	5%	3%	85%	12%	13%	72%	16%	

Peak Hr Begin:	17:00												
PHV	0	498	99	133	574	29	24	719	61	159	941	246	3483
PHF	0.939			0.872			0.893			0.964			0.961

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

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

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

Turning Movement Count Report AM

Location ID: 8
North/South: San Vicente Boulevard
East/West: Orange Street

Date: 01/28/20
City: Los Angeles, 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	0	0	0	5	0	0	0	5	0	0	0	0	10
7:15	0	0	0	5	0	0	0	2	0	0	0	0	7
7:30	0	0	0	10	0	0	1	5	0	0	0	0	16
7:45	0	0	0	14	0	0	1	3	0	0	0	0	18
8:00	0	0	0	14	0	1	0	4	0	0	0	0	19
8:15	0	0	0	17	0	1	0	5	0	0	0	0	23
8:30	0	0	0	17	0	0	1	10	0	0	0	0	28
8:45	0	0	0	18	0	0	2	10	0	0	0	0	30
9:00	0	0	0	28	0	0	1	3	0	0	0	0	32
9:15	0	0	0	15	0	0	1	8	0	0	0	0	24
9:30	0	0	0	30	0	0	5	5	0	0	0	0	40
9:45	0	0	0	12	0	0	3	8	0	0	0	0	23
Total Volume:	0	0	0	185	0	2	15	68	0	0	0	0	270
Approach %	0%	0%	0%	99%	0%	1%	18%	82%	0%	0%	0%	0%	
Peak Hr Begin:	8:45												
PHV	0	0	0	91	0	0	9	26	0	0	0	0	126
PHF	0.000			0.758			0.729			0.000			0.788

Turning Movement Count Report PM

Location ID: 8
North/South: San Vicente Boulevard
East/West: Orange Street

Date: 01/28/20
City: Los Angeles, 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	0	0	0	6	0	1	4	4	0	0	0	0	15
15:15	0	0	0	6	0	1	8	7	0	0	0	0	22
15:30	0	0	0	5	0	1	4	14	0	0	0	0	24
15:45	0	0	0	10	0	0	2	5	0	0	0	0	17
16:00	0	0	0	10	0	0	4	4	0	0	0	0	18
16:15	0	0	0	6	0	0	1	3	0	0	0	0	10
16:30	0	0	0	9	0	0	8	7	0	0	0	0	24
16:45	0	0	0	5	0	1	2	4	0	0	0	0	12
17:00	0	0	0	4	0	0	3	6	0	0	0	0	13
17:15	0	0	0	10	0	0	4	4	0	0	0	0	18
17:30	0	0	0	5	0	0	0	5	0	0	0	0	10
17:45	0	0	0	7	0	0	3	3	0	0	0	0	13
Total Volume:	0	0	0	83	0	4	43	66	0	0	0	0	196
Approach %	0%	0%	0%	95%	0%	5%	39%	61%	0%	0%	0%	0%	
Peak Hr Begin:	15:15												
PHV	0	0	0	31	0	2	18	30	0	0	0	0	81
PHF	0.000			0.825			0.667			0.000			0.844

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	0	0	0
7:15	1	0	6	0	0	0	0	0
7:30	0	0	5	0	0	0	0	0
7:45	0	0	2	0	0	0	0	0
8:00	1	0	2	0	1	0	0	0
8:15	1	0	5	0	0	0	0	0
8:30	0	0	4	0	2	0	0	0
8:45	0	0	8	0	0	0	0	0
9:00	3	0	5	1	0	0	0	0
9:15	0	0	2	0	0	0	0	0
9:30	0	0	2	0	0	0	0	0
9:45	0	0	2	0	0	0	0	0

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

Turning Movement Count Report AM

Location ID: 9
North/South: Sweetzer Avenue
East/West: Orange Street

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	2	2	0		4	0	0	1	2	0	1	0	12
7:15	1	1	2	1	2	0	0	2	0	0	0	1	10
7:30	4	1	2	1	5	2	1	0	0	0	4	0	20
7:45	9	1	1	6	5	1	0	4	1	1	0	1	30
8:00	4	5	5	3	7	1	1	2	1	1	0	1	31
8:15	3	6	3	3	9	1	2	3	1	0	0	0	31
8:30	4	8	2	5	14	4	1	4	0	0	1	1	44
8:45	6	8	0	8	12	3	1	7	0	0	1	3	49
9:00	8	7	0	7	18	1	3	4	0	0	1	1	50
9:15	1	4	5	8	11	3	1	3	0	0	3	0	39
9:30	4	5	1	3	23	3	1	3	1	2	2	0	48
9:45	7	7	3	5	6	3	1	4	1	1	1	1	40

Total Volume:	53	55	24	50	116	22	12	37	7	5	14	9	404
Approach %	40%	42%	18%	27%	62%	12%	21%	66%	13%	18%	50%	32%	

Peak Hr Begin:	8:45												
PHV	19	24	6	26	64	10	6	17	1	2	7	4	186
PHF	0.817			0.862			0.750			0.813			0.930

Turning Movement Count Report PM

Location ID: 9
North/South: Sweetzer Avenue
East/West: Orange Street

Date: 01/28/20
City: Los Angeles, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	5	6	1	2	3	2	4	16	0	0	0	2	41
15:15	3	7	2	4	1	1	2	6	2	3	2	3	36
15:30	3	8	4	0	1	4	2	2	0	1	1	2	28
15:45	7	8	3	1	2	3	2	8	0	1	1	2	38
16:00	5	5	6	3	4	1	0	10	2	0	1	2	39
16:15	0	6	3	4	4	1	3	8	2	0	1	1	33
16:30	1	8	5	4	6	1	7	9	0	4	2	2	49
16:45	2	5	6	6	2	1	6	10	0	0	1	0	39
17:00	3	7	3	5	4	3	4	11	0	1	1	1	43
17:15	2	3	4	3	4	1	8	16	2	0	3	1	47
17:30	1	6	5	7	3	1	6	13	0	0	1	1	44
17:45	4	5	6	2	1	4	7	17	1	1	1	4	53
Total Volume:	36	74	48	41	35	23	51	126	9	11	15	21	490
Approach %	23%	47%	30%	41%	35%	23%	27%	68%	5%	23%	32%	45%	
Peak Hr Begin:	17:00												
PHV	10	21	18	17	12	9	25	57	3	2	6	7	187
PHF	0.817			0.792			0.817			0.625			0.882

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

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

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

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Orange Street between Sweetzer Avenue and La Jolla Avenue

Day: Tuesday, January 28, 2020 **City:** Los Angeles, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	464	548	1012

AM	NB		SB		EB		WB		Total		PM	NB		SB		EB		WB		Total	
00:00					2		0		2		12:00					8		4		12	
00:15					0		0		0		12:15					12		5		17	
00:30					2		1		3		12:30					7		9		16	
00:45					0	4	0	1	0	5	12:45					9	36	5	23	14	59
01:00					0		0		0		13:00					8		5		13	
01:15					0		0		0		13:15					8		5		13	
01:30					0		1		1		13:30					6		5		11	
01:45					0	0	0	1	0	1	13:45					6	28	5	20	11	48
02:00					1		0		1		14:00					13		6		19	
02:15					0		1		1		14:15					7		4		11	
02:30					0		0		0		14:30					10		9		19	
02:45					0	1	1	2	1	3	14:45					9	39	11	30	20	69
03:00					0		0		0		15:00					5		8		13	
03:15					0		0		0		15:15					6		6		12	
03:30					0		0		0		15:30					10		5		15	
03:45					0	0	0	0	0	0	15:45					6	27	6	25	12	52
04:00					0		0		0		16:00					7		8		15	
04:15					0		0		0		16:15					7		9		16	
04:30					0		0		0		16:30					14		11		25	
04:45					0	0	0	0	0	0	16:45					13	41	9	37	22	78
05:00					1		0		1		17:00					9		12		21	
05:15					1		0		1		17:15					15		8		23	
05:30					1		0		1		17:30					13		11		24	
05:45					0	3	1	1	1	4	17:45					17	54	7	38	24	92
06:00					0		1		1		18:00					12		9		21	
06:15					1		0		1		18:15					8		11		19	
06:30					0		0		0		18:30					6		9		15	
06:45					0	1	2	3	2	4	18:45					9	35	5	34	14	69
07:00					1		5		6		19:00					4		5		9	
07:15					2		3		5		19:15					8		5		13	
07:30					6		8		14		19:30					4		5		9	
07:45					2	11	12	28	14	39	19:45					7	23	4	19	11	42
08:00					6		11		17		20:00					4		6		10	
08:15					4		13		17		20:15					4		4		8	
08:30					5		23		28		20:30					6		2		8	
08:45					2	17	23	70	25	87	20:45					5	19	2	14	7	33
09:00					4		26		30		21:00					5		6		11	
09:15					9		22		31		21:15					2		5		7	
09:30					4		29		33		21:30					6		3		9	
09:45					5	22	14	91	19	113	21:45					4	17	2	16	6	33
10:00					9		8		17		22:00					4		4		8	
10:15					7		7		14		22:15					3		0		3	
10:30					10		11		21		22:30					2		1		3	
10:45					7	33	11	37	18	70	22:45					0	9	2	7	2	16
11:00					12		19		31		23:00					1		2		3	
11:15					5		6		11		23:15					2		0		2	
11:30					9		12		21		23:30					0		1		1	
11:45					15	41	10	47	25	88	23:45					0	3	1	4	1	7
Totals						133		281	**414**		**Totals**						331		267	**598**	
Split %						32.1%		67.9%	**40.9%**		**Split %**						55.4%		44.6%	**59.1%**	

Daily Totals	NB	SB	EB	WB	Total
	0	0	464	548	1012

AM Peak Hour	11:00	08:45	**08:45**	**PM Peak Hour**	17:15	16:15	**17:15**
AM Peak Hr Volume	41	100	**119**	**PM Peak Hr Volume**	57	41	**92**
AM Pk Hr Factor	0.683	0.862	**0.902**	**PM Pk Hr Factor**	0.838	0.854	**0.958**

Appendix C

Threshold T-1 Evaluation Tables

TABLE C-1
QUESTIONS TO DETERMINE PROJECT APPLICABILITY TO PLANS, POLICIES, AND PROGRAMS

No.	Guiding Question	Relevant Plans, Policies, and Programs	Supporting/Complementary City Plans, Policies, and Programs to Consult	Project Response
Existing Plan Applicability				
1.	Does the project include additions or new construction along a street designated as a Boulevard I or II, and/or Avenue I, II, or III, on property zoned for R3 or less restrictive zone?	LAMC Section 12.37		Yes
2.	Is the project site along any Network identified in Mobility Plan 2035?	MP - 2.3 through 2.7		Yes
3.	Are dedications or improvements needed to serve long-term mobility needs as identified Mobility Plan 2035?	MP - Street Classifications; MP - Street Designations and Standard Roadway Dimensions	MP - 2.17 Street Widenings	No
4.	Does the project require placement of transit furniture in accordance with City's Coordinated Street Furniture and Bus Bench Program?			No
5.	Is the project site in an identified Transit Oriented Community?	MP - TEN; MP - PED; MP - BEN; TOC Guidelines		Yes
6.	Is the project site on a roadway identified in the City's High-Injury Network?	Vision Zero	Mobility Plan 2035	No
7.	Does the project propose repurposing existing curb space? (Bike corral, car-sharing, parklet, electric vehicle charging, loading zone, curb extension, etc.)	MP - 2.1 Adaptive Reuse of Streets; MP - 2.10 Loading Areas; MP - 3.5 Multi-Modal Features; MP - 3.8 Bicycle Parking; MP - 4.13 Parking and Land Use Management; MP - 5.4 Clean Fuels and Vehicles	MP - 2.3 Pedestrian Infrastructure; MP - 2-4 Neighborhood Enhanced Network; MP - 3.2 People with Disabilities; MP - 4.1 New Technologies; MP - 5.1 Sustainable Transportation; MP - 5.5 Green Streets	No
8.	Does the project propose narrowing or shifting existing sidewalk placement?	MP - 2.3 Pedestrian Infrastructurel; MP - 3.1 Access for All; MP - PED; MP - ENG.19; MP - 2.17 Street Widenings	Healthy LA; Vision Zero; Sustainability pLAn	No
9.	Does the project propose paving, narrowing, shifting, or removing an existing parkway?	MP - 5.5 Green Streets, Sustainability pLAn		No
10.	Does the project propose modifying, removing, or otherwise affect existing bicycle infrastructure? (ex: driveway proposed along street with bicycle facility)	MP - BEN; MP - 4.15 Public Hearing Process	Vision Zero	No
11.	Is the project site adjacent to an alley? If yes, will project make use of, modify, or restrict alley access?	MP - 3.9 Increased Network Access; MP - ENG.9; MP - PL.1; MP - PL.13; MP - PS.3		Yes;No
12.	Does project create a cul-de-sac or is the project site located adjacent to an existing cul-de-sac? If yes, is the cul-de-sac consistent with the design goal in Mobility Plan 2035 (maintain through bicycle and pedestrian access)?	MP - 3.10 Cul-de-sacs		No
Access: Driveways and Loading				
13.	Does the project site introduce a new driveway or loading access along an arterial (Avenue or Boulevard)?	MP - PL.1; MP - PK.10; CDG 4.1.02	Vision Zero	No
14.	If yes to 13, is a non-arterial frontage or alley access available to serve the driveway or loading access needs?	MP - PL.1; MPP - Sec No. 321 Driveway Design	Vision Zero	N/A
15.	Does the project site include a corner lot? (Avoid driveways too close to intersections.)	CDG 4.1.01		Yes
16.	Does the project propose a driveway width in excess of City standard?	MPP - Sec No. 321 Driveway Design		No
17.	Does the project propose more driveways than required by City maximum standard?	MPP - Sec No. 321 Driveway Design		No
18.	Are loading zones proposed as part of the project?	MP - 2.10 Loading Areas; MP - PK.1; MP - PK.7; MP - PK.8; MPP - Sec No. 321 Driveway Design		No
19.	Does the project include "drop-off" zones or areas? If yes, are such areas located to the side or rear of the building?	MP - 2.10 Loading Areas		No
20.	Does the project propose modifying, limiting/restricting, or removing public access to a public right-of-way (e.g., vacating public right-of-way?)	MP - 2.3 Pedestrian Infrastructure; MP - 3.9 Increased Network Access		No

Appendix D

Vehicle Miles Traveled Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

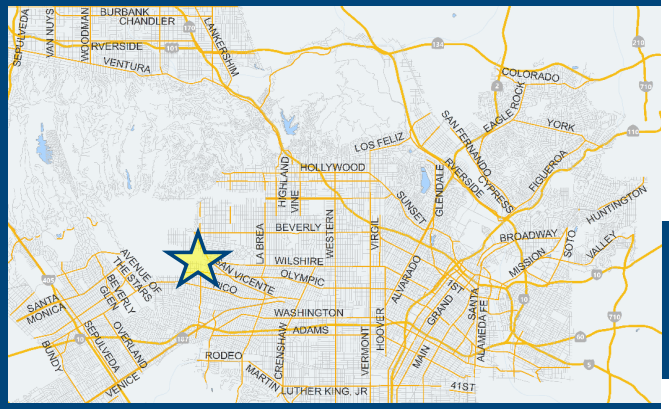
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 656 San Vicente MOB

Scenario:

Address: 34.064973, -118.372017



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

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
School | Private School (K-12)	20	Students
Retail | General Retail	8.225	ksf
School | Private School (K-12)	20	Students

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

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | Pharmacy/Drugstore	1	ksf
Retail | Pharmacy/Drugstore	1	ksf
Retail | High-Turnover Sit-Down Restaurant	4	ksf
Office | Medical Office	140.305	ksf

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

Project Screening Summary

Existing Land Use	Proposed Project
303 Daily Vehicle Trips	4,113 Daily Vehicle Trips
2,132 Daily VMT	29,256 Daily VMT

Tier 1 Screening Criteria

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

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	3,810 Net Daily Trips
The net increase in daily VMT ≤ 0	27,124 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	5.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

11/9/2020

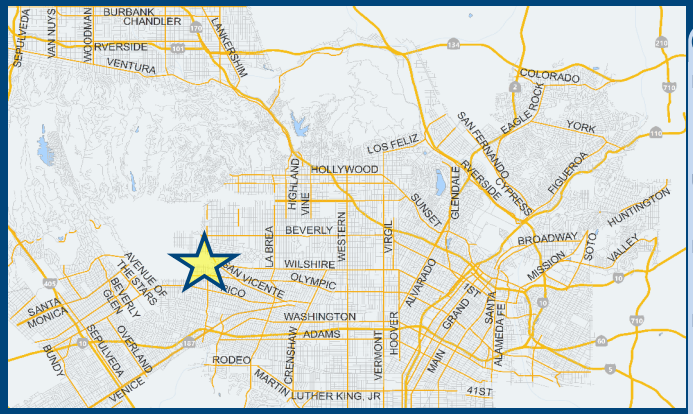
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 656 San Vicente MOB

Scenario:

Address: 34.064973, -118.372017



Proposed Project Land Use Type	Value	Unit
Retail | Pharmacy/Drugstore	1	ksf
Retail | High-Turnover Sit-Down Restaurant	4	ksf
Office | Medical Office	140.305	ksf

TDM Strategies

Select each section to show individual strategies

Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

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

A Parking

Reduce Parking Supply

☑ Proposed Prj ☐ Mitigation

100 city code parking provision for the project site

75 actual parking provision for the project site

Unbundle Parking

☐ Proposed Prj ☐ Mitigation

175 monthly parking cost (dollar) for the project site

Parking Cash-Out

☐ Proposed Prj ☐ Mitigation

50 percent of employees eligible

Price Workplace Parking

☐ Proposed Prj ☐ Mitigation

6.00 daily parking charge (dollar)

50 percent of employees subject to priced parking

Residential Area Parking Permits

☐ Proposed Prj ☐ Mitigation

200 cost (dollar) of annual permit

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
3,433 Daily Vehicle Trips	**3,433** Daily Vehicle Trips
24,422 Daily VMT	**24,422** Daily VMT
0.0 Household VMT per Capita	**0.0** Household VMT per Capita
7.5 Work VMT per Employee	**7.5** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

11/9/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	*0*	*DU*
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	*Family*	*0*	*DU*
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	*General Retail*	*0.000*	*ksf*
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	1.000	ksf
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	4.000	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	140.305	ksf
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*

Other	*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

Analysis Results			
Total Employees: 439			
Total Population: 0			
Proposed Project		***With Mitigation***	
3,433	**Daily Vehicle Trips**	**3,433**	**Daily Vehicle Trips**
24,422	**Daily VMT**	**24,422**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
7.5	**Work VMT per Employee**	**7.5**	**Work VMT per Employee**

Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average Household = 6.0 Work = 7.6			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	100	100
		Actual parking provision (spaces)	75	75
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	Employees and residents participating (%)	100%	100%

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

TDM Strategy Inputs, Cont.

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Price workplace parking	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Residential area parking permits	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
Transit	Reduce transit headways	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Transit subsidies	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Education & Encouragement	Voluntary travel behavior change program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	*0%*	
Commute Trip Reductions	Required commute trip reduction program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Employer sponsored vanpool or shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Ride-share program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

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

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*13%*
MAX. TDM EFFECT	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	6.3	0	0
Home Based Other Production	0	0.0%	0	5.0	0	0
Non-Home Based Other Production	1,017	-9.5%	920	6.7	6,814	6,164
Home-Based Work Attraction	636	-26.6%	467	8.4	5,342	3,923
Home-Based Other Attraction	2,831	-36.1%	1,808	7.2	20,383	13,018
Non-Home Based Other Attraction	1,017	-9.7%	918	6.7	6,814	6,151

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-16.5%	0	0	-16.5%	0	0
Home Based Other Production	-16.5%	0	0	-16.5%	0	0
Non-Home Based Other Production	-16.5%	768	5,145	-16.5%	768	5,145
Home-Based Work Attraction	-16.5%	390	3,275	-16.5%	390	3,275
Home-Based Other Attraction	-16.5%	1,509	10,867	-16.5%	1,509	10,867
Non-Home Based Other Attraction	-16.5%	766	5,135	-16.5%	766	5,135

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 439
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**3,275**	**3,275**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**7.5**	**7.5**

VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term "City" as used below shall refer to the City of Los Angeles. The terms "City" and "Fehr & Peers" as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

VMT Calculator Application for the City of Los Angeles. The City's consultant calibrated the VMT Calculator's parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator's accuracy in estimating VMT in such other locations.

Limited License to Use. This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

Ownership. You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

Warranty Disclaimer. In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED "as is" WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Limitation of Liability. It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the

VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	Casey Tonale
Print Name:	Casey T Le
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th St., Suite 3375 Los Angeles, CA 90013
Phone:	(213) 683-0088
Email Address:	cle@gibsontrans.com
Date:	November 9, 2020

Appendix E

Level of Service Worksheets

HCM 6th Signalized Intersection Summary
1: San Vicente Blvd & 6th St

02/20/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	376	438	1539	40	171	1017
Future Volume (veh/h)	376	438	1539	40	171	1017
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	409	476	1673	43	186	1105
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	457	608	2228	692	226	3200
Arrive On Green	0.26	0.26	0.87	0.87	0.13	0.63
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	409	476	1673	43	186	1105
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	19.9	23.1	10.9	0.3	9.2	9.3
Cycle Q Clear(g_c), s	19.9	23.1	10.9	0.3	9.2	9.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	457	608	2228	692	226	3200
V/C Ratio(X)	0.89	0.78	0.75	0.06	0.82	0.35
Avail Cap(c_a), veh/h	457	608	2228	692	356	3200
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	24.4	3.9	3.3	38.3	8.0
Incr Delay (d2), s/veh	16.5	5.3	2.4	0.2	8.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	13.4	24.3	3.5	0.3	6.7	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.8	29.8	6.3	3.4	46.6	8.3
LnGrp LOS	D	C	A	A	D	A
Approach Vol, veh/h	885		1716			1291
Approach Delay, s/veh	38.6		6.2			13.8
Approach LOS	D		A			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.0		29.0	17.1	43.9
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		56.4		23.1	18.0	32.7
Max Q Clear Time (g_c+I1), s		11.3		25.1	11.2	12.9
Green Ext Time (p_c), s		10.4		0.0	0.3	12.6

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	20	184	8	22	686	23	18	22	16	28	22	98
Future Volume (veh/h)	20	184	8	22	686	23	18	22	16	28	22	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	22	200	9	24	746	25	20	24	17	30	24	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	132	1101	47	79	1258	41	125	124	65	98	46	144
Arrive On Green	0.71	0.71	0.71	0.95	0.95	0.95	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	93	1543	66	24	1764	58	332	916	482	197	341	1067
Grp Volume(v), veh/h	231	0	0	795	0	0	61	0	0	161	0	0
Grp Sat Flow(s),veh/h/ln	1703	0	0	1846	0	0	1730	0	0	1605	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	2.4	0.0	0.0	3.1	0.0	0.0	1.8	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.10		0.04	0.03		0.03	0.33		0.28	0.19		0.66
Lane Grp Cap(c), veh/h	1280	0	0	1378	0	0	314	0	0	288	0	0
V/C Ratio(X)	0.18	0.00	0.00	0.58	0.00	0.00	0.19	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1280	0	0	1378	0	0	568	0	0	548	0	0
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)	0.82	0.00	0.00	0.52	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.8	0.0	0.0	0.5	0.0	0.0	23.2	0.0	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.0	0.3	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.1	0.0	0.0	1.2	0.0	0.0	1.4	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.1	0.0	0.0	1.4	0.0	0.0	23.5	0.0	0.0	26.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		231			795			61			161	
Approach Delay, s/veh		3.1			1.4			23.5			26.6	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	47.2	12.8	47.2	12.8
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	5.1	7.7	4.4	3.8
Green Ext Time (p_c), s	6.7	0.6	1.5	0.2

Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	214	23	94	582	10	58	100	82	15	173	69
Future Volume (veh/h)	6	214	23	94	582	10	58	100	82	15	173	69
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	7	233	25	102	633	11	63	109	89	16	188	75
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	907	95	166	854	14	156	248	170	76	380	144
Arrive On Green	0.18	0.18	0.18	0.55	0.55	0.55	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	12	1638	172	177	1544	26	266	812	558	42	1246	473
Grp Volume(v), veh/h	265	0	0	746	0	0	261	0	0	279	0	0
Grp Sat Flow(s),veh/h/ln	1823	0	0	1747	0	0	1637	0	0	1761	0	0
Q Serve(g_s), s	0.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	19.5	0.0	0.0	7.2	0.0	0.0	7.7	0.0	0.0
Prop In Lane	0.03		0.09	0.14		0.01	0.24		0.34	0.06		0.27
Lane Grp Cap(c), veh/h	1070	0	0	1035	0	0	574	0	0	601	0	0
V/C Ratio(X)	0.25	0.00	0.00	0.72	0.00	0.00	0.45	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	1070	0	0	1035	0	0	574	0	0	601	0	0
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)	0.99	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	10.2	0.0	0.0	17.0	0.0	0.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	4.3	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.0	0.0	0.0	9.8	0.0	0.0	4.9	0.0	0.0	5.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	0.0	0.0	14.5	0.0	0.0	19.6	0.0	0.0	19.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		265			746			261			279	
Approach Delay, s/veh		14.5			14.5			19.6			19.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	37.4	22.6	37.4	22.6
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	21.5	9.7	9.4	9.2
Green Ext Time (p_c), s	4.3	1.0	1.6	1.0

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	666	142	134	1311	61	235	1283	118	52	783	251
Future Volume (veh/h)	183	666	142	134	1311	61	235	1283	118	52	783	251
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	199	724	154	146	1425	66	255	1395	128	57	851	273
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	258	1362	286	330	1523	71	330	1708	157	187	1080	345
Arrive On Green	0.09	0.32	0.32	0.08	0.30	0.30	0.12	0.36	0.36	0.04	0.28	0.28
Sat Flow, veh/h	1781	4225	889	1781	5001	232	1781	4759	437	1781	3832	1222
Grp Volume(v), veh/h	199	582	296	146	970	521	255	998	525	57	755	369
Grp Sat Flow(s),veh/h/ln	1781	1702	1710	1781	1702	1829	1781	1702	1792	1781	1702	1650
Q Serve(g_s), s	6.8	12.6	12.8	5.0	24.9	24.9	8.7	23.9	23.9	2.0	18.4	18.6
Cycle Q Clear(g_c), s	6.8	12.6	12.8	5.0	24.9	24.9	8.7	23.9	23.9	2.0	18.4	18.6
Prop In Lane	1.00		0.52	1.00		0.13	1.00		0.24	1.00		0.74
Lane Grp Cap(c), veh/h	258	1097	551	330	1036	557	330	1222	643	187	960	465
V/C Ratio(X)	0.77	0.53	0.54	0.44	0.94	0.94	0.77	0.82	0.82	0.30	0.79	0.79
Avail Cap(c_a), veh/h	258	1097	551	402	1040	559	345	1222	643	213	960	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	24.9	25.0	19.7	30.4	30.4	21.1	26.2	26.2	23.2	29.8	29.9
Incr Delay (d2), s/veh	13.4	0.5	1.0	0.7	12.0	19.1	10.0	6.1	11.0	0.9	6.5	12.9
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(85%),veh/ln	5.7	7.3	7.6	3.3	14.6	16.8	6.5	13.7	15.3	1.6	11.2	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	25.4	26.0	20.4	42.4	49.5	31.1	32.3	37.2	24.1	36.3	42.8
LnGrp LOS	D	C	C	C	D	D	C	C	D	C	D	D
Approach Vol, veh/h		1077			1637			1778			1181	
Approach Delay, s/veh		27.5			42.7			33.6			37.8	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	36.8	11.4	33.5	15.2	29.9	13.0	31.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	30.9	10.5	25.5	11.5	24.5	8.5	27.5
Max Q Clear Time (g_c+I1), s	4.0	25.9	7.0	14.8	10.7	20.6	8.8	26.9
Green Ext Time (p_c), s	0.0	3.7	0.1	4.3	0.1	2.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	672	153	40	1015	196	354	1179	75	192	665	373
Future Volume (veh/h)	84	672	153	40	1015	196	354	1179	75	192	665	373
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	91	730	166	43	1103	213	385	1282	0	209	723	0
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	125	1553	349	208	1601	309	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	417	4168	937	621	4296	829	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	91	595	301	43	874	442	385	1282	0	209	723	0
Grp Sat Flow(s),veh/h/ln	417	1702	1702	621	1702	1721	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	18.7	15.9	16.2	6.8	26.0	26.0	12.7	28.5	0.0	6.5	14.0	0.0
Cycle Q Clear(g_c), s	44.7	15.9	16.2	23.0	26.0	26.0	12.7	28.5	0.0	6.5	14.0	0.0
Prop In Lane	1.00		0.55	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	1269	634	208	1269	641	547	1489		547	1489	
V/C Ratio(X)	0.73	0.47	0.48	0.21	0.69	0.69	0.70	0.86		0.38	0.49	
Avail Cap(c_a), veh/h	125	1269	634	208	1269	641	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	1.00	1.00	1.00	0.65	0.65	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.3	28.6	28.7	37.5	31.8	31.8	47.8	40.2	0.0	45.3	35.1	0.0
Incr Delay (d2), s/veh	25.5	1.0	2.0	2.2	3.1	6.0	2.7	4.5	0.0	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.4	9.1	9.4	2.1	14.6	15.4	7.7	15.4	0.0	4.6	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	29.6	30.7	39.7	34.8	37.8	50.5	44.7	0.0	45.7	35.4	0.0
LnGrp LOS	E	C	C	D	C	D	D	D		D	D	
Approach Vol, veh/h		987			1359			1667	A		932	A
Approach Delay, s/veh		34.5			35.9			46.1			37.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	18.5	30.5		28.0	14.7	16.0		46.7
Green Ext Time (p_c), s	0.5	3.8		13.0	0.6	6.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	833	16	10	1006	62	2	1	0	56	13	163
Future Volume (veh/h)	46	833	16	10	1006	62	2	1	0	56	13	163
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	50	905	17	11	1093	67	2	1	0	61	14	177
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	350	2463	1099	437	2463	1099	186	80	0	106	33	210
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.19	0.19	0.00	0.19	0.19	0.19
Sat Flow, veh/h	484	3554	1585	606	3554	1585	627	423	0	297	172	1107
Grp Volume(v), veh/h	50	905	17	11	1093	67	3	0	0	252	0	0
Grp Sat Flow(s),veh/h/ln	484	1777	1585	606	1777	1585	1050	0	0	1576	0	0
Q Serve(g_s), s	4.6	9.4	0.3	0.7	12.3	1.2	0.0	0.0	0.0	10.2	0.0	0.0
Cycle Q Clear(g_c), s	16.9	9.4	0.3	10.1	12.3	1.2	0.1	0.0	0.0	13.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.67		0.00	0.24		0.70
Lane Grp Cap(c), veh/h	350	2463	1099	437	2463	1099	266	0	0	349	0	0
V/C Ratio(X)	0.14	0.37	0.02	0.03	0.44	0.06	0.01	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	350	2463	1099	437	2463	1099	479	0	0	592	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.7	4.3	7.8	6.1	4.4	29.6	0.0	0.0	35.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.4	0.0	0.1	0.6	0.1	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.0	4.9	0.2	0.2	6.1	0.7	0.1	0.0	0.0	7.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	6.1	4.3	7.9	6.7	4.5	29.6	0.0	0.0	37.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		972			1171			3			252	
Approach Delay, s/veh		6.3			6.6			29.6			37.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.1	22.9	67.1	22.9
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 48	* 31	* 48	* 31
Max Q Clear Time (g_c+I1), s	14.3	15.8	18.9	2.1
Green Ext Time (p_c), s	18.7	1.3	15.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	64	640	89	78	1542	115	211	533	18	91	501	1
Future Volume (vph)	64	640	89	78	1542	115	211	533	18	91	501	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.99			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	4992		1770	5032			3478			3511	
Flt Permitted	0.09	1.00		0.31	1.00			0.60			0.59	
Satd. Flow (perm)	162	4992		585	5032			2124			2070	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	696	97	85	1676	125	229	579	20	99	545	1
RTOR Reduction (vph)	0	17	0	0	8	0	0	2	0	0	0	0
Lane Group Flow (vph)	70	776	0	85	1793	0	0	826	0	0	645	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Effective Green, g (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.37			0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	82	2551		299	2571			778			759	
v/s Ratio Prot		0.16			0.36							
v/s Ratio Perm	c0.43			0.15				c0.39			0.31	
v/c Ratio	0.85	0.30		0.28	0.70			1.06			0.85	
Uniform Delay, d1	19.1	12.7		12.6	16.7			28.5			26.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	64.6	0.3		2.4	1.6			50.0			8.8	
Delay (s)	83.7	13.0		15.0	18.3			78.5			35.0	
Level of Service	F	B		B	B			E			D	
Approach Delay (s)		18.8			18.2			78.5			35.0	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	91	26	9	0	0
Future Vol, veh/h	0	91	26	9	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	99	28	10	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	33	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	1041	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1041	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	8.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	1041
HCM Lane V/C Ratio	-	-	0.095
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	7	2	10	64	26	1	17	6	6	24	19
Future Vol, veh/h	4	7	2	10	64	26	1	17	6	6	24	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	2	11	70	28	1	18	7	7	26	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	124	78	37	80	85	22	47	0	0	25	0	0
Stage 1	51	51	-	24	24	-	-	-	-	-	-	-
Stage 2	73	27	-	56	61	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	850	812	1035	908	805	1055	1560	-	-	1589	-	-
Stage 1	962	852	-	994	875	-	-	-	-	-	-	-
Stage 2	937	873	-	956	844	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	768	807	1035	895	800	1055	1560	-	-	1589	-	-
Mov Cap-2 Maneuver	768	807	-	895	800	-	-	-	-	-	-	-
Stage 1	961	848	-	993	874	-	-	-	-	-	-	-
Stage 2	838	872	-	941	840	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.8	0.3	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1560	-	-	822	863	1589	-	-
HCM Lane V/C Ratio	0.001	-	-	0.017	0.126	0.004	-	-
HCM Control Delay (s)	7.3	0	-	9.5	9.8	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

HCM 6th Signalized Intersection Summary
1: San Vicente Blvd & 6th St

02/20/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	149	183	832	92	258	1469
Future Volume (veh/h)	149	183	832	92	258	1469
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	162	199	904	100	280	1597
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	233	495	2593	805	323	3842
Arrive On Green	0.13	0.13	1.00	1.00	0.18	0.75
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	162	199	904	100	280	1597
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	7.8	8.9	0.0	0.0	13.7	10.1
Cycle Q Clear(g_c), s	7.8	8.9	0.0	0.0	13.7	10.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	233	495	2593	805	323	3842
V/C Ratio(X)	0.69	0.40	0.35	0.12	0.87	0.42
Avail Cap(c_a), veh/h	437	677	2593	805	501	3842
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	24.3	0.0	0.0	35.8	4.0
Incr Delay (d2), s/veh	3.6	0.5	0.4	0.3	9.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.5	11.5	0.2	0.1	9.4	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	24.9	0.4	0.3	45.4	4.3
LnGrp LOS	D	C	A	A	D	A
Approach Vol, veh/h	361		1004			1877
Approach Delay, s/veh	32.1		0.4			10.5
Approach LOS	C		A			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		72.3		17.7	22.0	50.3
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		57.4		22.1	25.3	26.4
Max Q Clear Time (g_c+I1), s		12.1		10.9	15.7	2.0
Green Ext Time (p_c), s		18.1		0.9	0.6	7.3

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	35	335	13	13	273	27	5	39	32	23	27	50
Future Volume (veh/h)	35	335	13	13	273	27	5	39	32	23	27	50
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	38	364	14	14	297	29	5	42	35	25	29	54
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	138	1224	45	83	1231	117	69	91	72	101	53	81
Arrive On Green	0.75	0.75	0.75	1.00	1.00	1.00	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	97	1628	60	27	1637	155	54	943	742	281	553	834
Grp Volume(v), veh/h	416	0	0	340	0	0	82	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1785	0	0	1819	0	0	1739	0	0	1668	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	4.3	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	3.6	0.0	0.0
Prop In Lane	0.09		0.03	0.04		0.09	0.06		0.43	0.23		0.50
Lane Grp Cap(c), veh/h	1407	0	0	1430	0	0	232	0	0	235	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.24	0.00	0.00	0.35	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	1407	0	0	1430	0	0	642	0	0	616	0	0
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)	0.79	0.00	0.00	0.90	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.4	0.0	0.0	0.0	0.0	0.0	25.7	0.0	0.0	26.1	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	0.0	0.9	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.5	0.0	0.0	0.3	0.0	0.0	2.0	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.8	0.0	0.0	0.4	0.0	0.0	26.6	0.0	0.0	27.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		416			340			82			108	
Approach Delay, s/veh		2.8			0.4			26.6			27.5	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	49.5	10.5	49.5	10.5
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 31	* 20	* 31	* 20
Max Q Clear Time (g_c+I1), s	2.0	5.6	6.3	4.7
Green Ext Time (p_c), s	2.2	0.4	2.8	0.3

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	324	20	38	278	21	14	226	115	11	79	20
Future Volume (veh/h)	50	324	20	38	278	21	14	226	115	11	79	20
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	54	352	22	41	302	23	15	246	125	12	86	22
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	131	734	43	118	741	53	72	439	215	94	512	121
Arrive On Green	0.96	0.96	0.96	0.48	0.48	0.48	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	133	1529	90	106	1543	111	26	1161	569	75	1354	321
Grp Volume(v), veh/h	428	0	0	366	0	0	386	0	0	120	0	0
Grp Sat Flow(s),veh/h/ln	1752	0	0	1760	0	0	1756	0	0	1749	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.0	7.7	0.0	0.0	10.4	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.13		0.05	0.11		0.06	0.04		0.32	0.10		0.18
Lane Grp Cap(c), veh/h	908	0	0	911	0	0	727	0	0	728	0	0
V/C Ratio(X)	0.47	0.00	0.00	0.40	0.00	0.00	0.53	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	908	0	0	911	0	0	727	0	0	728	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.6	0.0	0.0	10.1	0.0	0.0	14.8	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	1.3	0.0	0.0	2.8	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.1	0.0	0.0	4.8	0.0	0.0	6.4	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.3	0.0	0.0	11.4	0.0	0.0	17.6	0.0	0.0	12.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		428			366			386			120	
Approach Delay, s/veh		2.3			11.4			17.6			12.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.0	27.0	33.0	27.0
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 29	* 23	* 29	* 23
Max Q Clear Time (g_c+I1), s	9.7	4.6	3.0	12.4
Green Ext Time (p_c), s	2.2	0.5	2.9	1.7

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	1123	138	181	740	74	158	1194	97	153	1078	142
Future Volume (veh/h)	285	1123	138	181	740	74	158	1194	97	153	1078	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	310	1221	150	197	804	80	172	1298	105	166	1172	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	390	1303	160	258	1073	106	274	1647	133	262	1552	204
Arrive On Green	0.15	0.28	0.28	0.09	0.23	0.23	0.08	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	1781	4607	566	1781	4723	468	1781	4815	389	1781	4567	600
Grp Volume(v), veh/h	310	902	469	197	578	306	172	918	485	166	874	452
Grp Sat Flow(s),veh/h/ln	1781	1702	1769	1781	1702	1786	1781	1702	1800	1781	1702	1762
Q Serve(g_s), s	11.4	23.3	23.3	7.6	14.2	14.4	5.6	21.9	21.9	5.4	20.5	20.5
Cycle Q Clear(g_c), s	11.4	23.3	23.3	7.6	14.2	14.4	5.6	21.9	21.9	5.4	20.5	20.5
Prop In Lane	1.00		0.32	1.00		0.26	1.00		0.22	1.00		0.34
Lane Grp Cap(c), veh/h	390	963	500	258	774	406	274	1165	616	262	1157	599
V/C Ratio(X)	0.80	0.94	0.94	0.76	0.75	0.75	0.63	0.79	0.79	0.63	0.75	0.76
Avail Cap(c_a), veh/h	410	964	501	258	774	406	275	1165	616	267	1157	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	31.5	31.5	25.5	32.4	32.4	20.4	26.7	26.7	20.8	26.4	26.4
Incr Delay (d2), s/veh	10.0	16.0	25.4	11.6	3.6	7.0	4.5	5.4	9.8	4.7	4.6	8.6
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(85%),veh/ln	8.1	14.9	16.9	5.9	8.6	9.4	4.2	12.6	14.1	4.1	11.8	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	47.5	56.9	37.1	36.0	39.4	24.9	32.1	36.5	25.6	31.0	35.0
LnGrp LOS	C	D	E	D	D	D	C	C	D	C	C	C
Approach Vol, veh/h		1681			1081			1575			1492	
Approach Delay, s/veh		47.3			37.2			32.7			31.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	35.3	13.0	30.0	12.0	35.1	18.0	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	30.5	8.5	25.5	7.5	30.5	14.5	19.5
Max Q Clear Time (g_c+I1), s	7.4	23.9	9.6	25.3	7.6	22.5	13.4	16.4
Green Ext Time (p_c), s	0.0	4.6	0.0	0.2	0.0	5.1	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	966	274	79	558	203	291	673	18	219	1255	139
Future Volume (veh/h)	100	966	274	79	558	203	291	673	18	219	1255	139
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	109	1050	298	86	607	221	316	732	0	238	1364	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1472	418	119	1384	493	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	662	3952	1121	405	3714	1323	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	109	904	444	86	555	273	316	732	0	238	1364	0
Grp Sat Flow(s),veh/h/ln	662	1702	1669	405	1702	1632	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	17.8	27.2	27.3	17.4	14.7	15.1	10.2	14.2	0.0	7.5	31.0	0.0
Cycle Q Clear(g_c), s	32.9	27.2	27.3	44.7	14.7	15.1	10.2	14.2	0.0	7.5	31.0	0.0
Prop In Lane	1.00		0.67	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1268	622	119	1268	608	547	1489		547	1489	
V/C Ratio(X)	0.49	0.71	0.71	0.72	0.44	0.45	0.58	0.49		0.44	0.92	
Avail Cap(c_a), veh/h	223	1268	622	119	1268	608	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	1.00	1.00	1.00	0.97	0.97	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.8	32.2	32.2	54.0	28.2	28.4	46.8	35.1	0.0	45.7	41.1	0.0
Incr Delay (d2), s/veh	1.9	0.9	1.8	31.6	1.1	2.4	1.5	1.1	0.0	0.5	9.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	3.9	13.0	12.9	5.6	8.8	8.9	6.7	8.6	0.0	5.1	18.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	33.0	34.0	85.7	29.3	30.7	48.2	36.3	0.0	46.2	50.4	0.0
LnGrp LOS	D	C	C	F	C	C	D	D		D	D	
Approach Vol, veh/h		1457			914			1048	A		1602	A
Approach Delay, s/veh		34.0			35.0			39.9			49.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	19.5	16.2		46.7	12.2	33.0		34.9
Green Ext Time (p_c), s	0.5	8.0		0.0	0.6	1.7		7.3

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	1148	7	4	675	73	9	11	19	67	4	96
Future Volume (veh/h)	170	1148	7	4	675	73	9	11	19	67	4	96
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	185	1248	8	4	734	79	10	12	21	73	4	104
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	530	2625	1171	344	2625	1171	83	93	121	133	18	127
Arrive On Green	0.74	0.74	0.74	0.74	0.74	0.74	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	671	3554	1585	442	3554	1585	230	643	833	528	124	880
Grp Volume(v), veh/h	185	1248	8	4	734	79	43	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	671	1777	1585	442	1777	1585	1706	0	0	1531	0	0
Q Serve(g_s), s	11.3	12.7	0.1	0.3	6.1	1.2	0.0	0.0	0.0	8.3	0.0	0.0
Cycle Q Clear(g_c), s	17.4	12.7	0.1	13.1	6.1	1.2	2.0	0.0	0.0	10.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.49	0.40		0.57
Lane Grp Cap(c), veh/h	530	2625	1171	344	2625	1171	296	0	0	278	0	0
V/C Ratio(X)	0.35	0.48	0.01	0.01	0.28	0.07	0.15	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	530	2625	1171	344	2625	1171	526	0	0	497	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	4.7	3.1	7.4	3.9	3.2	33.8	0.0	0.0	37.2	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.6	0.0	0.1	0.3	0.1	0.2	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	2.9	5.8	0.1	0.1	3.2	0.6	1.5	0.0	0.0	6.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	5.4	3.1	7.4	4.1	3.3	34.0	0.0	0.0	39.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1441			817			43			181	
Approach Delay, s/veh		5.8			4.1			34.0			39.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	71.2	18.8	71.2	18.8
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 53	* 26	* 53	* 26
Max Q Clear Time (g_c+I1), s	15.1	12.3	19.4	4.0
Green Ext Time (p_c), s	12.5	0.8	25.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	246	941	159	29	574	133	61	719	24	99	498	0
Future Volume (vph)	246	941	159	29	574	133	61	719	24	99	498	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.97			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	4975		1770	4941			3510			3510	
Flt Permitted	0.33	1.00		0.18	1.00			0.77			0.56	
Satd. Flow (perm)	609	4975		339	4941			2729			1965	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	1023	173	32	624	145	66	782	26	108	541	0
RTOR Reduction (vph)	0	21	0	0	34	0	0	3	0	0	0	0
Lane Group Flow (vph)	267	1175	0	32	735	0	0	871	0	0	649	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	47.2	47.2		47.2	47.2			31.8			31.8	
Effective Green, g (s)	47.2	47.2		47.2	47.2			31.8			31.8	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.35			0.35	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	319	2609		177	2591			964			694	
v/s Ratio Prot		0.24			0.15							
v/s Ratio Perm	c0.44			0.09				0.32			c0.33	
v/c Ratio	0.84	0.45		0.18	0.28			0.90			0.94	
Uniform Delay, d1	18.1	13.3		11.2	12.0			27.6			28.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	22.2	0.6		2.2	0.3			11.6			19.8	
Delay (s)	40.4	13.9		13.5	12.2			39.3			47.9	
Level of Service	D	B		B	B			D			D	
Approach Delay (s)		18.7			12.3			39.3			47.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	31	30	18	0	0
Future Vol, veh/h	0	31	30	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	33	20	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	43	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	1027	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1027	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	8.6	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	1027
HCM Lane V/C Ratio	-	-	0.033
HCM Control Delay (s)	-	-	8.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	6	2	9	12	17	3	57	25	18	21	10
Future Vol, veh/h	7	6	2	9	12	17	3	57	25	18	21	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	7	2	10	13	18	3	62	27	20	23	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	166	164	29	155	156	76	34	0	0	89	0	0
Stage 1	69	69	-	82	82	-	-	-	-	-	-	-
Stage 2	97	95	-	73	74	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	798	729	1046	812	736	985	1578	-	-	1506	-	-
Stage 1	941	837	-	926	827	-	-	-	-	-	-	-
Stage 2	910	816	-	937	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	763	717	1046	795	724	985	1578	-	-	1506	-	-
Mov Cap-2 Maneuver	763	717	-	795	724	-	-	-	-	-	-	-
Stage 1	939	825	-	924	825	-	-	-	-	-	-	-
Stage 2	877	814	-	915	821	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.5	0.3	2.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	771	842	1506	-	-
HCM Lane V/C Ratio	0.002	-	-	0.021	0.049	0.013	-	-
HCM Control Delay (s)	7.3	0	-	9.8	9.5	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

HCM 6th Signalized Intersection Summary
1: San Vicente Blvd & 6th St

02/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	406	446	1547	40	206	1017
Future Volume (veh/h)	406	446	1547	40	206	1017
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	441	485	1682	43	224	1105
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	477	659	2065	641	263	3143
Arrive On Green	0.27	0.27	0.81	0.81	0.15	0.62
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	441	485	1682	43	224	1105
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	21.7	23.2	16.6	0.5	11.0	9.6
Cycle Q Clear(g_c), s	21.7	23.2	16.6	0.5	11.0	9.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	477	659	2065	641	263	3143
V/C Ratio(X)	0.92	0.74	0.81	0.07	0.85	0.35
Avail Cap(c_a), veh/h	477	659	2065	641	356	3143
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	22.1	6.7	5.2	37.4	8.5
Incr Delay (d2), s/veh	19.4	3.3	3.7	0.2	13.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	14.7	23.8	5.0	0.4	8.2	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.5	25.4	10.4	5.4	50.9	8.8
LnGrp LOS	D	C	B	A	D	A
Approach Vol, veh/h	926		1725			1329
Approach Delay, s/veh	37.8		10.3			15.9
Approach LOS	D		B			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		30.0	19.0	41.0
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		55.4		24.1	18.0	31.7
Max Q Clear Time (g_c+I1), s		11.6		25.2	13.0	18.6
Green Ext Time (p_c), s		10.4		0.0	0.3	9.3

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	184	43	50	686	23	56	23	27	28	27	98
Future Volume (veh/h)	20	184	43	50	686	23	56	23	27	28	27	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	22	200	47	54	746	25	61	25	29	30	29	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	117	942	210	114	1201	39	189	72	57	98	53	145
Arrive On Green	0.71	0.71	0.71	0.95	0.95	0.95	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	73	1325	296	70	1690	55	705	526	415	196	387	1057
Grp Volume(v), veh/h	269	0	0	825	0	0	115	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1694	0	0	1815	0	0	1645	0	0	1640	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	0.0	3.5	0.0	0.0	3.6	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.08		0.17	0.07		0.03	0.53		0.25	0.18		0.64
Lane Grp Cap(c), veh/h	1269	0	0	1354	0	0	318	0	0	296	0	0
V/C Ratio(X)	0.21	0.00	0.00	0.61	0.00	0.00	0.36	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1269	0	0	1354	0	0	551	0	0	553	0	0
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)	0.73	0.00	0.00	0.46	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.9	0.0	0.0	0.6	0.0	0.0	23.9	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.0	0.7	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.3	0.0	0.0	1.2	0.0	0.0	2.7	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.2	0.0	0.0	1.5	0.0	0.0	24.6	0.0	0.0	26.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		269			825			115			166	
Approach Delay, s/veh		3.2			1.5			24.6			26.4	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	47.0	13.0	47.0	13.0
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	5.5	7.7	5.0	5.6
Green Ext Time (p_c), s	7.2	0.6	1.8	0.4

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	225	23	94	610	10	58	100	82	15	173	69
Future Volume (veh/h)	6	225	23	94	610	10	58	100	82	15	173	69
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	7	245	25	102	663	11	63	109	89	16	188	75
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	912	91	162	859	14	156	248	170	76	380	144
Arrive On Green	0.18	0.18	0.18	0.55	0.55	0.55	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	12	1648	165	171	1553	25	266	812	558	42	1246	473
Grp Volume(v), veh/h	277	0	0	776	0	0	261	0	0	279	0	0
Grp Sat Flow(s),veh/h/ln	1824	0	0	1749	0	0	1637	0	0	1761	0	0
Q Serve(g_s), s	0.0	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	0.0	20.9	0.0	0.0	7.2	0.0	0.0	7.7	0.0	0.0
Prop In Lane	0.03		0.09	0.13		0.01	0.24		0.34	0.06		0.27
Lane Grp Cap(c), veh/h	1071	0	0	1035	0	0	574	0	0	601	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.75	0.00	0.00	0.45	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	1071	0	0	1035	0	0	574	0	0	601	0	0
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)	0.99	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.1	0.0	0.0	10.5	0.0	0.0	17.0	0.0	0.0	17.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	5.0	0.0	0.0	2.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.3	0.0	0.0	10.5	0.0	0.0	4.9	0.0	0.0	5.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	0.0	15.5	0.0	0.0	19.6	0.0	0.0	19.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		277			776			261			279	
Approach Delay, s/veh		14.7			15.5			19.6			19.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	37.4	22.6	37.4	22.6
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	22.9	9.7	9.8	9.2
Green Ext Time (p_c), s	4.1	1.0	1.7	1.0

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	689	142	143	1318	61	235	1283	148	68	783	251
Future Volume (veh/h)	183	689	142	143	1318	61	235	1283	148	68	783	251
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	199	749	154	155	1433	66	255	1395	161	74	851	273
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	257	1354	276	330	1525	70	330	1643	190	189	1079	344
Arrive On Green	0.09	0.32	0.32	0.08	0.30	0.30	0.12	0.35	0.35	0.05	0.28	0.28
Sat Flow, veh/h	1781	4253	866	1781	5003	230	1781	4642	536	1781	3832	1222
Grp Volume(v), veh/h	199	598	305	155	975	524	255	1023	533	74	755	369
Grp Sat Flow(s),veh/h/ln	1781	1702	1714	1781	1702	1829	1781	1702	1774	1781	1702	1650
Q Serve(g_s), s	6.8	13.1	13.3	5.3	25.1	25.1	8.7	25.0	25.0	2.6	18.4	18.6
Cycle Q Clear(g_c), s	6.8	13.1	13.3	5.3	25.1	25.1	8.7	25.0	25.0	2.6	18.4	18.6
Prop In Lane	1.00		0.51	1.00		0.13	1.00		0.30	1.00		0.74
Lane Grp Cap(c), veh/h	257	1084	546	330	1038	558	330	1205	628	189	958	465
V/C Ratio(X)	0.77	0.55	0.56	0.47	0.94	0.94	0.77	0.85	0.85	0.39	0.79	0.79
Avail Cap(c_a), veh/h	257	1084	546	429	1040	559	345	1205	628	206	958	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.74	0.74	0.74	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	25.4	25.4	19.7	30.5	30.5	21.1	26.9	26.9	23.6	29.9	29.9
Incr Delay (d2), s/veh	13.6	0.6	1.3	0.8	12.4	19.5	10.0	7.6	13.5	1.3	6.5	13.0
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(85%),veh/ln	5.7	7.6	7.9	3.5	14.7	17.0	6.5	14.4	16.1	2.0	11.2	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	26.0	26.7	20.4	42.9	50.0	31.1	34.4	40.3	24.9	36.4	42.9
LnGrp LOS	D	C	C	C	D	D	C	C	D	C	D	D
Approach Vol, veh/h		1102			1654			1811			1198	
Approach Delay, s/veh		28.0			43.0			35.7			37.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	36.4	11.8	33.2	15.2	29.8	13.0	31.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	30.9	12.3	23.7	11.5	24.5	8.5	27.5
Max Q Clear Time (g_c+I1), s	4.6	27.0	7.3	15.3	10.7	20.6	8.8	27.1
Green Ext Time (p_c), s	0.0	3.1	0.2	3.8	0.1	2.5	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	672	153	40	1015	226	354	1230	75	192	679	389
Future Volume (veh/h)	154	672	153	40	1015	226	354	1230	75	192	679	389
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	167	730	166	43	1103	246	385	1337	0	209	738	0
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	120	1553	349	208	1556	347	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	404	4168	937	621	4176	931	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	167	595	301	43	899	450	385	1337	0	209	738	0
Grp Sat Flow(s),veh/h/ln	404	1702	1702	621	1702	1703	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	17.7	15.9	16.2	6.8	27.0	27.0	12.7	30.2	0.0	6.5	14.4	0.0
Cycle Q Clear(g_c), s	44.7	15.9	16.2	23.0	27.0	27.0	12.7	30.2	0.0	6.5	14.4	0.0
Prop In Lane	1.00		0.55	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	1269	634	208	1269	635	547	1489		547	1489	
V/C Ratio(X)	1.40	0.47	0.48	0.21	0.71	0.71	0.70	0.90		0.38	0.50	
Avail Cap(c_a), veh/h	120	1269	634	208	1269	635	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	0.63	0.63	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.6	28.6	28.7	37.5	32.1	32.1	47.8	40.8	0.0	45.3	35.2	0.0
Incr Delay (d2), s/veh	212.6	1.0	2.0	2.2	3.4	6.6	2.6	5.9	0.0	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	16.2	9.0	9.3	2.1	15.1	15.8	7.6	16.3	0.0	4.6	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	268.2	29.6	30.7	39.7	35.5	38.7	50.4	46.7	0.0	45.7	35.6	0.0
LnGrp LOS	F	C	C	D	D	D	D	D		D	D	
Approach Vol, veh/h		1063			1392			1722	A		947	A
Approach Delay, s/veh		67.4			36.6			47.5			37.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	18.5	32.2		29.0	14.7	16.4		46.7
Green Ext Time (p_c), s	0.5	2.5		12.5	0.6	6.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	833	16	10	1048	62	2	1	0	62	13	163
Future Volume (veh/h)	46	833	16	10	1048	62	2	1	0	62	13	163
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	50	905	17	11	1139	67	2	1	0	67	14	177
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	332	2449	1093	434	2449	1093	189	82	0	114	32	209
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.19	0.19	0.00	0.19	0.19	0.19
Sat Flow, veh/h	464	3554	1585	606	3554	1585	629	422	0	326	167	1078
Grp Volume(v), veh/h	50	905	17	11	1139	67	3	0	0	258	0	0
Grp Sat Flow(s),veh/h/ln	464	1777	1585	606	1777	1585	1051	0	0	1572	0	0
Q Serve(g_s), s	5.0	9.6	0.3	0.7	13.2	1.2	0.0	0.0	0.0	10.9	0.0	0.0
Cycle Q Clear(g_c), s	18.2	9.6	0.3	10.2	13.2	1.2	0.1	0.0	0.0	14.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.67		0.00	0.26		0.69
Lane Grp Cap(c), veh/h	332	2449	1093	434	2449	1093	271	0	0	355	0	0
V/C Ratio(X)	0.15	0.37	0.02	0.03	0.46	0.06	0.01	0.00	0.00	0.73	0.00	0.00
Avail Cap(c_a), veh/h	332	2449	1093	434	2449	1093	463	0	0	575	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.5	5.8	4.4	8.0	6.4	4.5	29.3	0.0	0.0	34.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.4	0.0	0.1	0.6	0.1	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.0	4.9	0.2	0.2	6.5	0.7	0.1	0.0	0.0	8.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	6.3	4.4	8.1	7.0	4.6	29.3	0.0	0.0	37.7	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		972			1217			3			258	
Approach Delay, s/veh		6.5			6.9			29.3			37.7	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	66.7	23.3	66.7	23.3
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 49	* 30	* 49	* 30
Max Q Clear Time (g_c+I1), s	15.2	16.2	20.2	2.1
Green Ext Time (p_c), s	19.6	1.3	15.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	64	654	89	78	1589	115	216	533	18	91	502	1
Future Volume (vph)	64	654	89	78	1589	115	216	533	18	91	502	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.99			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	4994		1770	5034			3477			3511	
Flt Permitted	0.09	1.00		0.31	1.00			0.60			0.58	
Satd. Flow (perm)	162	4994		574	5034			2117			2063	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	711	97	85	1727	125	235	579	20	99	546	1
RTOR Reduction (vph)	0	16	0	0	7	0	0	2	0	0	0	0
Lane Group Flow (vph)	70	792	0	85	1845	0	0	832	0	0	646	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Effective Green, g (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.37			0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	82	2552		293	2572			776			756	
v/s Ratio Prot		0.16			0.37							
v/s Ratio Perm	c0.43			0.15				c0.39			0.31	
v/c Ratio	0.85	0.31		0.29	0.72			1.07			0.85	
Uniform Delay, d1	19.1	12.8		12.6	17.0			28.5			26.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	64.6	0.3		2.5	1.8			53.5			9.3	
Delay (s)	83.7	13.1		15.1	18.7			82.0			35.6	
Level of Service	F	B		B	B			F			D	
Approach Delay (s)		18.7			18.6			82.0			35.6	
Approach LOS		B			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	91	34	101	0	0
Future Vol, veh/h	0	91	34	101	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	99	37	110	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	92	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	965	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	965	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	965
HCM Lane V/C Ratio	-	-	0.103
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	54	19	2	10	66	26	13	17	6	6	53	58
Future Vol, veh/h	54	19	2	10	66	26	13	17	6	6	53	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	21	2	11	72	28	14	18	7	7	58	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	204	157	90	165	185	22	121	0	0	25	0	0
Stage 1	104	104	-	50	50	-	-	-	-	-	-	-
Stage 2	100	53	-	115	135	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	754	735	968	800	709	1055	1467	-	-	1589	-	-
Stage 1	902	809	-	963	853	-	-	-	-	-	-	-
Stage 2	906	851	-	890	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	669	724	968	772	698	1055	1467	-	-	1589	-	-
Mov Cap-2 Maneuver	669	724	-	772	698	-	-	-	-	-	-	-
Stage 1	893	805	-	953	844	-	-	-	-	-	-	-
Stage 2	799	842	-	861	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	10.4	2.7	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1467	-	-	688	772	1589	-	-
HCM Lane V/C Ratio	0.01	-	-	0.118	0.144	0.004	-	-
HCM Control Delay (s)	7.5	0	-	10.9	10.4	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	76	62	91	0	43
Future Vol, veh/h	47	76	62	91	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	83	67	99	0	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	134	0	326	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1451	-	668	964
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1451	-	635	964
Mov Cap-2 Maneuver	-	-	-	-	635	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	964	-	-	1451	-
HCM Lane V/C Ratio	0.048	-	-	0.046	-
HCM Control Delay (s)	8.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	43	111	138	0	0
Future Vol, veh/h	0	43	111	138	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	121	150	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	196	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	845	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	845	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	845
HCM Lane V/C Ratio	-	-	0.055
HCM Control Delay (s)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

HCM 6th Signalized Intersection Summary
1: San Vicente Blvd & 6th St

04/13/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	265	213	862	92	275	1469
Future Volume (veh/h)	265	213	862	92	275	1469
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	288	232	937	100	299	1597
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	340	607	2233	693	341	3535
Arrive On Green	0.19	0.19	0.87	0.87	0.19	0.69
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	288	232	937	100	299	1597
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	14.0	9.5	3.3	0.8	14.7	12.6
Cycle Q Clear(g_c), s	14.0	9.5	3.3	0.8	14.7	12.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	340	607	2233	693	341	3535
V/C Ratio(X)	0.85	0.38	0.42	0.14	0.88	0.45
Avail Cap(c_a), veh/h	477	728	2233	693	489	3535
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	20.1	3.4	3.2	35.3	6.2
Incr Delay (d2), s/veh	9.1	0.4	0.6	0.4	12.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	9.4	12.5	1.7	0.6	10.2	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.3	20.5	4.0	3.7	47.3	6.6
LnGrp LOS	D	C	A	A	D	A
Approach Vol, veh/h	520		1037			1896
Approach Delay, s/veh	33.6		3.9			13.0
Approach LOS	C		A			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		66.9		23.1	22.9	44.0
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		55.4		24.1	24.7	25.0
Max Q Clear Time (g_c+I1), s		14.6		16.0	16.7	5.3
Green Ext Time (p_c), s		17.4		1.2	0.6	7.0

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	335	30	27	273	27	150	44	75	23	29	50
Future Volume (veh/h)	35	335	30	27	273	27	150	44	75	23	29	50
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	38	364	33	29	297	29	163	48	82	25	32	54
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	115	965	83	110	962	90	279	71	100	126	151	193
Arrive On Green	0.62	0.62	0.62	0.20	0.20	0.20	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	81	1566	135	73	1561	145	798	307	429	225	651	830
Grp Volume(v), veh/h	435	0	0	355	0	0	293	0	0	111	0	0
Grp Sat Flow(s),veh/h/ln	1783	0	0	1779	0	0	1534	0	0	1707	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	9.8	0.0	0.0	10.7	0.0	0.0	3.2	0.0	0.0
Prop In Lane	0.09		0.08	0.08		0.08	0.56		0.28	0.23		0.49
Lane Grp Cap(c), veh/h	1164	0	0	1161	0	0	450	0	0	470	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.31	0.00	0.00	0.65	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	1164	0	0	1161	0	0	676	0	0	714	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.00	0.00	0.89	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	13.1	0.0	0.0	21.5	0.0	0.0	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.6	0.0	0.0	1.6	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	3.6	0.0	0.0	6.6	0.0	0.0	5.8	0.0	0.0	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	0.0	0.0	13.7	0.0	0.0	23.1	0.0	0.0	19.2	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		435			355			293			111	
Approach Delay, s/veh		6.5			13.7			23.1			19.2	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.4	18.6	41.4	18.6
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 28	* 23	* 28	* 23
Max Q Clear Time (g_c+I1), s	11.8	5.2	9.1	12.7
Green Ext Time (p_c), s	2.0	0.5	2.7	1.3

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	50	367	20	38	292	21	14	226	115	11	79	20
Future Volume (veh/h)	50	367	20	38	292	21	14	226	115	11	79	20
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	54	399	22	41	317	23	15	246	125	12	86	22
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	126	774	40	117	769	53	72	420	206	92	491	116
Arrive On Green	0.99	0.99	0.99	0.50	0.50	0.50	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	120	1559	82	101	1549	106	27	1161	569	73	1357	321
Grp Volume(v), veh/h	475	0	0	381	0	0	386	0	0	120	0	0
Grp Sat Flow(s),veh/h/ln	1760	0	0	1757	0	0	1756	0	0	1751	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	7.8	0.0	0.0	10.7	0.0	0.0	2.7	0.0	0.0
Prop In Lane	0.11		0.05	0.11		0.06	0.04		0.32	0.10		0.18
Lane Grp Cap(c), veh/h	941	0	0	939	0	0	697	0	0	699	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.41	0.00	0.00	0.55	0.00	0.00	0.17	0.00	0.00
Avail Cap(c_a), veh/h	941	0	0	939	0	0	697	0	0	699	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.1	0.0	0.0	9.6	0.0	0.0	15.6	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	1.3	0.0	0.0	3.2	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.9	0.0	0.0	4.8	0.0	0.0	6.6	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.9	0.0	0.0	10.9	0.0	0.0	18.8	0.0	0.0	13.6	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		475			381			386			120	
Approach Delay, s/veh		1.9			10.9			18.8			13.6	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	34.0	26.0	34.0	26.0
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 30	* 22	* 30	* 22
Max Q Clear Time (g_c+I1), s	9.8	4.7	2.2	12.7
Green Ext Time (p_c), s	2.4	0.5	3.4	1.6

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	1134	138	216	767	74	158	1194	112	161	1078	142
Future Volume (veh/h)	285	1134	138	216	767	74	158	1194	112	161	1078	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	310	1233	150	235	834	80	172	1298	122	175	1172	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	402	1307	159	296	1181	113	262	1503	141	251	1446	190
Arrive On Green	0.15	0.28	0.28	0.12	0.25	0.25	0.08	0.32	0.32	0.08	0.32	0.32
Sat Flow, veh/h	1781	4612	561	1781	4740	453	1781	4748	446	1781	4567	600
Grp Volume(v), veh/h	310	910	473	235	598	316	172	931	489	175	874	452
Grp Sat Flow(s),veh/h/ln	1781	1702	1769	1781	1702	1789	1781	1702	1790	1781	1702	1762
Q Serve(g_s), s	11.3	23.5	23.5	8.7	14.4	14.5	5.8	23.1	23.1	5.9	21.2	21.2
Cycle Q Clear(g_c), s	11.3	23.5	23.5	8.7	14.4	14.5	5.8	23.1	23.1	5.9	21.2	21.2
Prop In Lane	1.00		0.32	1.00		0.25	1.00		0.25	1.00		0.34
Lane Grp Cap(c), veh/h	402	964	501	296	848	446	262	1078	567	251	1078	558
V/C Ratio(X)	0.77	0.94	0.94	0.79	0.70	0.71	0.66	0.86	0.86	0.70	0.81	0.81
Avail Cap(c_a), veh/h	462	964	501	296	848	446	262	1078	567	251	1078	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	31.5	31.5	23.6	30.8	30.8	21.7	28.9	28.9	22.1	28.3	28.3
Incr Delay (d2), s/veh	6.8	17.0	26.7	12.5	2.4	4.7	5.9	9.2	15.9	8.2	6.6	12.1
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(85%),veh/ln	7.6	15.1	17.2	6.6	8.5	9.2	4.4	13.8	15.7	4.7	12.5	13.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	48.6	58.2	36.1	33.2	35.5	27.6	38.1	44.9	30.3	34.9	40.4
LnGrp LOS	C	D	E	D	C	D	C	D	D	C	C	D
Approach Vol, veh/h		1693			1149			1592			1501	
Approach Delay, s/veh		47.5			34.4			39.0			36.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	33.0	15.0	30.0	12.0	33.0	18.1	26.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	28.5	10.5	25.5	7.5	28.5	16.6	19.4
Max Q Clear Time (g_c+I1), s	7.9	25.1	10.7	25.5	7.8	23.2	13.3	16.5
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	3.6	0.3	1.6

Intersection Summary	
HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	966	274	79	558	218	291	698	18	219	1309	201
Future Volume (veh/h)	134	966	274	79	558	218	291	698	18	219	1309	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	146	1050	298	86	607	237	316	759	0	238	1423	0
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	219	1472	418	119	1355	517	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	652	3952	1121	405	3636	1388	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	146	904	444	86	567	277	316	759	0	238	1423	0
Grp Sat Flow(s),veh/h/ln	652	1702	1669	405	1702	1620	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	26.2	27.2	27.3	17.4	15.1	15.5	10.2	14.8	0.0	7.5	32.8	0.0
Cycle Q Clear(g_c), s	41.7	27.2	27.3	44.7	15.1	15.5	10.2	14.8	0.0	7.5	32.8	0.0
Prop In Lane	1.00		0.67	1.00		0.86	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1268	622	119	1268	604	547	1489		547	1489	
V/C Ratio(X)	0.67	0.71	0.71	0.72	0.45	0.46	0.58	0.51		0.44	0.96	
Avail Cap(c_a), veh/h	219	1268	622	119	1268	604	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.23	1.00	1.00	1.00	0.96	0.96	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.3	32.2	32.2	54.0	28.3	28.5	46.8	35.4	0.0	45.7	41.7	0.0
Incr Delay (d2), s/veh	3.7	0.8	1.6	31.6	1.1	2.5	1.4	1.2	0.0	0.5	14.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.5	12.9	12.8	5.6	8.9	9.1	6.6	8.9	0.0	5.1	19.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	33.0	33.8	85.7	29.5	31.0	48.2	36.6	0.0	46.2	56.0	0.0
LnGrp LOS	D	C	C	F	C	C	D	D		D	E	
Approach Vol, veh/h		1494			930			1075	A		1661	A
Approach Delay, s/veh		34.7			35.1			40.0			54.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	19.5	16.8		46.7	12.2	34.8		43.7
Green Ext Time (p_c), s	0.5	8.1		0.0	0.6	0.1		0.9

Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	1148	7	4	695	73	9	11	19	89	4	96
Future Volume (veh/h)	170	1148	7	4	695	73	9	11	19	89	4	96
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	185	1248	8	4	755	79	10	12	21	97	4	104
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	506	2564	1144	332	2564	1144	88	101	133	164	16	125
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	658	3554	1585	442	3554	1585	237	626	824	649	99	771
Grp Volume(v), veh/h	185	1248	8	4	755	79	43	0	0	205	0	0
Grp Sat Flow(s),veh/h/ln	658	1777	1585	442	1777	1585	1687	0	0	1519	0	0
Q Serve(g_s), s	12.4	13.6	0.1	0.4	6.8	1.3	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	19.2	13.6	0.1	13.9	6.8	1.3	1.9	0.0	0.0	11.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.49	0.47		0.51
Lane Grp Cap(c), veh/h	506	2564	1144	332	2564	1144	322	0	0	305	0	0
V/C Ratio(X)	0.37	0.49	0.01	0.01	0.29	0.07	0.13	0.00	0.00	0.67	0.00	0.00
Avail Cap(c_a), veh/h	506	2564	1144	332	2564	1144	525	0	0	496	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	5.4	3.5	8.4	4.4	3.7	32.4	0.0	0.0	36.4	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.7	0.0	0.1	0.3	0.1	0.2	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	8.2	6.3	0.1	0.1	3.5	0.7	1.5	0.0	0.0	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	6.0	3.5	8.4	4.7	3.8	32.6	0.0	0.0	39.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1441			838			43			205	
Approach Delay, s/veh		6.5			4.7			32.6			39.0	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	69.6	20.4	69.6	20.4
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 53	* 26	* 53	* 26
Max Q Clear Time (g_c+I1), s	15.9	13.7	21.2	3.9
Green Ext Time (p_c), s	12.8	0.9	24.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	246	995	159	29	597	133	63	719	24	99	503	0
Future Volume (vph)	246	995	159	29	597	133	63	719	24	99	503	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.97			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	4980		1770	4946			3510			3510	
Flt Permitted	0.32	1.00		0.17	1.00			0.77			0.56	
Satd. Flow (perm)	589	4980		311	4946			2698			1967	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	1082	173	32	649	145	68	782	26	108	547	0
RTOR Reduction (vph)	0	20	0	0	32	0	0	3	0	0	0	0
Lane Group Flow (vph)	267	1235	0	32	762	0	0	873	0	0	655	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	47.1	47.1		47.1	47.1			31.9			31.9	
Effective Green, g (s)	47.1	47.1		47.1	47.1			31.9			31.9	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.35			0.35	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	308	2606		162	2588			956			697	
v/s Ratio Prot		0.25			0.15							
v/s Ratio Perm	c0.45			0.10				0.32			c0.33	
v/c Ratio	0.87	0.47		0.20	0.29			0.91			0.94	
Uniform Delay, d1	18.7	13.6		11.4	12.1			27.7			28.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	26.4	0.6		2.7	0.3			12.8			20.4	
Delay (s)	45.1	14.2		14.1	12.4			40.6			48.5	
Level of Service	D	B		B	B			D			D	
Approach Delay (s)		19.6			12.4			40.6			48.5	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	31	60	154	0	0
Future Vol, veh/h	0	31	60	154	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	65	167	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	149	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	898	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	898	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	898
HCM Lane V/C Ratio	-	-	0.038
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	201	52	2	9	13	17	9	57	25	18	35	29
Future Vol, veh/h	201	52	2	9	13	17	9	57	25	18	35	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	218	57	2	10	14	18	10	62	27	20	38	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	206	203	54	220	206	76	70	0	0	89	0	0
Stage 1	94	94	-	96	96	-	-	-	-	-	-	-
Stage 2	112	109	-	124	110	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	752	693	1013	736	691	985	1531	-	-	1506	-	-
Stage 1	913	817	-	911	815	-	-	-	-	-	-	-
Stage 2	893	805	-	880	804	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	714	678	1013	677	676	985	1531	-	-	1506	-	-
Mov Cap-2 Maneuver	714	678	-	677	676	-	-	-	-	-	-	-
Stage 1	907	806	-	905	809	-	-	-	-	-	-	-
Stage 2	855	799	-	805	793	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	9.9	0.7	1.6
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	708	783	1506	-	-
HCM Lane V/C Ratio	0.006	-	-	0.391	0.054	0.013	-	-
HCM Control Delay (s)	7.4	0	-	13.3	9.9	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.9	0.2	0	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	136	37	31	33	0	156
Future Vol, veh/h	136	37	31	33	0	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	148	40	34	36	0	170

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	272	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	104	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1386	-	717	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1386	-	699	876
Mov Cap-2 Maneuver	-	-	-	-	699	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	876	-	-	1386	-
HCM Lane V/C Ratio	0.194	-	-	0.024	-
HCM Control Delay (s)	10.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	156	85	68	0	0
Future Vol, veh/h	0	156	85	68	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	170	92	74	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	129	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	921	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	921	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	921
HCM Lane V/C Ratio	-	-	0.184
HCM Control Delay (s)	-	-	9.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.7



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	392	457	1609	41	194	1093
Future Volume (veh/h)	392	457	1609	41	194	1093
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	426	497	1749	45	211	1188
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	457	630	2158	670	251	3200
Arrive On Green	0.26	0.26	0.85	0.85	0.14	0.63
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	426	497	1749	45	211	1188
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	21.0	23.1	15.2	0.4	10.4	10.2
Cycle Q Clear(g_c), s	21.0	23.1	15.2	0.4	10.4	10.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	457	630	2158	670	251	3200
V/C Ratio(X)	0.93	0.79	0.81	0.07	0.84	0.37
Avail Cap(c_a), veh/h	457	630	2158	670	356	3200
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	23.8	5.2	4.1	37.7	8.2
Incr Delay (d2), s/veh	21.3	5.1	3.4	0.2	11.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	14.5	24.9	4.4	0.3	7.7	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.0	28.9	8.6	4.3	49.5	8.5
LnGrp LOS	D	C	A	A	D	A
Approach Vol, veh/h	923		1794			1399
Approach Delay, s/veh	40.5		8.5			14.7
Approach LOS	D		A			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.0		29.0	18.4	42.6
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		56.4		23.1	18.0	32.7
Max Q Clear Time (g_c+I1), s		12.2		25.1	12.4	17.2
Green Ext Time (p_c), s		11.5		0.0	0.3	11.0

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	199	17	44	711	24	26	23	22	29	23	101
Future Volume (veh/h)	21	199	17	44	711	24	26	23	22	29	23	101
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	23	216	18	48	773	26	28	25	24	32	25	110
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	125	1062	84	105	1210	40	138	110	75	100	48	148
Arrive On Green	0.71	0.71	0.71	0.94	0.94	0.94	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	84	1499	119	58	1709	56	400	783	536	204	343	1056
Grp Volume(v), veh/h	257	0	0	847	0	0	77	0	0	167	0	0
Grp Sat Flow(s),veh/h/ln	1702	0	0	1823	0	0	1720	0	0	1603	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.0	0.0	0.0	2.3	0.0	0.0	5.9	0.0	0.0
Prop In Lane	0.09		0.07	0.06		0.03	0.36		0.31	0.19		0.66
Lane Grp Cap(c), veh/h	1271	0	0	1355	0	0	323	0	0	296	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.63	0.00	0.00	0.24	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1271	0	0	1355	0	0	565	0	0	547	0	0
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)	0.77	0.00	0.00	0.44	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.0	0.0	0.0	0.6	0.0	0.0	23.2	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.2	0.0	0.0	1.3	0.0	0.0	1.7	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.2	0.0	0.0	1.6	0.0	0.0	23.6	0.0	0.0	26.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		257			847			77			167	
Approach Delay, s/veh		3.2			1.6			23.6			26.4	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.9	13.1	46.9	13.1
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	6.0	7.9	4.8	4.3
Green Ext Time (p_c), s	7.4	0.6	1.7	0.3

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	231	25	99	613	10	64	107	90	15	179	80
Future Volume (veh/h)	9	231	25	99	613	10	64	107	90	15	179	80
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	10	251	27	108	666	11	70	116	98	16	195	87
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	72	899	94	169	850	14	161	242	173	75	367	156
Arrive On Green	0.18	0.18	0.18	0.55	0.55	0.55	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	18	1625	170	181	1537	24	284	792	567	39	1203	512
Grp Volume(v), veh/h	288	0	0	785	0	0	284	0	0	298	0	0
Grp Sat Flow(s),veh/h/ln	1813	0	0	1742	0	0	1643	0	0	1755	0	0
Q Serve(g_s), s	0.0	0.0	0.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	0.0	21.5	0.0	0.0	7.9	0.0	0.0	8.4	0.0	0.0
Prop In Lane	0.03		0.09	0.14		0.01	0.25		0.35	0.05		0.29
Lane Grp Cap(c), veh/h	1065	0	0	1032	0	0	576	0	0	598	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.76	0.00	0.00	0.49	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1065	0	0	1032	0	0	576	0	0	598	0	0
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)	0.99	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.3	0.0	0.0	10.6	0.0	0.0	17.3	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	5.3	0.0	0.0	3.0	0.0	0.0	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.5	0.0	0.0	10.7	0.0	0.0	5.3	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	0.0	15.9	0.0	0.0	20.3	0.0	0.0	20.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		288			785			284			298	
Approach Delay, s/veh		14.9			15.9			20.3			20.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	37.4	22.6	37.4	22.6
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	23.5	10.4	10.1	9.9
Green Ext Time (p_c), s	4.0	1.1	1.7	1.1

Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	734	156	152	1369	85	256	1365	137	68	850	286
Future Volume (veh/h)	205	734	156	152	1369	85	256	1365	137	68	850	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	798	170	165	1488	92	278	1484	149	74	924	311
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1356	287	324	1508	93	319	1639	165	178	1012	340
Arrive On Green	0.10	0.32	0.32	0.08	0.31	0.31	0.13	0.35	0.35	0.05	0.27	0.27
Sat Flow, veh/h	1781	4222	892	1781	4916	304	1781	4716	473	1781	3778	1268
Grp Volume(v), veh/h	223	642	326	165	1030	550	278	1071	562	74	832	403
Grp Sat Flow(s),veh/h/ln	1781	1702	1710	1781	1702	1816	1781	1702	1785	1781	1702	1642
Q Serve(g_s), s	7.7	14.2	14.4	5.6	27.1	27.1	9.7	27.0	27.0	2.7	21.3	21.4
Cycle Q Clear(g_c), s	7.7	14.2	14.4	5.6	27.1	27.1	9.7	27.0	27.0	2.7	21.3	21.4
Prop In Lane	1.00		0.52	1.00		0.17	1.00		0.27	1.00		0.77
Lane Grp Cap(c), veh/h	258	1093	549	324	1044	557	319	1183	621	178	912	440
V/C Ratio(X)	0.86	0.59	0.59	0.51	0.99	0.99	0.87	0.91	0.91	0.42	0.91	0.92
Avail Cap(c_a), veh/h	258	1093	549	389	1044	557	319	1183	621	196	912	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	25.6	25.6	19.7	31.0	31.0	21.9	27.9	28.0	24.9	31.9	32.0
Incr Delay (d2), s/veh	24.9	0.8	1.7	0.9	20.2	28.6	22.1	11.4	19.2	1.5	15.0	26.3
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(85%),veh/ln	7.1	8.2	8.5	3.6	16.8	19.3	8.3	16.0	18.3	2.1	13.7	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	26.4	27.3	20.6	51.2	59.7	43.9	39.4	47.1	26.4	46.9	58.2
LnGrp LOS	D	C	C	C	D	E	D	D	D	C	D	E
Approach Vol, veh/h		1191			1745			1911			1309	
Approach Delay, s/veh		30.6			51.0			42.3			49.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	35.8	12.1	33.4	15.9	28.6	13.4	32.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	30.4	10.9	25.6	11.4	24.1	8.9	27.6
Max Q Clear Time (g_c+I1), s	4.7	29.0	7.6	16.4	11.7	23.4	9.7	29.1
Green Ext Time (p_c), s	0.0	1.2	0.1	4.3	0.0	0.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	749	164	41	1088	214	373	1231	79	221	708	387
Future Volume (veh/h)	99	749	164	41	1088	214	373	1231	79	221	708	387
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	814	178	45	1183	233	405	1338	0	240	770	0
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	110	1564	340	185	1594	314	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	379	4199	911	568	4280	843	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	108	659	333	45	941	475	405	1338	0	240	770	0
Grp Sat Flow(s),veh/h/ln	379	1702	1706	568	1702	1719	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	15.9	18.1	18.3	8.1	28.8	28.8	13.4	30.2	0.0	7.5	15.1	0.0
Cycle Q Clear(g_c), s	44.7	18.1	18.3	26.3	28.8	28.8	13.4	30.2	0.0	7.5	15.1	0.0
Prop In Lane	1.00		0.53	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	110	1268	636	185	1268	640	547	1489		547	1489	
V/C Ratio(X)	0.98	0.52	0.52	0.24	0.74	0.74	0.74	0.90		0.44	0.52	
Avail Cap(c_a), veh/h	110	1268	636	185	1268	640	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.61	0.61	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.3	29.3	29.4	39.6	32.6	32.6	48.1	40.8	0.0	45.7	35.5	0.0
Incr Delay (d2), s/veh	68.2	1.1	2.3	3.1	3.9	7.6	3.3	5.8	0.0	0.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	7.4	10.0	10.4	2.3	16.1	16.9	8.0	16.3	0.0	5.2	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.5	30.4	31.6	42.7	36.6	40.2	51.4	46.6	0.0	46.2	35.9	0.0
LnGrp LOS	F	C	C	D	D	D	D	D		D	D	
Approach Vol, veh/h		1100			1461			1743	A		1010	A
Approach Delay, s/veh		40.0			38.0			47.7			38.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	19.5	32.2		30.8	15.4	17.1		46.7
Green Ext Time (p_c), s	0.5	2.5		11.6	0.5	6.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	934	16	10	1089	66	2	1	0	73	13	182
Future Volume (veh/h)	53	934	16	10	1089	66	2	1	0	73	13	182
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	58	1015	17	11	1184	72	2	1	0	79	14	198
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	302	2372	1058	372	2372	1058	198	86	0	127	32	230
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.22	0.22	0.00	0.22	0.22	0.22
Sat Flow, veh/h	442	3554	1585	547	3554	1585	607	400	0	351	150	1066
Grp Volume(v), veh/h	58	1015	17	11	1184	72	3	0	0	291	0	0
Grp Sat Flow(s),veh/h/ln	442	1777	1585	547	1777	1585	1007	0	0	1566	0	0
Q Serve(g_s), s	6.8	12.0	0.3	0.9	15.0	1.4	0.0	0.0	0.0	12.9	0.0	0.0
Cycle Q Clear(g_c), s	21.7	12.0	0.3	12.8	15.0	1.4	0.1	0.0	0.0	16.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.67		0.00	0.27		0.68
Lane Grp Cap(c), veh/h	302	2372	1058	372	2372	1058	284	0	0	389	0	0
V/C Ratio(X)	0.19	0.43	0.02	0.03	0.50	0.07	0.01	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	302	2372	1058	372	2372	1058	444	0	0	574	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.9	7.0	5.0	10.0	7.5	5.2	27.7	0.0	0.0	33.9	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.6	0.0	0.1	0.8	0.1	0.0	0.0	0.0	3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.4	6.1	0.2	0.2	7.4	0.8	0.1	0.0	0.0	8.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	7.5	5.1	10.1	8.2	5.3	27.7	0.0	0.0	36.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1090			1267			3			291	
Approach Delay, s/veh		7.9			8.1			27.7			36.9	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.8	25.2	64.8	25.2
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 49	* 30	* 49	* 30
Max Q Clear Time (g_c+I1), s	17.0	18.1	23.7	2.1
Green Ext Time (p_c), s	19.8	1.4	16.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	66	689	92	80	1615	122	217	549	19	102	516	1
Future Volume (vph)	66	689	92	80	1615	122	217	549	19	102	516	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.99			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	4995		1770	5032			3478			3509	
Flt Permitted	0.09	1.00		0.29	1.00			0.59			0.57	
Satd. Flow (perm)	162	4995		543	5032			2088			2012	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	749	100	87	1755	133	236	597	21	111	561	1
RTOR Reduction (vph)	0	16	0	0	8	0	0	2	0	0	0	0
Lane Group Flow (vph)	72	833	0	87	1880	0	0	852	0	0	673	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Effective Green, g (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.37			0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	82	2553		277	2571			765			737	
v/s Ratio Prot		0.17			0.37							
v/s Ratio Perm	c0.44			0.16				c0.41			0.33	
v/c Ratio	0.88	0.33		0.31	0.73			1.15dl			0.91	
Uniform Delay, d1	19.5	12.9		12.8	17.2			28.5			27.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	69.7	0.3		2.9	1.9			68.5			15.7	
Delay (s)	89.2	13.3		15.8	19.1			97.0			42.8	
Level of Service	F	B		B	B			F			D	
Approach Delay (s)		19.2			18.9			97.0			42.8	
Approach LOS		B			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	94	28	27	0	0
Future Vol, veh/h	0	94	28	27	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	102	30	29	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	45	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	1025	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1025	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	8.9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	1025
HCM Lane V/C Ratio	-	-	0.1
HCM Control Delay (s)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	7	20	10	66	27	1	31	9	6	55	20
Future Vol, veh/h	4	7	20	10	66	27	1	31	9	6	55	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	8	22	11	72	29	1	34	10	7	60	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	177	131	71	141	137	39	82	0	0	44	0	0
Stage 1	85	85	-	41	41	-	-	-	-	-	-	-
Stage 2	92	46	-	100	96	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	785	760	991	829	754	1033	1515	-	-	1564	-	-
Stage 1	923	824	-	974	861	-	-	-	-	-	-	-
Stage 2	915	857	-	906	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	703	755	991	801	749	1033	1515	-	-	1564	-	-
Mov Cap-2 Maneuver	703	755	-	801	749	-	-	-	-	-	-	-
Stage 1	922	820	-	973	860	-	-	-	-	-	-	-
Stage 2	814	856	-	874	811	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	10.1	0.2	0.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	882	813	1564	-	-
HCM Lane V/C Ratio	0.001	-	-	0.038	0.138	0.004	-	-
HCM Control Delay (s)	7.4	0	-	9.2	10.1	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0	-	-

HCM 6th Signalized Intersection Summary
1: San Vicente Blvd & 6th St

02/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	173	214	917	95	277	1555
Future Volume (veh/h)	173	214	917	95	277	1555
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	233	997	103	301	1690
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	261	539	2451	761	344	3762
Arrive On Green	0.15	0.15	0.96	0.96	0.19	0.74
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	188	233	997	103	301	1690
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	9.1	10.2	1.1	0.3	14.8	11.7
Cycle Q Clear(g_c), s	9.1	10.2	1.1	0.3	14.8	11.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	261	539	2451	761	344	3762
V/C Ratio(X)	0.72	0.43	0.41	0.14	0.87	0.45
Avail Cap(c_a), veh/h	418	678	2451	761	521	3762
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	23.0	1.0	0.9	35.2	4.7
Incr Delay (d2), s/veh	3.6	0.5	0.5	0.4	10.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	6.2	12.9	0.7	0.3	10.1	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.2	23.5	1.5	1.3	45.6	5.1
LnGrp LOS	D	C	A	A	D	A
Approach Vol, veh/h	421		1100			1991
Approach Delay, s/veh	31.0		1.4			11.2
Approach LOS	C		A			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		70.9		19.1	23.1	47.8
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		58.4		21.1	26.3	26.4
Max Q Clear Time (g_c+I1), s		13.7		12.2	16.8	3.1
Green Ext Time (p_c), s		19.7		1.0	0.6	8.0

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	353	16	20	300	28	30	40	55	24	28	52
Future Volume (veh/h)	36	353	16	20	300	28	30	40	55	24	28	52
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	39	384	17	22	326	30	33	43	60	26	30	57
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	132	1190	51	98	1182	105	109	74	86	105	66	99
Arrive On Green	0.73	0.73	0.73	0.73	0.73	0.73	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	91	1623	69	47	1612	143	299	646	746	270	576	862
Grp Volume(v), veh/h	440	0	0	378	0	0	136	0	0	113	0	0
Grp Sat Flow(s),veh/h/ln	1783	0	0	1802	0	0	1691	0	0	1708	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	4.1	0.0	0.0	4.5	0.0	0.0	3.6	0.0	0.0
Prop In Lane	0.09		0.04	0.06		0.08	0.24		0.44	0.23		0.50
Lane Grp Cap(c), veh/h	1373	0	0	1385	0	0	269	0	0	270	0	0
V/C Ratio(X)	0.32	0.00	0.00	0.27	0.00	0.00	0.51	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	1373	0	0	1385	0	0	596	0	0	594	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.00	0.00	0.85	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.8	0.0	0.0	2.7	0.0	0.0	25.5	0.0	0.0	25.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.4	0.0	0.0	1.5	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.9	0.0	0.0	1.6	0.0	0.0	3.3	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	0.0	0.0	3.1	0.0	0.0	26.9	0.0	0.0	26.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		440			378			136			113	
Approach Delay, s/veh		3.3			3.1			26.9			26.2	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	48.4	11.6	48.4	11.6
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 32	* 19	* 32	* 19
Max Q Clear Time (g_c+I1), s	6.1	5.6	7.0	6.5
Green Ext Time (p_c), s	2.5	0.4	3.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	350	26	46	306	22	17	236	123	11	86	24
Future Volume (veh/h)	61	350	26	46	306	22	17	236	123	11	86	24
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	66	380	28	50	333	24	18	257	134	12	93	26
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	142	700	49	126	721	49	75	437	219	90	511	133
Arrive On Green	0.95	0.95	0.95	0.48	0.48	0.48	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	155	1468	102	124	1512	103	32	1146	574	65	1338	347
Grp Volume(v), veh/h	474	0	0	407	0	0	409	0	0	131	0	0
Grp Sat Flow(s),veh/h/ln	1724	0	0	1739	0	0	1752	0	0	1751	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	8.9	0.0	0.0	11.2	0.0	0.0	2.9	0.0	0.0
Prop In Lane	0.14		0.06	0.12		0.06	0.04		0.33	0.09		0.20
Lane Grp Cap(c), veh/h	890	0	0	896	0	0	731	0	0	734	0	0
V/C Ratio(X)	0.53	0.00	0.00	0.45	0.00	0.00	0.56	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	890	0	0	896	0	0	731	0	0	734	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.8	0.0	0.0	10.5	0.0	0.0	14.9	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	1.7	0.0	0.0	3.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.4	0.0	0.0	5.4	0.0	0.0	6.8	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.9	0.0	0.0	12.2	0.0	0.0	18.0	0.0	0.0	12.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		474			407			409			131	
Approach Delay, s/veh		2.9			12.2			18.0			12.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	32.8	27.2	32.8	27.2
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 29	* 23	* 29	* 23
Max Q Clear Time (g_c+I1), s	10.9	4.9	3.5	13.2
Green Ext Time (p_c), s	2.5	0.6	3.4	1.8

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	1189	157	203	847	97	175	1288	116	182	1167	173
Future Volume (veh/h)	330	1189	157	203	847	97	175	1288	116	182	1167	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	1292	171	221	921	105	190	1400	126	198	1268	188
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	1353	179	267	1064	121	250	1494	134	248	1422	211
Arrive On Green	0.17	0.30	0.30	0.10	0.23	0.23	0.09	0.31	0.31	0.09	0.32	0.32
Sat Flow, veh/h	1781	4562	604	1781	4651	528	1781	4768	429	1781	4489	666
Grp Volume(v), veh/h	359	964	499	221	673	353	190	999	527	198	962	494
Grp Sat Flow(s),veh/h/ln	1781	1702	1762	1781	1702	1775	1781	1702	1793	1781	1702	1751
Q Serve(g_s), s	13.2	25.0	25.0	8.5	17.1	17.2	6.5	25.7	25.7	6.7	24.2	24.2
Cycle Q Clear(g_c), s	13.2	25.0	25.0	8.5	17.1	17.2	6.5	25.7	25.7	6.7	24.2	24.2
Prop In Lane	1.00		0.34	1.00		0.30	1.00		0.24	1.00		0.38
Lane Grp Cap(c), veh/h	402	1010	523	267	778	406	250	1067	562	248	1078	554
V/C Ratio(X)	0.89	0.95	0.95	0.83	0.86	0.87	0.76	0.94	0.94	0.80	0.89	0.89
Avail Cap(c_a), veh/h	407	1010	523	267	778	406	250	1067	562	248	1078	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	31.1	31.1	25.4	33.4	33.4	22.4	30.0	30.0	22.4	29.3	29.3
Incr Delay (d2), s/veh	21.2	18.4	28.2	16.8	8.8	15.8	12.8	16.0	25.2	16.7	11.2	19.2
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(85%),veh/ln	10.4	16.1	18.3	6.8	10.5	11.9	5.4	16.1	18.5	5.9	14.7	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	49.4	59.3	42.2	42.1	49.2	35.2	46.1	55.3	39.1	40.5	48.5
LnGrp LOS	D	D	E	D	D	D	D	D	E	D	D	D
Approach Vol, veh/h		1822			1247			1716			1654	
Approach Delay, s/veh		50.8			44.2			47.7			42.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	32.7	13.6	31.2	12.2	33.0	19.7	25.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	28.2	9.1	26.7	7.7	28.5	15.5	20.3
Max Q Clear Time (g_c+I1), s	10.7	27.7	10.5	27.0	8.5	26.2	15.2	19.2
Green Ext Time (p_c), s	0.0	0.4	0.0	0.0	0.0	1.8	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	1054	291	81	677	239	310	722	26	248	1318	156
Future Volume (veh/h)	107	1054	291	81	677	239	310	722	26	248	1318	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	1146	316	88	736	260	337	785	0	270	1433	0
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	182	1482	409	103	1391	486	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	565	3980	1097	363	3735	1304	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	116	980	482	88	670	326	337	785	0	270	1433	0
Grp Sat Flow(s),veh/h/ln	565	1702	1673	363	1702	1636	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	24.3	30.5	30.5	14.2	18.5	18.7	10.9	15.4	0.0	8.6	33.2	0.0
Cycle Q Clear(g_c), s	43.0	30.5	30.5	44.7	18.5	18.7	10.9	15.4	0.0	8.6	33.2	0.0
Prop In Lane	1.00		0.66	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	1268	623	103	1268	609	547	1489		547	1489	
V/C Ratio(X)	0.64	0.77	0.77	0.85	0.53	0.54	0.62	0.53		0.49	0.96	
Avail Cap(c_a), veh/h	182	1268	623	103	1268	609	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.19	0.19	0.19	1.00	1.00	1.00	0.96	0.96	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.4	33.2	33.2	56.5	29.4	29.5	47.1	35.6	0.0	46.1	41.8	0.0
Incr Delay (d2), s/veh	3.2	0.9	1.8	55.3	1.6	3.3	2.0	1.3	0.0	0.7	15.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.4	14.2	14.1	6.4	10.7	10.8	7.1	9.2	0.0	5.7	20.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	34.1	35.0	111.9	31.0	32.9	49.1	36.9	0.0	46.8	57.2	0.0
LnGrp LOS	D	C	D	F	C	C	D	D		D	E	
Approach Vol, veh/h		1578			1084			1122	A		1703	A
Approach Delay, s/veh		35.5			38.1			40.5			55.5	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	10.6	17.4		46.7	12.9	35.2		45.0
Green Ext Time (p_c), s	0.6	8.2		0.0	0.6	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1249	7	4	820	82	9	11	20	91	4	110
Future Volume (veh/h)	198	1249	7	4	820	82	9	11	20	91	4	110
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	1358	8	4	891	89	10	12	22	99	4	120
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	431	2521	1125	291	2521	1125	90	105	145	163	17	142
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	574	3554	1585	398	3554	1585	232	602	835	606	96	818
Grp Volume(v), veh/h	215	1358	8	4	891	89	44	0	0	223	0	0
Grp Sat Flow(s),veh/h/ln	574	1777	1585	398	1777	1585	1669	0	0	1519	0	0
Q Serve(g_s), s	20.9	16.2	0.1	0.4	8.7	1.6	0.0	0.0	0.0	10.8	0.0	0.0
Cycle Q Clear(g_c), s	29.6	16.2	0.1	16.6	8.7	1.6	2.0	0.0	0.0	12.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.50	0.44		0.54
Lane Grp Cap(c), veh/h	431	2521	1125	291	2521	1125	339	0	0	322	0	0
V/C Ratio(X)	0.50	0.54	0.01	0.01	0.35	0.08	0.13	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	431	2521	1125	291	2521	1125	519	0	0	493	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.8	6.1	3.8	10.1	5.1	4.0	31.5	0.0	0.0	35.8	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.8	0.0	0.1	0.4	0.1	0.2	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.6	7.4	0.1	0.1	4.5	0.8	1.5	0.0	0.0	7.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	7.0	3.8	10.1	5.5	4.2	31.7	0.0	0.0	38.5	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1581			984			44			223	
Approach Delay, s/veh		8.0			5.4			31.7			38.5	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.6	21.4	68.6	21.4
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 54	* 26	* 54	* 26
Max Q Clear Time (g_c+I1), s	18.6	14.7	31.6	4.0
Green Ext Time (p_c), s	15.2	1.0	18.7	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	253	1004	164	30	636	140	63	741	25	111	513	0
Future Volume (vph)	253	1004	164	30	636	140	63	741	25	111	513	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.97			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	4978		1770	4948			3510			3508	
Flt Permitted	0.30	1.00		0.16	1.00			0.76			0.54	
Satd. Flow (perm)	551	4978		303	4948			2672			1925	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	275	1091	178	33	691	152	68	805	27	121	558	0
RTOR Reduction (vph)	0	20	0	0	31	0	0	3	0	0	0	0
Lane Group Flow (vph)	275	1249	0	33	812	0	0	897	0	0	679	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	46.9	46.9		46.9	46.9			32.1			32.1	
Effective Green, g (s)	46.9	46.9		46.9	46.9			32.1			32.1	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.36			0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	287	2594		157	2578			953			686	
v/s Ratio Prot		0.25			0.16							
v/s Ratio Perm	c0.50			0.11				0.34			c0.35	
v/c Ratio	0.96	0.48		0.21	0.31			0.94			1.06dl	
Uniform Delay, d1	20.6	13.8		11.6	12.3			28.0			28.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	43.4	0.6		3.0	0.3			16.8			31.4	
Delay (s)	64.1	14.4		14.6	12.7			44.9			60.2	
Level of Service	E	B		B	B			D			E	
Approach Delay (s)		23.3			12.7			44.9			60.2	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	34	25	0	0
Future Vol, veh/h	0	32	34	25	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	37	27	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	51	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	1017	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	1017	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	8.7	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	1017
HCM Lane V/C Ratio	-	-	0.034
HCM Control Delay (s)	-	-	8.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	6	8	9	12	18	3	106	39	19	32	10
Future Vol, veh/h	7	6	8	9	12	18	3	106	39	19	32	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	7	9	10	13	20	3	115	42	21	35	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	242	246	41	233	230	136	46	0	0	157	0	0
Stage 1	83	83	-	142	142	-	-	-	-	-	-	-
Stage 2	159	163	-	91	88	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	712	656	1030	722	670	913	1562	-	-	1423	-	-
Stage 1	925	826	-	861	779	-	-	-	-	-	-	-
Stage 2	843	763	-	916	822	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	677	645	1030	701	659	913	1562	-	-	1423	-	-
Mov Cap-2 Maneuver	677	645	-	701	659	-	-	-	-	-	-	-
Stage 1	923	814	-	859	777	-	-	-	-	-	-	-
Stage 2	809	761	-	887	810	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	10	0.1	2.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1562	-	-	766	768	1423	-	-
HCM Lane V/C Ratio	0.002	-	-	0.03	0.055	0.015	-	-
HCM Control Delay (s)	7.3	0	-	9.8	10	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	422	465	1617	41	229	1093
Future Volume (veh/h)	422	465	1617	41	229	1093
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	459	505	1758	45	249	1188
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	459	664	2047	635	287	3194
Arrive On Green	0.26	0.26	0.80	0.80	0.16	0.63
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	459	505	1758	45	249	1188
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	23.2	23.2	19.7	0.5	12.3	10.2
Cycle Q Clear(g_c), s	23.2	23.2	19.7	0.5	12.3	10.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	459	664	2047	635	287	3194
V/C Ratio(X)	1.00	0.76	0.86	0.07	0.87	0.37
Avail Cap(c_a), veh/h	459	664	2047	635	356	3194
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	22.3	7.3	5.4	36.8	8.2
Incr Delay (d2), s/veh	34.5	3.5	5.0	0.2	16.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	17.3	24.5	5.6	0.4	9.2	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.9	25.8	12.3	5.6	53.5	8.6
LnGrp LOS	E	C	B	A	D	A
Approach Vol, veh/h	964		1803			1437
Approach Delay, s/veh	45.9		12.1			16.4
Approach LOS	D		B			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.9		29.1	20.2	40.7
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		56.3		23.2	18.0	32.6
Max Q Clear Time (g_c+I1), s		12.2		25.2	14.3	21.7
Green Ext Time (p_c), s		11.5		0.0	0.3	8.3

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	199	52	72	711	24	64	24	33	29	28	101
Future Volume (veh/h)	21	199	52	72	711	24	64	24	33	29	28	101
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	23	216	57	78	773	26	70	26	36	32	30	110
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	112	921	231	141	1153	38	191	64	61	100	55	149
Arrive On Green	0.71	0.71	0.71	0.94	0.94	0.94	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	67	1301	326	107	1627	53	712	458	439	209	390	1063
Grp Volume(v), veh/h	296	0	0	877	0	0	132	0	0	172	0	0
Grp Sat Flow(s),veh/h/ln	1694	0	0	1787	0	0	1609	0	0	1662	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	4.4	0.0	0.0	4.3	0.0	0.0	5.8	0.0	0.0
Prop In Lane	0.08		0.19	0.09		0.03	0.53		0.27	0.19		0.64
Lane Grp Cap(c), veh/h	1265	0	0	1331	0	0	317	0	0	304	0	0
V/C Ratio(X)	0.23	0.00	0.00	0.66	0.00	0.00	0.42	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	1265	0	0	1331	0	0	545	0	0	556	0	0
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)	0.69	0.00	0.00	0.37	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.0	0.0	0.0	0.6	0.0	0.0	24.0	0.0	0.0	24.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	0.0	0.0	0.9	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.4	0.0	0.0	1.3	0.0	0.0	3.1	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.3	0.0	0.0	1.6	0.0	0.0	24.9	0.0	0.0	26.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		296			877			132			172	
Approach Delay, s/veh		3.3			1.6			24.9			26.3	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	46.9	13.1	46.9	13.1
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	6.4	7.8	5.4	6.3
Green Ext Time (p_c), s	7.9	0.6	2.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	6.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	242	25	99	641	10	64	107	90	15	179	80
Future Volume (veh/h)	9	242	25	99	641	10	64	107	90	15	179	80
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	10	263	27	108	697	11	70	116	98	16	195	87
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	72	904	90	165	856	13	161	242	173	75	367	156
Arrive On Green	0.18	0.18	0.18	0.55	0.55	0.55	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	18	1633	163	175	1547	24	284	792	567	39	1203	512
Grp Volume(v), veh/h	300	0	0	816	0	0	284	0	0	298	0	0
Grp Sat Flow(s),veh/h/ln	1814	0	0	1745	0	0	1643	0	0	1755	0	0
Q Serve(g_s), s	0.0	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	23.1	0.0	0.0	7.9	0.0	0.0	8.4	0.0	0.0
Prop In Lane	0.03		0.09	0.13		0.01	0.25		0.35	0.05		0.29
Lane Grp Cap(c), veh/h	1066	0	0	1034	0	0	576	0	0	598	0	0
V/C Ratio(X)	0.28	0.00	0.00	0.79	0.00	0.00	0.49	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1066	0	0	1034	0	0	576	0	0	598	0	0
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)	0.98	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.4	0.0	0.0	10.9	0.0	0.0	17.3	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	6.1	0.0	0.0	3.0	0.0	0.0	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.7	0.0	0.0	11.6	0.0	0.0	5.3	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	0.0	0.0	17.1	0.0	0.0	20.3	0.0	0.0	20.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		300			816			284			298	
Approach Delay, s/veh		15.1			17.1			20.3			20.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	37.4	22.6	37.4	22.6
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 33	* 18	* 33	* 18
Max Q Clear Time (g_c+I1), s	25.1	10.4	10.4	9.9
Green Ext Time (p_c), s	3.7	1.1	1.8	1.1

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	757	156	161	1376	85	256	1365	167	84	850	286
Future Volume (veh/h)	205	757	156	161	1376	85	256	1365	167	84	850	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	223	823	170	175	1496	92	278	1484	182	91	924	311
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	1345	276	322	1503	92	323	1579	194	183	1004	337
Arrive On Green	0.10	0.32	0.32	0.09	0.31	0.31	0.13	0.34	0.34	0.05	0.27	0.27
Sat Flow, veh/h	1781	4246	871	1781	4918	302	1781	4608	565	1781	3778	1268
Grp Volume(v), veh/h	223	659	334	175	1035	553	278	1096	570	91	832	403
Grp Sat Flow(s),veh/h/ln	1781	1702	1714	1781	1702	1816	1781	1702	1769	1781	1702	1642
Q Serve(g_s), s	7.7	14.8	14.9	5.9	27.3	27.3	9.7	28.1	28.1	3.3	21.4	21.5
Cycle Q Clear(g_c), s	7.7	14.8	14.9	5.9	27.3	27.3	9.7	28.1	28.1	3.3	21.4	21.5
Prop In Lane	1.00		0.51	1.00		0.17	1.00		0.32	1.00		0.77
Lane Grp Cap(c), veh/h	257	1078	543	322	1040	555	323	1167	606	183	905	436
V/C Ratio(X)	0.87	0.61	0.62	0.54	1.00	1.00	0.86	0.94	0.94	0.50	0.92	0.92
Avail Cap(c_a), veh/h	257	1078	543	346	1040	555	324	1167	606	190	905	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	26.1	26.1	19.9	31.2	31.2	21.8	28.7	28.7	25.1	32.1	32.1
Incr Delay (d2), s/veh	25.7	1.0	2.1	1.0	21.9	30.4	20.1	15.3	24.5	2.1	15.9	27.5
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(85%),veh/ln	7.2	8.5	8.8	3.8	17.1	19.6	8.1	17.2	19.6	2.6	13.9	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	27.1	28.2	20.9	53.1	61.6	41.8	44.0	53.2	27.1	48.0	59.6
LnGrp LOS	D	C	C	C	D	E	D	D	D	C	D	E
Approach Vol, veh/h		1216			1763			1944			1326	
Approach Delay, s/veh		31.2			52.6			46.4			50.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	35.3	12.4	33.0	16.2	28.4	13.4	32.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	30.5	9.1	27.3	11.7	23.9	8.9	27.5
Max Q Clear Time (g_c+I1), s	5.3	30.1	7.9	16.9	11.7	23.5	9.7	29.3
Green Ext Time (p_c), s	0.0	0.3	0.1	4.8	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	749	164	41	1088	244	373	1282	79	221	722	403
Future Volume (veh/h)	169	749	164	41	1088	244	373	1282	79	221	722	403
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	184	814	178	45	1183	265	405	1393	0	240	785	0
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	106	1564	340	185	1554	348	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	368	4199	911	568	4172	934	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	184	659	333	45	965	483	405	1393	0	240	785	0
Grp Sat Flow(s),veh/h/ln	368	1702	1706	568	1702	1702	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	14.9	18.1	18.3	8.1	29.8	29.8	13.4	31.9	0.0	7.5	15.4	0.0
Cycle Q Clear(g_c), s	44.7	18.1	18.3	26.3	29.8	29.8	13.4	31.9	0.0	7.5	15.4	0.0
Prop In Lane	1.00		0.53	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	106	1268	636	185	1268	634	547	1489		547	1489	
V/C Ratio(X)	1.74	0.52	0.52	0.24	0.76	0.76	0.74	0.94		0.44	0.53	
Avail Cap(c_a), veh/h	106	1268	636	185	1268	634	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	0.58	0.58	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.8	29.3	29.4	39.6	33.0	33.0	48.1	41.4	0.0	45.7	35.6	0.0
Incr Delay (d2), s/veh	360.8	1.1	2.3	3.1	4.3	8.4	3.1	8.0	0.0	0.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	21.8	10.0	10.4	2.3	16.6	17.4	8.0	17.3	0.0	5.2	9.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	417.6	30.4	31.6	42.7	37.3	41.4	51.3	49.4	0.0	46.2	36.0	0.0
LnGrp LOS	F	C	C	D	D	D	D	D		D	D	
Approach Vol, veh/h		1176			1493			1798	A		1025	A
Approach Delay, s/veh		91.3			38.8			49.8			38.4	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	19.5	33.9		31.8	15.4	17.4		46.7
Green Ext Time (p_c), s	0.5	1.0		11.0	0.5	6.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	934	16	10	1131	66	2	1	0	79	13	182
Future Volume (veh/h)	53	934	16	10	1131	66	2	1	0	79	13	182
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	58	1015	17	11	1229	72	2	1	0	86	14	198
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	285	2354	1050	368	2354	1050	202	88	0	135	32	229
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.22	0.22	0.00	0.22	0.22	0.22
Sat Flow, veh/h	423	3554	1585	547	3554	1585	613	400	0	379	145	1038
Grp Volume(v), veh/h	58	1015	17	11	1229	72	3	0	0	298	0	0
Grp Sat Flow(s),veh/h/ln	423	1777	1585	547	1777	1585	1013	0	0	1562	0	0
Q Serve(g_s), s	7.4	12.1	0.3	0.9	16.1	1.4	0.0	0.0	0.0	13.5	0.0	0.0
Cycle Q Clear(g_c), s	23.4	12.1	0.3	13.0	16.1	1.4	0.1	0.0	0.0	16.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.67		0.00	0.29		0.66
Lane Grp Cap(c), veh/h	285	2354	1050	368	2354	1050	290	0	0	397	0	0
V/C Ratio(X)	0.20	0.43	0.02	0.03	0.52	0.07	0.01	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	285	2354	1050	368	2354	1050	444	0	0	573	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	7.2	5.2	10.3	7.8	5.4	27.4	0.0	0.0	33.6	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.6	0.0	0.2	0.8	0.1	0.0	0.0	0.0	3.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	1.4	6.2	0.2	0.2	7.9	0.8	0.1	0.0	0.0	9.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	7.8	5.2	10.4	8.7	5.5	27.4	0.0	0.0	36.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1090			1312			3			298	
Approach Delay, s/veh		8.1			8.5			27.4			36.9	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.3	25.7	64.3	25.7
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 49	* 30	* 49	* 30
Max Q Clear Time (g_c+I1), s	18.1	18.5	25.4	2.1
Green Ext Time (p_c), s	20.1	1.4	15.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	66	703	92	80	1662	122	222	549	19	102	517	1
Future Volume (vph)	66	703	92	80	1662	122	222	549	19	102	517	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.99			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	4997		1770	5033			3477			3510	
Flt Permitted	0.09	1.00		0.29	1.00			0.59			0.57	
Satd. Flow (perm)	162	4997		532	5033			2082			2006	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	764	100	87	1807	133	241	597	21	111	562	1
RTOR Reduction (vph)	0	15	0	0	7	0	0	2	0	0	0	0
Lane Group Flow (vph)	72	849	0	87	1933	0	0	857	0	0	674	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Effective Green, g (s)	46.0	46.0		46.0	46.0			33.0			33.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.37			0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	82	2554		271	2572			763			735	
v/s Ratio Prot		0.17			0.38							
v/s Ratio Perm	c0.44			0.16				c0.41			0.34	
v/c Ratio	0.88	0.33		0.32	0.75			1.17dl			0.92	
Uniform Delay, d1	19.5	13.0		12.9	17.5			28.5			27.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	69.7	0.4		3.1	2.1			72.0			16.2	
Delay (s)	89.2	13.3		16.0	19.5			100.5			43.4	
Level of Service	F	B		B	B			F			D	
Approach Delay (s)		19.1			19.4			100.5			43.4	
Approach LOS		B			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	94	36	119	0	0
Future Vol, veh/h	0	94	36	119	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	102	39	129	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	104	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	951	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	951	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	951
HCM Lane V/C Ratio	-	-	0.107
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.4

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	54	19	20	10	68	27	13	31	9	6	84	59
Future Vol, veh/h	54	19	20	10	68	27	13	31	9	6	84	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	21	22	11	74	29	14	34	10	7	91	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	256	209	123	226	236	39	155	0	0	44	0	0
Stage 1	137	137	-	67	67	-	-	-	-	-	-	-
Stage 2	119	72	-	159	169	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	697	688	928	729	665	1033	1425	-	-	1564	-	-
Stage 1	866	783	-	943	839	-	-	-	-	-	-	-
Stage 2	885	835	-	843	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	612	678	928	687	655	1033	1425	-	-	1564	-	-
Mov Cap-2 Maneuver	612	678	-	687	655	-	-	-	-	-	-	-
Stage 1	857	779	-	934	831	-	-	-	-	-	-	-
Stage 2	776	827	-	797	755	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	10.9	1.9	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1425	-	-	675	727	1564	-	-
HCM Lane V/C Ratio	0.01	-	-	0.15	0.157	0.004	-	-
HCM Control Delay (s)	7.6	0	-	11.3	10.9	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.6	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	76	62	94	0	43
Future Vol, veh/h	65	76	62	94	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	83	67	102	0	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	154	0	349	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1426	-	648	940
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	803	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	616	940
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	940	-	-	1426	-
HCM Lane V/C Ratio	0.05	-	-	0.047	-
HCM Control Delay (s)	9	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	43	131	138	0	0
Future Vol, veh/h	0	43	131	138	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	142	150	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	217	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	823	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	823	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.6	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	823
HCM Lane V/C Ratio	-	-	0.057
HCM Control Delay (s)	-	-	9.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

HCM 6th Signalized Intersection Summary
1: San Vicente Blvd & 6th St

04/13/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	289	244	947	95	294	1555
Future Volume (veh/h)	289	244	947	95	294	1555
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	314	265	1029	103	320	1690
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	366	647	2101	652	361	3461
Arrive On Green	0.21	0.21	0.82	0.82	0.20	0.68
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	314	265	1029	103	320	1690
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	15.3	10.7	5.4	1.2	15.7	14.3
Cycle Q Clear(g_c), s	15.3	10.7	5.4	1.2	15.7	14.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	366	647	2101	652	361	3461
V/C Ratio(X)	0.86	0.41	0.49	0.16	0.89	0.49
Avail Cap(c_a), veh/h	477	746	2101	652	481	3461
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	18.9	5.2	4.8	34.9	7.0
Incr Delay (d2), s/veh	10.7	0.4	0.8	0.5	14.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	10.3	13.8	2.6	0.8	11.0	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.2	19.3	6.0	5.3	49.2	7.5
LnGrp LOS	D	B	A	A	D	A
Approach Vol, veh/h	579		1132			2010
Approach Delay, s/veh	33.3		5.9			14.1
Approach LOS	C		A			B

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.6		24.4	24.0	41.6
Change Period (Y+Rc), s		4.6		5.9	5.7	4.6
Max Green Setting (Gmax), s		55.4		24.1	24.3	25.4
Max Q Clear Time (g_c+I1), s		16.3		17.3	17.7	7.4
Green Ext Time (p_c), s		18.6		1.2	0.6	7.4

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	353	33	34	300	28	175	45	98	24	30	52
Future Volume (veh/h)	36	353	33	34	300	28	175	45	98	24	30	52
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	39	384	36	37	326	30	190	49	107	26	33	57
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	111	903	81	116	892	78	306	70	127	137	168	223
Arrive On Green	0.58	0.58	0.58	0.19	0.19	0.19	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	79	1562	140	87	1543	135	789	260	469	233	622	826
Grp Volume(v), veh/h	459	0	0	393	0	0	346	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	1780	0	0	1765	0	0	1518	0	0	1681	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	0.0	11.1	0.0	0.0	12.7	0.0	0.0	3.2	0.0	0.0
Prop In Lane	0.08		0.08	0.09		0.08	0.55		0.31	0.22		0.49
Lane Grp Cap(c), veh/h	1094	0	0	1086	0	0	503	0	0	528	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.36	0.00	0.00	0.69	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1094	0	0	1086	0	0	698	0	0	737	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.00	0.00	0.87	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	14.7	0.0	0.0	20.4	0.0	0.0	17.1	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.8	0.0	0.0	1.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	4.3	0.0	0.0	7.8	0.0	0.0	6.5	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	0.0	0.0	15.6	0.0	0.0	22.0	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		459			393			346			116	
Approach Delay, s/veh		8.0			15.6			22.0			17.3	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	39.1	20.9	39.1	20.9
Change Period (Y+Rc), s	* 4.4	* 4.7	* 4.4	* 4.7
Max Green Setting (Gmax), s	* 27	* 24	* 27	* 24
Max Q Clear Time (g_c+I1), s	13.1	5.2	10.4	14.7
Green Ext Time (p_c), s	2.1	0.6	2.7	1.5

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	393	26	46	320	22	17	236	123	11	86	24
Future Volume (veh/h)	61	393	26	46	320	22	17	236	123	11	86	24
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	66	427	28	50	348	24	18	257	134	12	93	26
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	140	770	48	128	779	51	74	395	198	86	464	120
Arrive On Green	1.00	1.00	1.00	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	141	1500	93	118	1518	99	33	1145	574	61	1345	348
Grp Volume(v), veh/h	521	0	0	422	0	0	409	0	0	131	0	0
Grp Sat Flow(s),veh/h/ln	1734	0	0	1735	0	0	1752	0	0	1754	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	8.6	0.0	0.0	11.8	0.0	0.0	3.1	0.0	0.0
Prop In Lane	0.13		0.05	0.12		0.06	0.04		0.33	0.09		0.20
Lane Grp Cap(c), veh/h	958	0	0	958	0	0	667	0	0	671	0	0
V/C Ratio(X)	0.54	0.00	0.00	0.44	0.00	0.00	0.61	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	958	0	0	958	0	0	667	0	0	671	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	9.2	0.0	0.0	16.7	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	1.5	0.0	0.0	4.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	0.9	0.0	0.0	5.1	0.0	0.0	7.4	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.9	0.0	0.0	10.7	0.0	0.0	20.9	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		521			422			409			131	
Approach Delay, s/veh		1.9			10.7			20.9			14.5	
Approach LOS		A			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.2	* 4.3	* 4.2	* 4.3
Max Green Setting (Gmax), s	* 31	* 21	* 31	* 21
Max Q Clear Time (g_c+I1), s	10.6	5.1	2.0	13.8
Green Ext Time (p_c), s	2.7	0.6	3.9	1.4

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	1200	157	238	874	97	175	1288	131	190	1167	173
Future Volume (veh/h)	330	1200	157	238	874	97	175	1288	131	190	1167	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	1304	171	259	950	105	190	1400	142	207	1268	188
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	1304	171	282	1074	118	248	1466	149	247	1422	211
Arrive On Green	0.17	0.29	0.29	0.11	0.23	0.23	0.08	0.31	0.31	0.09	0.32	0.32
Sat Flow, veh/h	1781	4568	599	1781	4667	514	1781	4711	478	1781	4489	666
Grp Volume(v), veh/h	359	972	503	259	692	363	190	1012	530	207	962	494
Grp Sat Flow(s),veh/h/ln	1781	1702	1763	1781	1702	1778	1781	1702	1784	1781	1702	1751
Q Serve(g_s), s	13.2	25.7	25.7	10.1	17.7	17.8	6.5	26.2	26.2	7.1	24.2	24.2
Cycle Q Clear(g_c), s	13.2	25.7	25.7	10.1	17.7	17.8	6.5	26.2	26.2	7.1	24.2	24.2
Prop In Lane	1.00		0.34	1.00		0.29	1.00		0.27	1.00		0.38
Lane Grp Cap(c), veh/h	398	972	503	282	783	409	248	1059	555	247	1078	554
V/C Ratio(X)	0.90	1.00	1.00	0.92	0.88	0.89	0.77	0.96	0.96	0.84	0.89	0.89
Avail Cap(c_a), veh/h	404	972	503	282	783	409	248	1059	555	247	1078	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	32.1	32.1	25.1	33.5	33.5	22.6	30.4	30.4	22.6	29.3	29.3
Incr Delay (d2), s/veh	22.6	28.8	40.1	29.8	10.3	18.1	13.4	18.8	28.6	21.7	11.2	19.2
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(85%),veh/ln	10.6	18.0	20.3	8.9	11.0	12.5	5.5	16.8	19.3	6.5	14.7	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	61.0	72.2	54.9	43.8	51.6	36.0	49.2	59.0	44.3	40.5	48.5
LnGrp LOS	D	E	E	D	D	D	D	D	E	D	D	D
Approach Vol, veh/h		1834			1314			1732			1663	
Approach Delay, s/veh		60.8			48.1			50.7			43.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	32.5	14.7	30.2	12.1	33.0	19.7	25.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.1	28.0	10.2	25.7	7.6	28.5	15.5	20.4
Max Q Clear Time (g_c+I1), s	9.1	28.2	12.1	27.7	8.5	26.2	15.2	19.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	1054	291	81	677	254	310	747	26	248	1372	218
Future Volume (veh/h)	141	1054	291	81	677	254	310	747	26	248	1372	218
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	153	1146	316	88	736	276	337	812	0	270	1491	0
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	179	1482	409	103	1367	507	547	1489		547	1489	
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.16	0.29	0.00	0.16	0.29	0.00
Sat Flow, veh/h	557	3980	1097	363	3669	1360	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	153	980	482	88	682	330	337	812	0	270	1491	0
Grp Sat Flow(s),veh/h/ln	557	1702	1673	363	1702	1626	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	25.5	30.5	30.5	14.2	18.9	19.2	10.9	16.1	0.0	8.6	35.0	0.0
Cycle Q Clear(g_c), s	44.7	30.5	30.5	44.7	18.9	19.2	10.9	16.1	0.0	8.6	35.0	0.0
Prop In Lane	1.00		0.66	1.00		0.84	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	179	1268	623	103	1268	606	547	1489		547	1489	
V/C Ratio(X)	0.86	0.77	0.77	0.85	0.54	0.54	0.62	0.55		0.49	1.00	
Avail Cap(c_a), veh/h	179	1268	623	103	1268	606	547	1489		547	1489	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.95	0.95	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.1	33.2	33.2	56.5	29.5	29.6	47.1	35.8	0.0	46.1	42.5	0.0
Incr Delay (d2), s/veh	5.0	0.4	0.9	55.3	1.6	3.5	2.0	1.4	0.0	0.7	23.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.6	13.6	13.4	6.4	10.9	11.0	7.1	9.5	0.0	5.7	22.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	33.6	34.1	111.9	31.2	33.1	49.1	37.2	0.0	46.8	66.1	0.0
LnGrp LOS	E	C	C	F	C	C	D	D		D	F	
Approach Vol, veh/h		1615			1100			1149	A		1761	A
Approach Delay, s/veh		35.8			38.2			40.7			63.1	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	42.5		52.9	24.6	42.5		52.9
Change Period (Y+Rc), s	5.6	* 7.5		8.2	5.6	* 7.5		8.2
Max Green Setting (Gmax), s	19.0	* 35		44.7	19.0	* 35		44.7
Max Q Clear Time (g_c+I1), s	10.6	18.1		46.7	12.9	37.0		46.7
Green Ext Time (p_c), s	0.6	8.3		0.0	0.6	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	1249	7	4	840	82	9	11	20	113	4	110
Future Volume (veh/h)	198	1249	7	4	840	82	9	11	20	113	4	110
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	1358	8	4	913	89	10	12	22	123	4	120
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	410	2462	1098	280	2462	1098	95	112	158	194	14	140
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	562	3554	1585	398	3554	1585	239	590	829	701	74	733
Grp Volume(v), veh/h	215	1358	8	4	913	89	44	0	0	247	0	0
Grp Sat Flow(s),veh/h/ln	562	1777	1585	398	1777	1585	1658	0	0	1509	0	0
Q Serve(g_s), s	23.0	17.1	0.1	0.5	9.6	1.6	0.0	0.0	0.0	12.3	0.0	0.0
Cycle Q Clear(g_c), s	32.6	17.1	0.1	17.6	9.6	1.6	1.9	0.0	0.0	14.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.50	0.50		0.49
Lane Grp Cap(c), veh/h	410	2462	1098	280	2462	1098	365	0	0	348	0	0
V/C Ratio(X)	0.52	0.55	0.01	0.01	0.37	0.08	0.12	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	410	2462	1098	280	2462	1098	519	0	0	493	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.9	4.3	11.2	5.7	4.5	30.3	0.0	0.0	35.1	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.9	0.0	0.1	0.4	0.1	0.1	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(85%),veh/ln	5.0	8.0	0.1	0.1	4.9	0.9	1.4	0.0	0.0	7.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	7.8	4.3	11.3	6.1	4.6	30.4	0.0	0.0	37.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1581			1006			44			247	
Approach Delay, s/veh		9.0			6.0			30.4			37.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.0	23.0	67.0	23.0
Change Period (Y+Rc), s	* 4.7	* 5.8	* 4.7	* 5.8
Max Green Setting (Gmax), s	* 54	* 26	* 54	* 26
Max Q Clear Time (g_c+I1), s	19.6	16.2	34.6	3.9
Green Ext Time (p_c), s	15.4	1.0	16.5	0.2

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	253	1058	164	30	659	140	65	741	25	111	518	0
Future Volume (vph)	253	1058	164	30	659	140	65	741	25	111	518	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.98		1.00	0.97			1.00			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	4983		1770	4952			3510			3508	
Flt Permitted	0.29	1.00		0.15	1.00			0.75			0.54	
Satd. Flow (perm)	533	4983		277	4952			2632			1925	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	275	1150	178	33	716	152	71	805	27	121	563	0
RTOR Reduction (vph)	0	19	0	0	30	0	0	3	0	0	0	0
Lane Group Flow (vph)	275	1309	0	33	838	0	0	900	0	0	684	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		6			2		7	4		3	8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	46.8	46.8		46.8	46.8			32.2			32.2	
Effective Green, g (s)	46.8	46.8		46.8	46.8			32.2			32.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.36			0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	277	2591		144	2575			941			688	
v/s Ratio Prot		0.26			0.17							
v/s Ratio Perm	c0.52			0.12				0.34			c0.36	
v/c Ratio	0.99	0.51		0.23	0.33			0.96			1.07dl	
Uniform Delay, d1	21.4	14.1		11.8	12.5			28.2			28.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	52.3	0.7		3.7	0.3			19.5			32.7	
Delay (s)	73.7	14.8		15.4	12.8			47.7			61.5	
Level of Service	E	B		B	B			D			E	
Approach Delay (s)		24.9			12.9			47.7			61.5	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	64	161	0	0
Future Vol, veh/h	0	32	64	161	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	70	175	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	158	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	887	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	887	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	887
HCM Lane V/C Ratio	-	-	0.039
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	201	52	8	9	13	18	9	106	39	19	46	29
Future Vol, veh/h	201	52	8	9	13	18	9	106	39	19	46	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	218	57	9	10	14	20	10	115	42	21	50	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	281	285	66	297	280	136	82	0	0	157	0	0
Stage 1	108	108	-	156	156	-	-	-	-	-	-	-
Stage 2	173	177	-	141	124	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	671	624	998	655	628	913	1515	-	-	1423	-	-
Stage 1	897	806	-	846	769	-	-	-	-	-	-	-
Stage 2	829	753	-	862	793	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	634	610	998	593	614	913	1515	-	-	1423	-	-
Mov Cap-2 Maneuver	634	610	-	593	614	-	-	-	-	-	-	-
Stage 1	891	793	-	840	764	-	-	-	-	-	-	-
Stage 2	791	748	-	781	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	10.4	0.4	1.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	636	713	1423	-	-
HCM Lane V/C Ratio	0.006	-	-	0.446	0.061	0.015	-	-
HCM Control Delay (s)	7.4	0	-	15.1	10.4	7.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	37	31	34	0	156
Future Vol, veh/h	142	37	31	34	0	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	40	34	37	0	170

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	194	0	279	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1379	-	711	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	919	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1379	-	693	869
Mov Cap-2 Maneuver	-	-	-	-	693	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	869	-	-	1379	-
HCM Lane V/C Ratio	0.195	-	-	0.024	-
HCM Control Delay (s)	10.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	156	95	68	0	0
Future Vol, veh/h	0	156	95	68	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	170	103	74	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	140	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.22	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.318	-	-
Pot Cap-1 Maneuver	0	908	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	908	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	908
HCM Lane V/C Ratio	-	-	0.187
HCM Control Delay (s)	-	-	9.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.7

J-2 LADOT Correspondence Approving the Transportation Assessment

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

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

650-676 S. San Vicente Blvd
DOT Case #CEN20-49388

Date: December 9, 2020

To: Milena Zasadzien, Senior City Planner
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION STUDY ASSESSMENT FOR THE PROPOSED MIXED-USE MEDICAL OFFICE PROJECT AT 650-676 SOUTH SAN VICENTE BOULEVARD (CPC-2017-467-GPA-VZC-HD-SPR/ENV-2017-468-EIR/ VTT-74865)**

The Department of Transportation (DOT) has reviewed the transportation analyses prepared by Gibson Transportation Consulting Inc. (GTC), dated April 2020 and November 2020, for the proposed mixed-use project located in the Central Area Planning Commission at 656 South San Vicente Boulevard. In compliance with Senate Bill (SB) 743 and the California Environmental Quality Act (CEQA), a vehicle miles traveled (VMT) analysis is required to identify the project's ability to promote the reduction of green-house gas emissions, the access to diverse land-uses, and the development of multi-modal networks. The significance of a project's impact in this regard is measured against the VMT thresholds established in DOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The project proposes to construct a 140,305-square-foot medical office building, with an additional 4,000 square feet of restaurant use and 1,000 square feet of pharmacy use. The project will demolish an existing private school, an 8,225-square-foot sporting goods store and a surface parking lot at 650-676 South San Vicente Boulevard. The project site is bounded by Orange Street to the north, Sweetzer Avenue and an alley to the east, San Vicente Boulevard to the west, and Wilshire Boulevard to the south. There are four total driveways on site, as illustrated in **Attachment A.** Two driveways will be located on Orange Street – one of which will be a two-way driveway and provide access to employee parking and the other will be for truck loading, as geometric constraints prevent the adjacent alley from being used for truck access. The other two driveways will be located on the frontage street to San Vicente Boulevard, which will be a one-way ingress driveway and a one-way egress driveway that will provide access for visitors and rideshares. A valet and rideshare drop-off area for visitors to the office would be located on site and the operations are described in detail below. The project will provide parking within an onsite parking garage for 418 vehicles on four above-grade parking levels and 716 bicycles. The project is expected to be completed by Year 2023.

The valet parking and rideshare operations will be as follows: vehicles enter via the one-way visitor entrance driveway along the frontage road of San Vicente Boulevard to access the on-site valet drop-off/pick-up area. The vehicles depart via the one-way visitor exit driveway to the

frontage road of San Vicente Boulevard. The valets would utilize the parking ramp to travel between the above-grade parking levels and the pick-up/drop-off area on the ground level. The Project provides up to three lanes for valet-service and passenger drop-off/pick-up operations on the ground floor, which allows for a pick-up/drop-off lane, a bypass lane and a valet vehicle return lane. The pick-up/drop-off area will provide adequate queue storage, as well as managed valet staff to accommodate the anticipated passenger loading demand so as to minimize any queue spillover onto public right-of-way. Employee vehicles would utilize the employee entrance/exit two-way driveway along Orange Street to access the ramp to the above-grade parking levels. The employee attendant/valet pick-up/drop-off kiosk would be located on Level 2 of the parking garage.

B. CEQA Screening Threshold

Prior to accounting for trip reductions resulting from the application of Transportation Demand Management (TDM) Strategies, a trip generation analysis was conducted to determine if the project would exceed the net 250 daily vehicle trips screening threshold. Using the City of Los Angeles VMT Calculator tool version 1.3, which draws upon trip rate estimates published in the Institute of Transportation Engineers' (ITE's) Trip Generation, 9th Edition manual as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold.

Additionally, the analysis included further discussion of the transportation impact thresholds:

- T-1 Conflicting with plans, programs, ordinances, or policies
- T-2.1 Causing substantial vehicle miles traveled
- T-3 Substantially increasing hazards due to a geometric design feature or incompatible use.

The assessment determined that the project would **not** have a significant transportation impact under Thresholds T-1 and T-3. A project's impacts per Threshold T-2.1 is determined by using the VMT calculator and is discussed further below. A copy of the VMT calculator screening page, with the corresponding net daily trips estimate, is provided as **Attachment B** to this report.

C. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.3 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as a criteria in determining transportation impacts under CEQA. The new DOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

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

- Household VMT per Capita: 6.0
- Work VMT per Employee: 7.6

As cited in the VMT Analysis report, prepared by GTC, the project proposes to incorporate the TDM strategies of promotions and marketing and include bike parking per Los Angeles Municipal Code (LAMC) as project design features. The proposed project is projected to have no Household VMT and a Work VMT per employee of 7.5. Therefore, it is concluded that implementation of the project would result in no significant Work VMT impact. A copy of the VMT Calculator summary report is provided as **Attachment B** to this report.

D. Access and Circulation

During the preparation of the new CEQA guidelines, the State's Office of Planning and Research stressed that lead agencies can continue to apply traditional operational analysis requirements to inform land use decisions provided that such analyses were outside of the CEQA process. The authority for requiring non-CEQA transportation analysis and requiring improvements to address potential circulation deficiencies, lies in the City of Los Angeles' Site Plan Review authority as established in Section 16.05 of the LAMC. Therefore, DOT continues to require and review a project's site access, circulation, and operational plan to determine if any access enhancements, transit amenities, intersection improvements, traffic signal upgrades, neighborhood traffic calming, or other improvements are needed.

In accordance with this authority, the project has completed a circulation analysis using a "level of service" screening methodology that indicates that the trips generated by the proposed development will not likely result in adverse circulation. DOT has reviewed this analysis and determined that it adequately discloses operational concerns. A copy of the circulation analysis table that summarizes these potential deficiencies is provided as **Attachment C** to this report.

PROJECT REQUIREMENTS

A. CEQA Related Requirement

DOT recommends that the applicant be required to implement the following TDM strategies as project design features:

- Promotions and Marketing: The promotions and marketing strategy educates and informs travelers about site-specific transportation options and the effects of their travel choice.
- Include Bike Parking per LAMC: The project will provide a total of 716 bicycle parking spaces to encourage the use of bicycling as an alternative to driving.
- Reduced Parking Supply: The project will have a reduced parking supply of 25% as compared to standard City code requirements.

The project will implement the TDM strategies cited above as part of its TDM program.

B. Non-CEQA-Related Requirements and Considerations

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

1. Parking Requirements

The project will provide 418 vehicle and 716 (short-term and long-term) bicycle parking

spaces. The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for this project.

2. Highway Dedication and Street Widening Requirements

Per the Mobility Element of the General Plan, **San Vicente Boulevard** is designated as a Boulevard II that would require a 40-foot half-width roadway within a 55-foot half-width right-of-way. **Orange Street** is designated as a Local Street that would require an 18-foot half-width roadway within a 30-foot half-width right-of-way. **Sweetzer Avenue** is designated as a Collector Street that would require a 20-foot half-width roadway within a 33-foot half-width right-of-way. **Wilshire Boulevard** is designated as an Avenue I that would require a 35-foot half-width roadway within a 50-foot half-width right-of-way. The applicant should check with BOE's Land Development Group to determine the specific highway dedication, street widening and/or sidewalk requirements for this project.

3. Project Access and Circulation

The conceptual site plan for the project (see **Attachment A**) is acceptable to DOT. The project would be accessed via four driveways: two visitor one-way driveways (one ingress and one egress) on the frontage street of San Vicente Boulevard, as well as one employee driveway and one loading dock driveway on Orange Street. Review of this study does not constitute approval of the dimensions for any new proposed driveway. Review and approval of the driveway should be coordinated with DOT's Citywide Planning Coordination Section (201 North Figueroa Street, 5th Floor, Room 550, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design. Driveway placement and design shall be approved by the Department of City Planning (City Planning) in consultation with DOT, prior to issuance of a Letter of Determination by City Planning.

4. <u>Worksite Traffic Control Requirements</u>

DOT recommends that a construction work site traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/businesses/temporary-traffic-control-plans to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

5. <u>TDM Ordinance Requirements</u>

The TDM Ordinance (LAMC 12.26 J) is currently being updated. The updated ordinance, which is currently progressing through the City's approval process, will:

- Expand the reach and application of TDM strategies to more land uses and neighborhoods,
- Rely on a broader range of strategies that can be updated to keep pace with technology, and
- Provide flexibility for developments and communities to choose strategies that

work best for their neighborhood context.

Although not yet adopted, DOT recommends that the applicant be subject to the terms of the proposed TDM Ordinance update expected in 2020 if applicable. The updated ordinance is expected to be completed prior to the anticipated construction of this project, if approved.

6. Development Review Fees

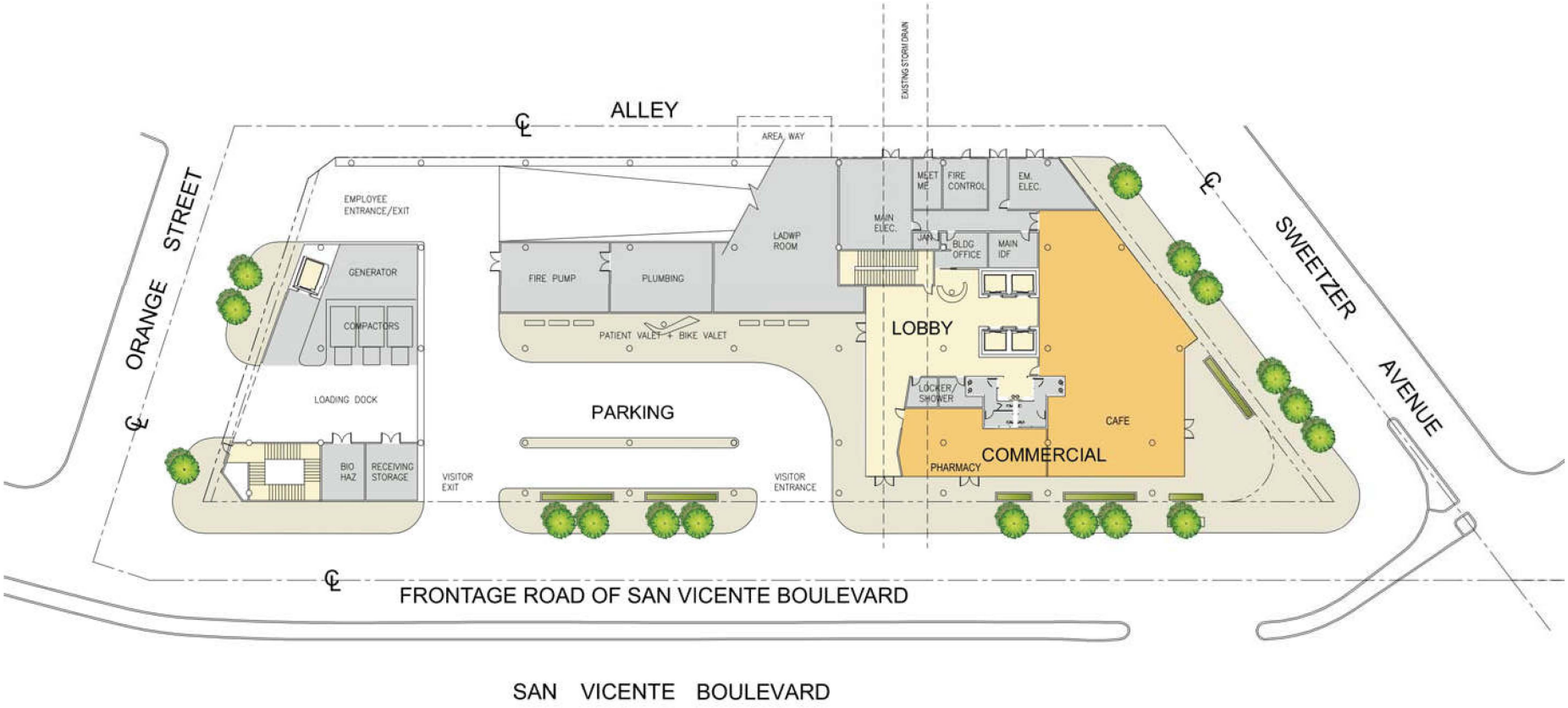
Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact Pete Eyre of my staff at (213) 972-4913.

Attachments

K:\Letters\2020\CEN20-49388_656 San Vicente_mu medical_tag.doc

c: Daniel Skolnick, Council District 5
Matthew Masuda, Central District, BOE
Rudy Guevara, Western District Office, DOT
Taimour Tanavoli, Case Management, DOT
Casey Le, Gibson Transportation Consulting



Source: ZGF Architects. September, 2019.

PROJECT SITE PLAN

FIGURE 1

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

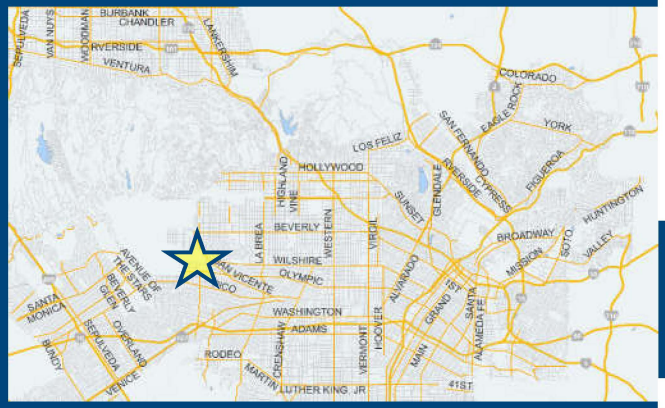
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 656 San Vicente MOB

Scenario:

Address: 34.064973, -118.372017



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

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
School | Private School (K-12)	20	Students
Retail | General Retail	8.225	ksf
School | Private School (K-12)	20	Students

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

Proposed Project Land Use

Land Use Type	Value	Unit
Retail | Pharmacy/Drugstore	1	ksf
Retail | Pharmacy/Drugstore	1	ksf
Retail | High-Turnover Sit-Down Restaurant	4	ksf
Office | Medical Office	140.305	ksf

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

Project Screening Summary

Existing Land Use	Proposed Project
303 Daily Vehicle Trips	4,113 Daily Vehicle Trips
2,132 Daily VMT	29,256 Daily VMT

Tier 1 Screening Criteria

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

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	3,810 Net Daily Trips
The net increase in daily VMT ≤ 0	27,124 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	5.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 656 San Vicente MOB

Scenario:

Address: 34.064973, -118.372017



Proposed Project Land Use Type	Value	Unit
Retail | Pharmacy/Drugstore	1	ksf
Retail | High-Turnover Sit-Down Restaurant	4	ksf
Office | Medical Office	140.305	ksf

TDM Strategies

Select each section to show individual strategies

Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

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

A Parking

Reduce Parking Supply
☑ Proposed Prj ☐ Mitigation
100 city code parking provision for the project site
75 actual parking provision for the project site

Unbundle Parking
☐ Proposed Prj ☐ Mitigation
175 monthly parking cost (dollar) for the project site

Parking Cash-Out
☐ Proposed Prj ☐ Mitigation
50 percent of employees eligible

Price Workplace Parking
☐ Proposed Prj ☐ Mitigation
6.00 daily parking charge (dollar)
50 percent of employees subject to priced parking

Residential Area Parking Permits
☐ Proposed Prj ☐ Mitigation
200 cost (dollar) of annual permit

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
3,433 Daily Vehicle Trips	**3,433** Daily Vehicle Trips
24,422 Daily VMT	**24,422** Daily VMT
0.0 Household VMT per Capita	**0.0** Household VMT per Capita
7.5 Work VMT per Employee	**7.5** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 6.0 15% Below APC	**Household: No** Threshold = 6.0 15% Below APC
Work: No Threshold = 7.6 15% Below APC	**Work: No** Threshold = 7.6 15% Below APC

Measuring the Miles

11/9/2020

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	*0*	*DU*
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	*Family*	*0*	*DU*
	Senior	*0*	*DU*
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	*General Retail*	*0.000*	*ksf*
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	1.000	ksf
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	4.000	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	140.305	ksf
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*

Other	*0*	*Trips*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

Analysis Results			
Total Employees: 439 Total Population: 0			
Proposed Project		***With Mitigation***	
3,433	**Daily Vehicle Trips**	**3,433**	**Daily Vehicle Trips**
24,422	**Daily VMT**	**24,422**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
7.5	**Work VMT per Employee**	**7.5**	**Work VMT per Employee**
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average Household = 6.0 Work = 7.6			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

TDM Strategy Inputs				
Strategy Type		**Description**	**Proposed Project**	**Mitigations**
Parking	Reduce parking supply	City code parking provision (spaces)	100	100
		Actual parking provision (spaces)	75	75
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	*Employees and residents eligible (%)*	*0%*	*0%*
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	*$0.00*
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	Employees and residents participating (%)	100%	100%

(cont. on following page)

TDM Strategy Inputs, Cont.

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

(cont. on following page)

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Transit	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Education & Encouragement	Voluntary travel behavior change program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	0%	
Commute Trip Reductions	Required commute trip reduction program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Shared Mobility	Car-share	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

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

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*13%*
MAX. TDM EFFECT	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*	*17%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: November 9, 2020
Project Name: 656 San Vicente MOB
Project Scenario:
Project Address: 34.064973, -118.372017

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	6.3	0	0
Home Based Other Production	0	0.0%	0	5.0	0	0
Non-Home Based Other Production	1,017	-9.5%	920	6.7	6,814	6,164
Home-Based Work Attraction	636	-26.6%	467	8.4	5,342	3,923
Home-Based Other Attraction	2,831	-36.1%	1,808	7.2	20,383	13,018
Non-Home Based Other Attraction	1,017	-9.7%	918	6.7	6,814	6,151

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-16.5%	0	0	-16.5%	0	0
Home Based Other Production	-16.5%	0	0	-16.5%	0	0
Non-Home Based Other Production	-16.5%	768	5,145	-16.5%	768	5,145
Home-Based Work Attraction	-16.5%	390	3,275	-16.5%	390	3,275
Home-Based Other Attraction	-16.5%	1,509	10,867	-16.5%	1,509	10,867
Non-Home Based Other Attraction	-16.5%	766	5,135	-16.5%	766	5,135

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 439
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**3,275**	**3,275**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**7.5**	**7.5**

VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term "City" as used below shall refer to the City of Los Angeles. The terms "City" and "Fehr & Peers" as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

VMT Calculator Application for the City of Los Angeles. The City's consultant calibrated the VMT Calculator's parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator's accuracy in estimating VMT in such other locations.

Limited License to Use. This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

Ownership. You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

Warranty Disclaimer. In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED "as is" WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Limitation of Liability. It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the

VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	Casey Tonale
Print Name:	Casey T Le
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th St., Suite 3375 Los Angeles, CA 90013
Phone:	(213) 683-0088
Email Address:	cle@gibsontrans.com
Date:	November 9, 2020

TABLE 9
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)
INTERSECTION LEVELS OF SERVICE ANALYSIS

No	City	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
				Delay	LOS	Delay	LOS
1.	LA	San Vicente Boulevard &	AM	17.8	B	21.3	C
		6th Street	PM	10.5	B	14.6	B
2.	LA	Sweetzer Avenue &	AM	6.2	A	6.9	A
		6th Street	PM	8.6	A	14.8	B
3.	LA	La Jolla Avenue &	AM	17.3	B	17.8	B
		6th Street	PM	10.8	B	10.8	B
4.	BH	La Cienega Boulevard &	AM	44.0	D	46.0	D
		Wilshire Boulevard	PM	46.6	D	51.1	D
5.	LA	San Vicente Boulevard &	AM	41.7	F *	53.6	F *
[a]		Wilshire Boulevard	PM	43.3	F *	45.8	F *
6.	LA	La Jolla Avenue &	AM	11.2	B	11.5	B
		Wilshire Boulevard	PM	9.9	A	10.8	B
7.	LA	McCarthy Vista/Carrillo Drive &	AM	37.7	D	38.4	D
		San Vicente Boulevard	PM	32.1	C	33.4	C
8.	LA	San Vicente Boulevard &	AM	8.9	A	9.2	A
[b]		Orange Street	PM	8.7	A	9.2	A
9.	LA	Sweetzer Avenue &	AM	10.1	B	11.3	B
[b]		Orange Street	PM	10.0	A	15.1	C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Synchro 10 (HCM methodology)

[a] LOS based on field observations, as the HCM methodology for individual intersections does not in every case account for vehicular queues along corridors, pedestrian, conflicts, etc., and thus, the calculated average operating conditions may appear better than is observed.

[b] Intersection analysis based on the HCM Unsignalized methodology. Reported results reflect the control delay for the worst-case approach. The average intersection delay is provided in Appendix D.