Appendix IS-12

Transportation

Appendix IS-12.1

Transportation Assessment

TRANSPORTATION ASSESSMENT FOR THE 1811 SACRAMENTO PROJECT

LOS ANGELES, CALIFORNIA

MAY 2023

PREPARED FOR

SCD 1811 SACRAMENTO LLC

PREPARED BY

Gibson transportation consulting, inc.

TRANSPORTATION ASSESSMENT
FOR THE
1811 SACRAMENTO PROJECT

LOS ANGELES, CALIFORNIA

May 2023

Prepared for:

SCD 1811 SACRAMENTO LLC

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Chapter 1
Introduction

This study presents the transportation assessment for the proposed 1811 Sacramento Project (Project) located at 1727-1829 Sacramento Street (Project Site) in the *Central City North Community Plan* (Los Angeles Department of City Planning [LADCP], Revised September 2016) area of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established in consultation with the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

The Project proposes a mixed-use development consisting of 277,700 square feet (sf) of office, 8,000 sf of restaurant, and 5,200 sf of retail uses. The existing 40,479 sf of existing warehouse uses would be removed as part of the Project.

The Project would provide 582 vehicle parking spaces within six above-ground levels, with vehicular access provided via one full-access driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. The Project would also provide 98 (63 long-term and 35 short-term) bicycle parking spaces. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways via commercial entrances along Sacramento Street. The Project proposes the accommodation of all passenger loading and commercial loading on-site within the ground level loading area.

The Project's conceptual site plan is shown in Figure 1.

PROJECT LOCATION

The Project Site is located in City Council District 14 and is comprised of two parcels in the Los Angeles County Assessor's records (Assessor Parcel Numbers 5166-030-008 and 5166-030-009). As illustrated in Figure 2, the Project Site is generally bounded by existing warehouse buildings to the north, Wilson Street to the east, Sacramento Street to the south, and Lawrence Street to the west. Alameda Street provides primary local and regional access to the Project Site. The Project Site is located approximately 0.25 miles north of the Santa Monica Freeway (I-10), which provides regional transportation between Santa Monica (approximately 16.00 miles west) and the East Los Angeles Interchange (approximately 2.00 miles east). The most direct route to I-10 from the Project Site is via Mateo Street.

Los Angeles County Metropolitan Transportation Authority (Metro) bus stops for Lines 60 and 62 are located approximately 0.25 miles north of the Project Site at the intersection of Decatur Street & 7th Street and Metro bus stops for Line 66 are located approximately 0.25 miles south of the Project Site at the intersection of Lawrence Street & Olympic Boulevard. The Project is located within a Transit Priority Area.

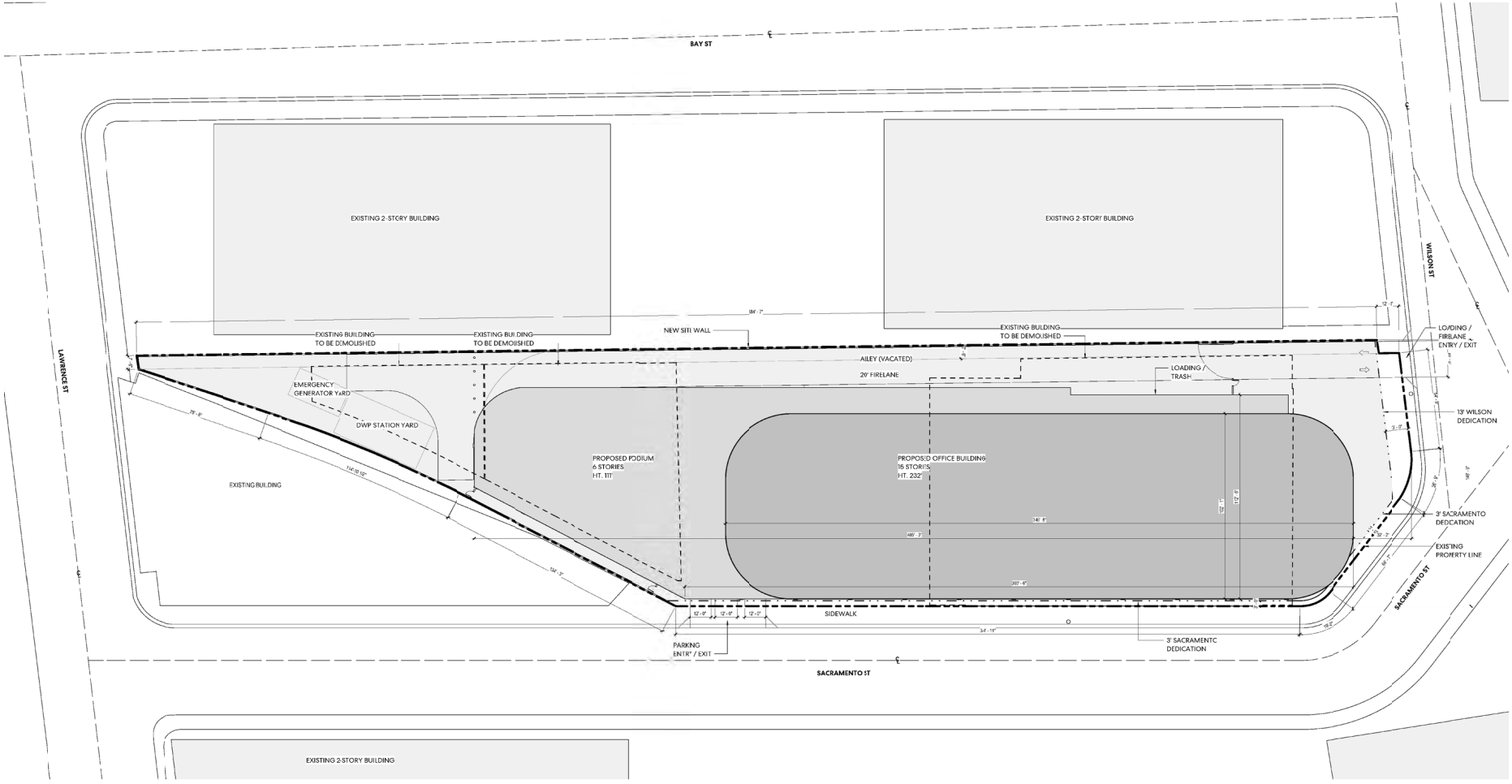
STUDY SCOPE

The scope of analysis for this study was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, Revised August 2022) (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 Transportation Assessment Memorandum of Understanding (MOU), which was reviewed and approved by LADOT on November 30, 2022. A copy of the signed MOU is provided in Appendix A.

ORGANIZATION OF REPORT

This report is divided into six chapters, including this introduction. Chapter 2 describes the Project Context including the study area and existing and future cumulative transportation conditions. Chapter 3 presents the Project Traffic including the Project trip generation, trip distribution, and trip assignment. Chapter 4 details the CEQA Analysis of Transportation Impacts including TAG Thresholds T-1 through T-3. Chapter 5 discusses the Non-CEQA Transportation Analyses including the pedestrian, bicycle, and transit assessments, Project access, safety, and circulation assessments, residential street cut-through analysis, construction impact analysis, and parking analysis. Chapter 6 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: Perkins & Will. July, 2022.

PROJECT SITE PLAN

FIGURE 1

LEGEND

Project Site

N
Not to Scale

PROJECT SITE LOCATION

FIGURE 2

Chapter 2
Project Context

A comprehensive data collection effort was undertaken to develop a detailed description of existing and future conditions in the Project's operational analysis 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 in Year 2022. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also collected, along with peak period traffic counts.

In addition, this Chapter contains a discussion of the future conditions detailing the assumptions used to develop the Future without Project Conditions in Year 2026, which correspond to the anticipated occupancy of the Project.

STUDY AREA

The operational analysis Study Area includes six signalized intersections and one unsignalized intersection, as shown in Figure 3. The study intersections were selected in consultation with LADOT based on the following factors identified in the TAG:

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

Seven study intersections, listed in Table 1, were identified for detailed analyses. The existing lane configurations at the analyzed intersections are provided in Figure 4.

EXISTING TRANSPORTATION CONDITIONS

Existing Street System

The existing street system in the Study Area consists of a regional roadway system including freeways, arterials, collectors, and local streets that provide regional, sub-regional, or local access and circulation to the Project Site. 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* (LADCP, September 2016) (Mobility Plan). The Mobility Plan defines specific street standards 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:

- Freeways are high-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.
- 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 (ROW) 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, and generally includes a ROW width of 110 feet, and pavement widths of 80 feet.
    - Avenues are typically narrow arterials 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 ROW width of 100 feet and pavement width of 70 feet.

- Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph, with a ROW width of 86 feet and pavement width of 56 feet.

- Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph, with a ROW width of 72 feet and pavement width of 46 feet.

- Collector Streets are generally located in residential neighborhoods and provide access to and from Arterial Streets for local traffic and are not intended for cut-through traffic. They provide one travel lane in each direction with an operating speed of 25 mph, with a ROW 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 ROW width of 50-60 feet. Local Streets include two categories:

    - Continuous Local Streets connect to other streets at both ends

    - Non-continuous Local Streets lead to a dead-end

Primary regional access to the Project Site is provided by I-10. The arterial providing access to the Project Site is Alameda Street. The following is a brief description of the roadways in the Study Area, including the roadways adjacent to the Project Site, and identifies their classifications under the Mobility Plan:

Freeways

- I-10 – I-10 is a freeway that generally runs in the east-west direction and is located approximately 0.25 miles south of the Project Site. Within the Study Area, I-10 provides five travel lanes in each direction. Access to and from I-10 is available via interchanges on 8th Street.

Roadways

- Alameda Street – Alameda Street is a designated Avenue I and generally travels in the north-south direction within the Study Area. It is located west of the Project Site and provides four travel lanes, two lanes in each direction, with left-turn lanes at major intersections and a two-way left-turn median. Unmetered parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 10 to 11 feet wide, and the approximate paved width of Alameda Street is 65 to 72 feet within the Study Area.

- Lawrence Street – Lawrence Street is a designated Collector and generally travels in the north-south direction. It is located west of the Project Site and provides two travel lanes, one lane in each direction. Parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 20 feet wide, and the approximate paved width of Lawrence Street is 40 feet within the Study Area.

- Wilson Street – Wilson Street is a designated Collector and generally travels in the north-south direction. It is located adjacent to the eastern boundary of the Project Site and provides two travel lanes, one lane in each direction. Parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 20 feet wide, and the approximate paved width of Wilson Street is 40 feet within the Study Area.

- Mateo Street – Mateo Street is a designated Avenue III and generally travels in the north-south direction. It is located east of the Project Site and provides two travel lanes, one in each direction. Parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 20 feet wide, and the approximate paved width of Mateo Street is 40 feet.

- Santa Fe Avenue – Santa Fe Avenue is a designated Avenue II and generally travels in the north-south direction. It is located east of the Project Site and provides four travel lanes, two in each direction, with left-turn lanes at major intersections. Parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 10-18 feet wide, and the approximate paved width of Santa Fe Street is 55 feet.

- 7th Street – 7th Street is a designated Avenue II and generally travels in the east-west direction. It is located north of the Project Site and provides four travel lanes, two in each direction, with left-turn lanes at intersections. Parking is generally available on the north side of the street west of Santa Fe Avenue. Travel lanes are typically 10-18 feet wide, and the approximate paved width of Mateo Street is 55 feet.

- Bay Street – Bay Street is a designated Collector and generally travels in the east-west direction. It is located north of the Project Site and provides two travel lanes, one lane in each direction. Parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 20 feet wide, and the approximate paved width of Bay Street is 40 feet within the Study Area.

- Sacramento Street – Sacramento Street is a designated Collector and generally travels in the east-west direction. It is located adjacent to the southern boundary of the Project Site and provides two travel lanes, one lane in each direction. Parking is generally available on both sides of the street within the Study Area. Travel lanes are typically 20 feet wide, and the approximate paved width of Sacramento Street is 40 feet within the Study Area.

- 8th Street – 8th Street is a designated Collector and generally travels in the east-west direction. It is located south of the Project Site and provides two travel lanes, one in each direction. Parking is generally available on the north side of the street east of Alameda Street. Travel lanes are typically 21 feet wide, and the approximate paved width of 8th Street is 42 feet.

The existing mobility facilities at each of the analyzed study intersections are detailed in Figure 5 and the Mobility Plan street designations within the Study Area are shown in Figure 6.

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. Given the existing surrounding commercial and industrial uses, the walkability of the area is approximately 69 points[1].

The signalized intersections surrounding the Project Site provide pedestrian access in the vicinity of the Project Site and provide pedestrian signal phasing, crosswalk striping, and Americans with Disabilities Act (ADA) accessible ramps at most crosswalks. Pedestrian destinations within the Study Area, including various commercial uses located along 7th Street and Santa Fe Avenue, are detailed in Figure 6.

Existing Bicycle System

Based on *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (LADCP, adopted March 1, 2011) (2010 Bicycle 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. 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 and lower volume Arterial Streets. Bicycle

[1] Walk Score (www.walkscore.com) rates the Project Site with a score of 69 of 100 possible points (scores accessed on January 31, 2023, for 1811 Sacramento Street). Walk Score calculates the walkability of specific addresses by considering the ease of living in the neighborhood with a reduced reliance on automobile travel.

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 components of the 2010 Bicycle Plan have been incorporated into the bicycle network of the Mobility Plan. The Mobility Plan consists of a Bicycle Enhanced Network (Low-Stress Network) (BEN) and a Bicycle Lane Network (BLN). The BEN is a subset of and supplement to the 2010 Bicycle Plan and is comprised of a network of streets that prioritize bicyclists and provide bicycle paths (Class I) and protected bicycle lanes (Class IV). Class IV protected bicycle lanes including cycle tracks, bicycle traffic signals, and demarcated areas to facilitate turns at intersections and along neighborhood streets, provide further protection from other travel lanes. Class IV networks often provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxes, and bicycle-only left-turn pockets. Once implemented, these facilities would offer a safer environment for both cyclists and motorists. The BLN consists of Class II bicycle lanes with striped separation from motorized vehicle traffic and Class III bicycle lanes (sharrows).

No existing bicycle infrastructure is provided within the Study Area.

Existing Transit System

Figure 7 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 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, the Metro Lines 60, 62, and 66 with bus stops within 0.25 miles walking distance of the Project Site currently have available capacity for 1,607 additional riders during the morning peak hour and 1,498 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 in this analysis.

Vision Zero

As described in the City's *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (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 (HIN), 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. None of the streets adjacent to the Project Site are part of the HIN. However, within the Study Area, 7th Street west of Mateo Street and Santa Fe Street south of Hunter Street are identified in the HIN.

Existing Traffic Volumes

Traffic count data collection is generally conducted during times with typical travel demand patterns (i.e., when local schools are in session, businesses are in full operation, weeks without holidays, etc.) However, due to the ongoing Safer at Home / Safer LA: Emergency Orders[2] in response to the COVID-19 pandemic, typical traffic patterns are disrupted and LADOT directed transportation assessments to utilize traffic count data collected prior to March 1, 2020. Further, historic counts taken prior to March 1, 2020 were not affected by the construction of the 6th Street Viaduct and the resulting closure of 6th Street between Mateo Street and US 101 which shifted traffic traveling in the east/west direction along 6th Street to detour routes, including along 7th Street, that has been completed as of July 2022.

Therefore, historical traffic count data from Years 2014 to 2019 were utilized. An ambient growth rate of 1% per year was applied to the traffic counts to reflect regional growth and development between the year of the traffic count and the existing year. Although the turning movement counts were conducted during different days and months of the year, a review of the data and existing

[2] The standing public health orders issued by the City and/or County of Los Angeles beginning March 2020 and remain in effect until further notice.

conditions indicated that the traffic volume flows through the Study Area were consistent. Thus, for the purposes of this analysis, the Existing Conditions traffic volumes represent conditions as of the approval of the Project's MOU. The existing intersection peak hour traffic volumes are illustrated in Figure 8. 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 TAG. Specifically, two requirements are provided for developing the cumulative traffic volume forecast:

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

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 Conditions traffic volumes.

The Future without Project Conditions 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 increasing the existing traffic volumes to reflect the effects of the regional growth and development by Year 2026. The total adjustment applied over the four-year period between Year 2022 and the anticipated buildout year of the Project was 4.06%. 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 the TAG, 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 was evaluated within the context of past, present, and probable future developments capable of producing cumulative impacts. In accordance with the procedures outlined in the TAG, Related Projects within 0.50 miles of the Project Site were considered for analysis.

The list of Related Projects is based on information provided by LADCP and LADOT in November 2022, as well as recent studies of development projects in the area. The Related Projects are detailed in Table 4 and their approximate locations are shown in Figure 9. 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 2026. 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 Project area that would likely occur in the next four years prior to

Project buildout. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project Condition is even more conservative. Using these assumptions, the potential traffic impacts of the Project were evaluated. The development of estimated traffic volumes added to the study intersections as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

Trip Generation. Trip generation estimates for the Related Projects were provided by LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers [ITE], 2021). The Related Projects trip generation estimates summarized in Table 4 are conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (e.g., transit, bus, bicycling, walking, carpool, etc.) Further, in many cases, they do not account for the internal capture trips within a multi-use development or for the interaction of trips between multiple Related Projects, in which one Related Project serves as the origin for a trip destined for another Related Project.

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

Traffic Assignment. The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. Figure 10 shows the peak hour traffic volumes associated with these Related Projects at the study intersections.

Future without Project Traffic Volumes

The Future without Project Conditions peak hour traffic volumes represent the combination of Existing Conditions traffic volumes, ambient growth, and Related Project traffic. These volumes at the three study intersections are shown in Figure 11.

Future Roadway Improvements

The analysis of Future Conditions considered 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. The following plans were evaluated for their potential effects on the future roadway configurations.

Arts District Active Transportation Program. Recent Active Transportation Program (ATP) funding was awarded to Council District 14 to create a more multi-modal environment in the Arts District. Construction of the ATP improvements began in Year 2020. ATP improvements within the Study Area will include the installation of bicycle facilities on Santa Fe Avenue and Mateo Street north of 7th Street. These bicycle improvements would not require the removal of any travel lanes, and therefore, would not affect the configurations of the corridors in the Study Area.

Metro Regional Connector. The Metro Regional Connector project is a 1.90-mile underground light-rail system that will extend from the Little Tokyo/Arts District Station to the 7th Street/Metro Center Station, allowing passengers to make direct transfers between the A, B, D, E, and L Lines. The Metro Regional Connector will improve access to both local and regional destinations by providing continuous service between these lines and providing connectors to other rail lines via the 7th Street/Metro Center Station. Three new transit stations will be developed with the operation of the Metro Regional Connector. The closest new transit station will be located at 1st Street & Central Avenue, approximately 1.40 miles north of the Project Site, which would also serve the Metro L Line. The Metro Regional Connector is anticipated to be complete and in operation in Year 2023. The Metro Regional Connector will be underground and will not affect the configurations of the corridors in the Study Area.

Metro West Santa Ana Branch (WSAB). Metro's WSAB Transit Corridor project would provide a new 19-mile light rail transit line connecting downtown Los Angeles with southeast Los Angeles County. Metro recently selected the Locally Preferred Alternative, which proposes a first phase of the WSAB that includes a 14.8 mile, nine-station transit line connecting the Metro A Line Slauson Station to the City of Artesia. Metro has also selected Union Station as the terminus for the WSAB

project. However, Metro is still in the process of evaluating potential alignment routes that would connect the Metro A Line Slauson Station to Union Station. Thus, the operations of the WSAB and resulting impacts to the Project area are currently unknown at this time. A separate study for this portion of the WSAB is scheduled for completion in early Year 2023.

Metro Arts District / 6th Street Station. Metro is exploring opportunities to provide a new Metro Rail station near 6th Street that would provide Metro B and/or D Lines service to the Arts District, Boyle Heights and surrounding communities. Construction and implementation of this improvement has not been identified by Metro at this time.

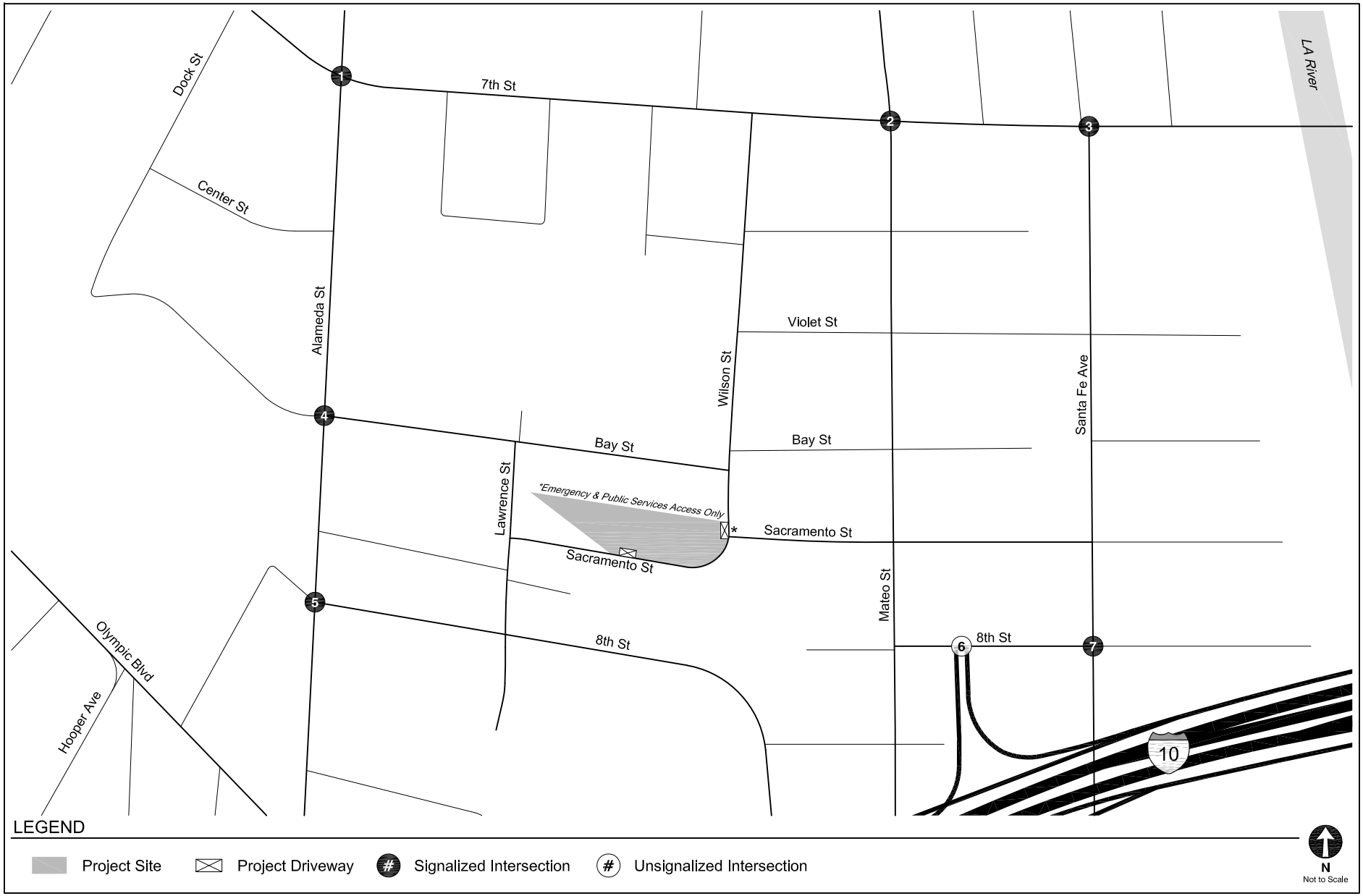
Mobility Plan. In the Mobility Plan, the City identifies key corridors as components of various "mobility-enhanced networks." Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified and there is no schedule for implementation; therefore, no changes to intersection lane configurations were made because of the Mobility Plan. However, the following mobility-enhanced networks include corridors within the Study Area, as well as others within 0.25 miles of the Project Site, and are depicted in Figure 12:

- 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. None of the streets within the Study Area are identified as part of the TEN.

- 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 Santa Fe Avenue and Mateo Street within the Study Area as part of the network.

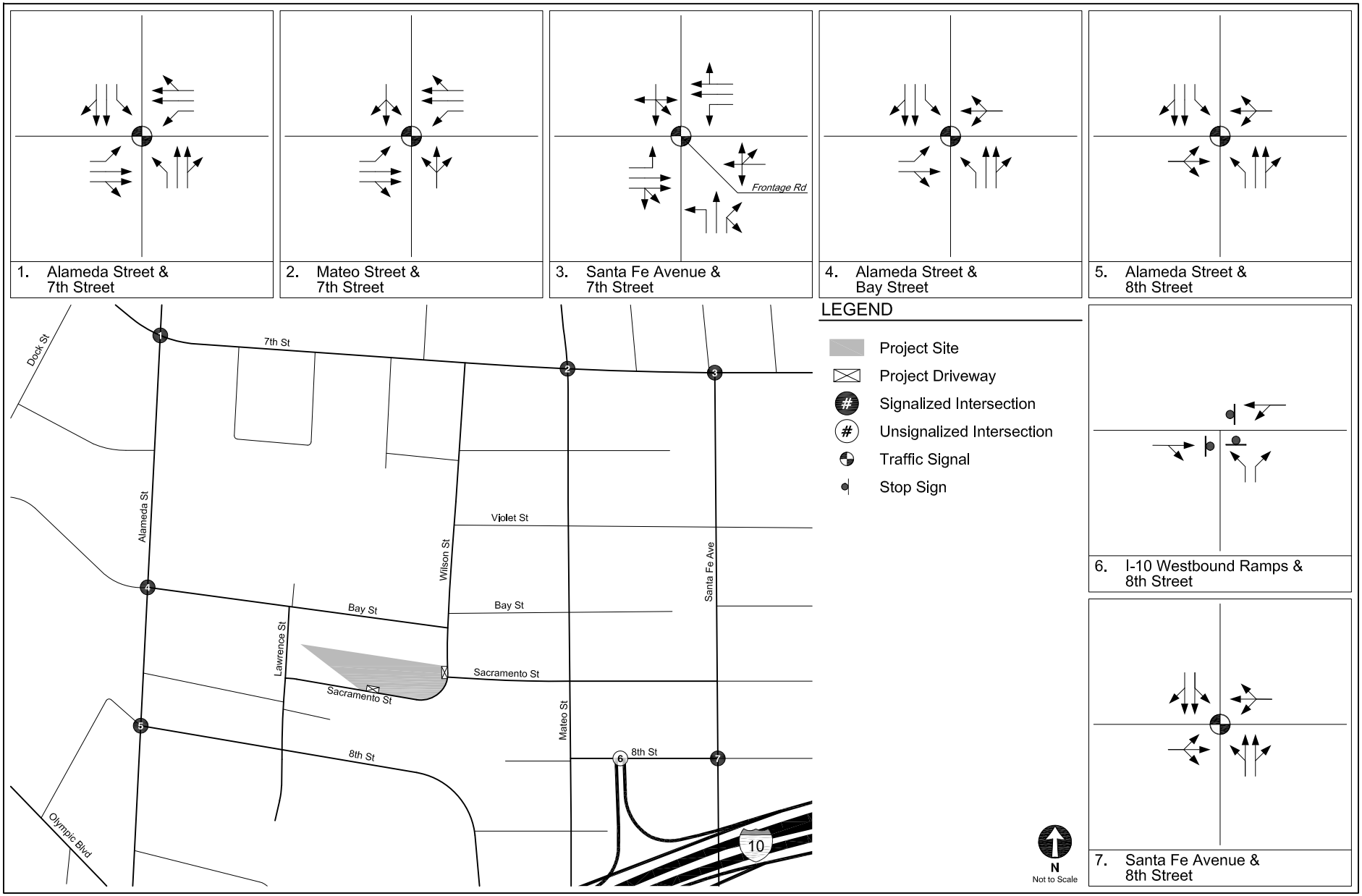
- BEN / BLN: No streets within the Study Area are identified as part of the BEN. Santa Fe Avenue south of 2nd Street and 7th Street east of Central Avenue have been designated as part of the BLN within the Study Area.

- 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 Mobility Plan has designated Alameda Street north of Bay Street, Santa Fe Avenue north of 7th Street, Mateo Street north of 7th Street, and 7th Street west of Mill Street within the Study Area as part of the PED, where pedestrian improvements could be prioritized to provide better connectivity to and from major destinations within communities.



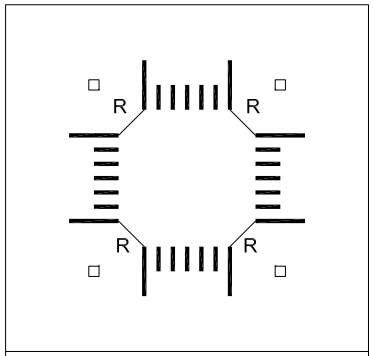
STUDY AREA AND ANALYZED INTERSECTIONS

FIGURE 3

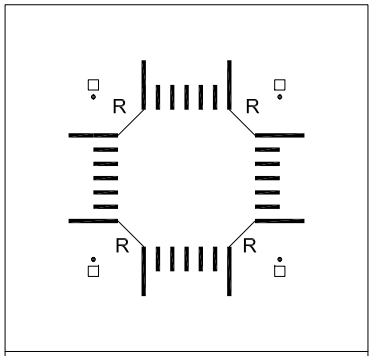


INTERSECTION LANE CONFIGURATIONS

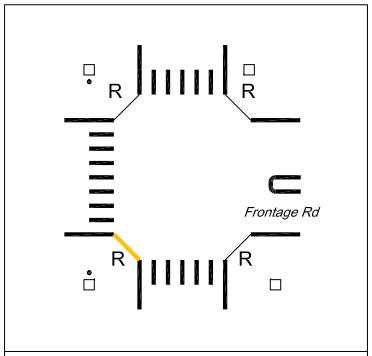
FIGURE 4



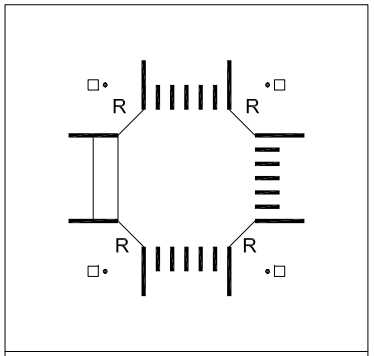
1. Alameda Street & 7th Street



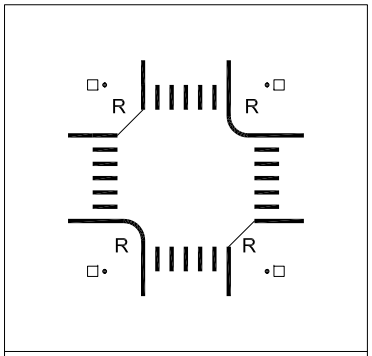
2. Mateo Street & 7th Street



3. Santa Fe Avenue & 7th Street



4. Alameda Street & Bay Street

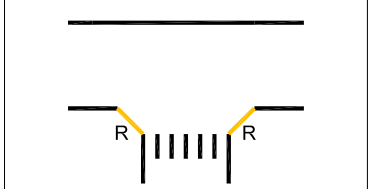


5. Alameda Street & 8th Street

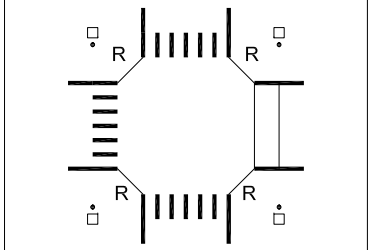
LEGEND

- Project Site
- Project Driveway
- Signalized Intersection
- Unsignalized Intersection
- Continental Crosswalk
- Bus Stop
- Ramp
- Tactile Curb
- Ped Signal
- Ped Call Button

N
Not to Scale



6. I-10 Westbound Ramps & 8th Street



7. Santa Fe Avenue & 8th Street

EXISTING INTERSECTION MOBILITY FACILITIES

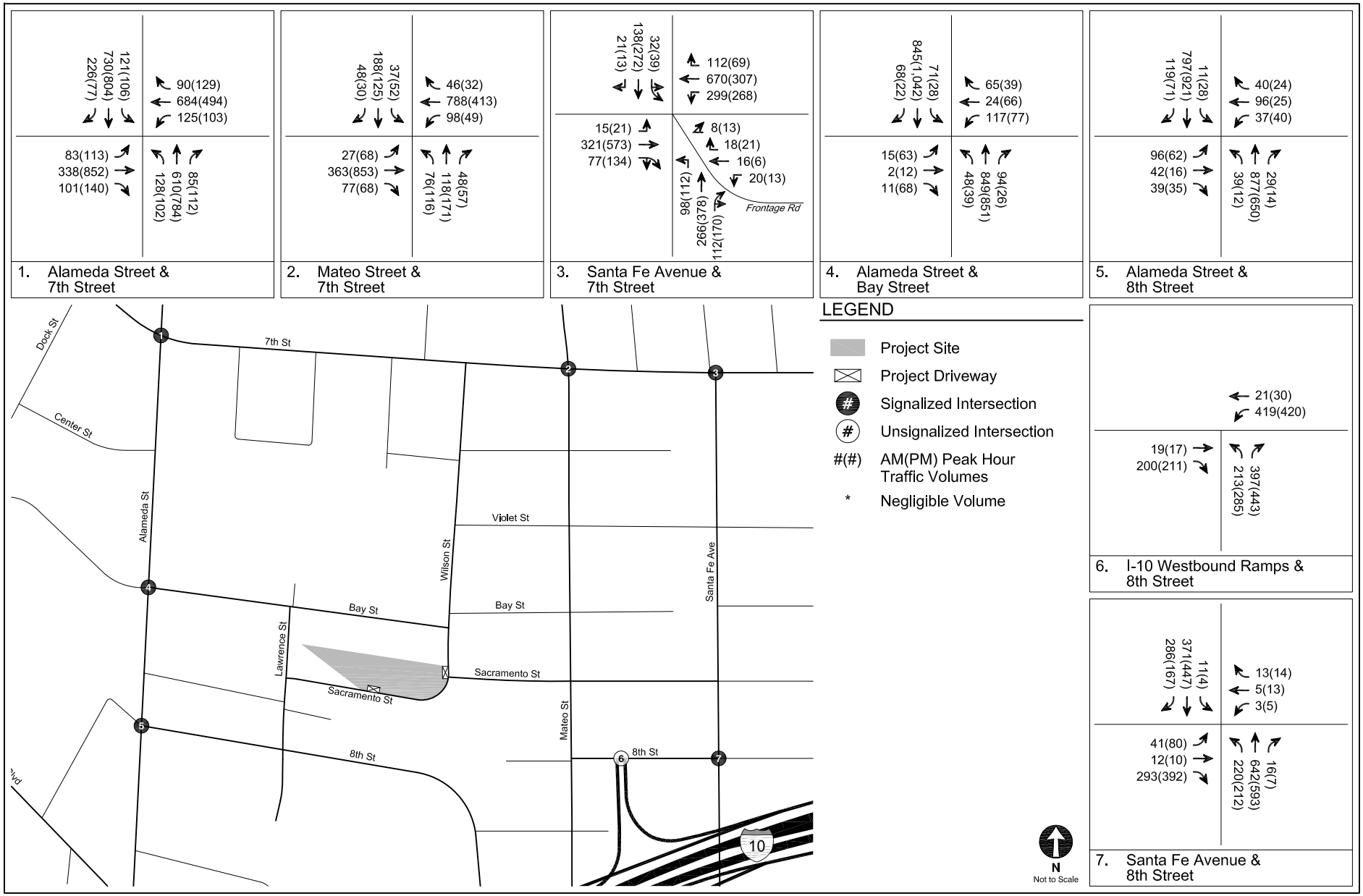
FIGURE 5

EXISTING MOBILITY PLAN STREET DESIGNATIONS AND PEDESTRIAN DESTINATIONS

FIGURE 6

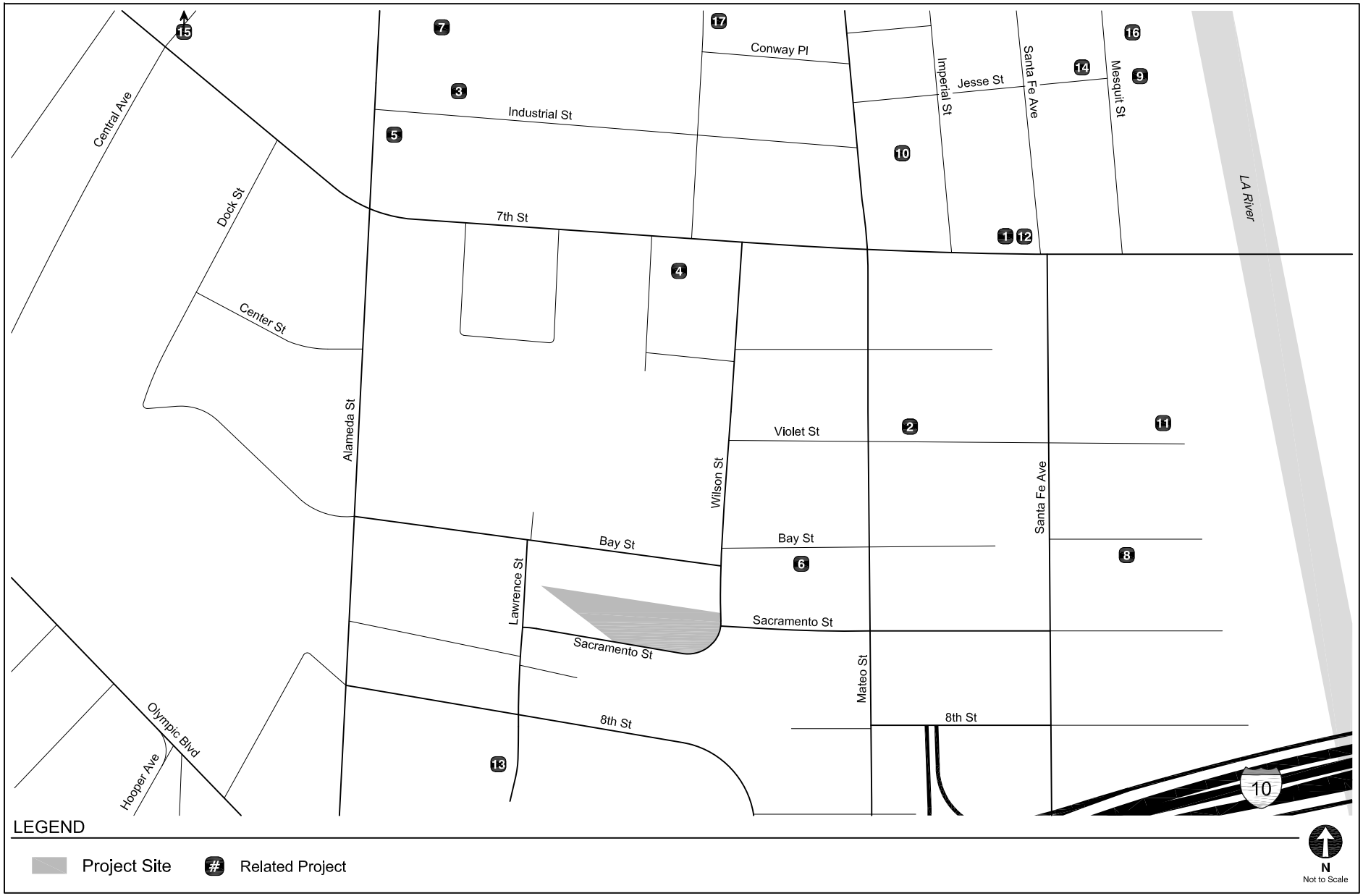
EXISTING TRANSIT SERVICE

FIGURE 7



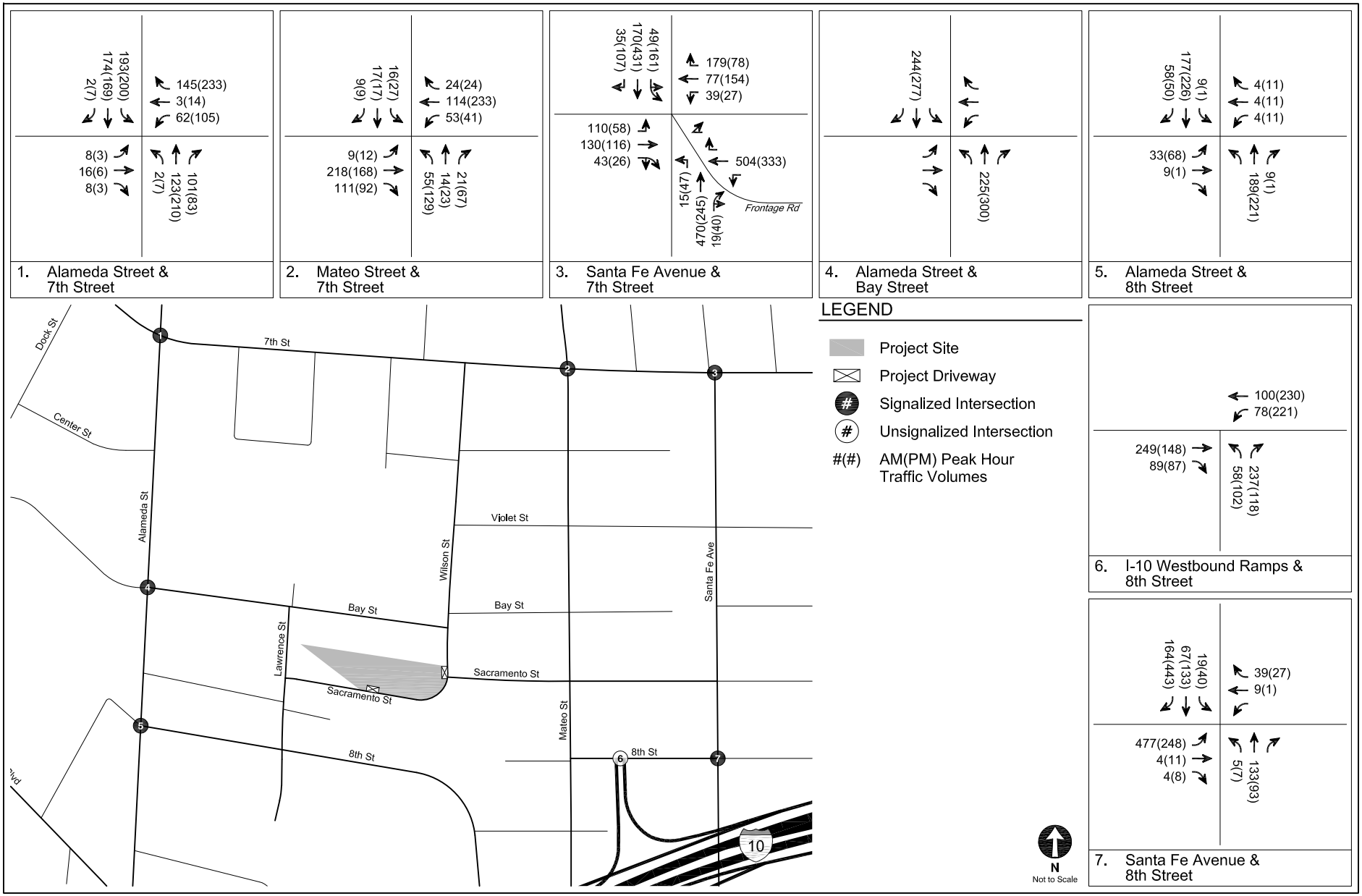
EXISTING CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 8



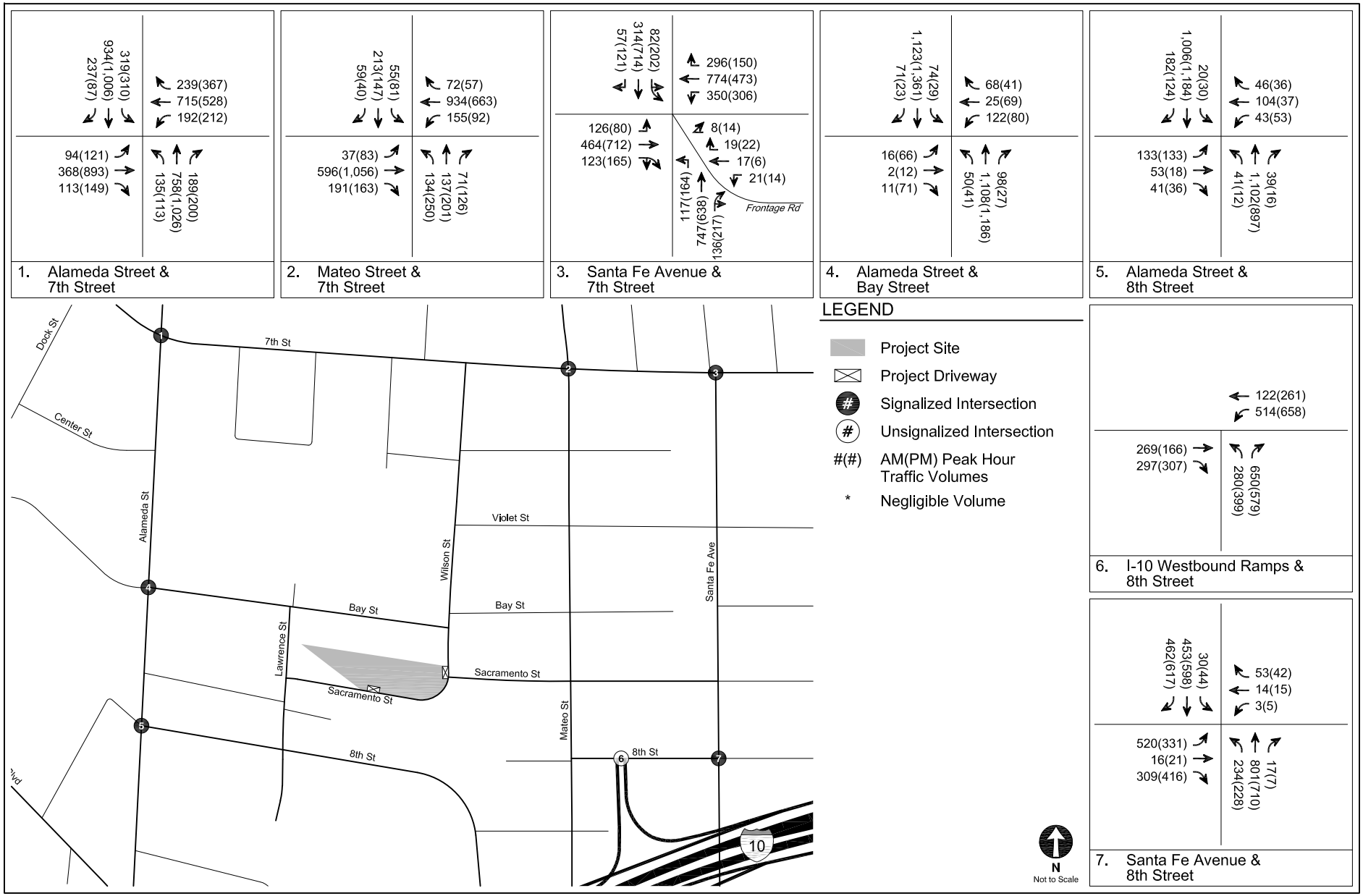
LOCATIONS OF RELATED PROJECTS

FIGURE 9



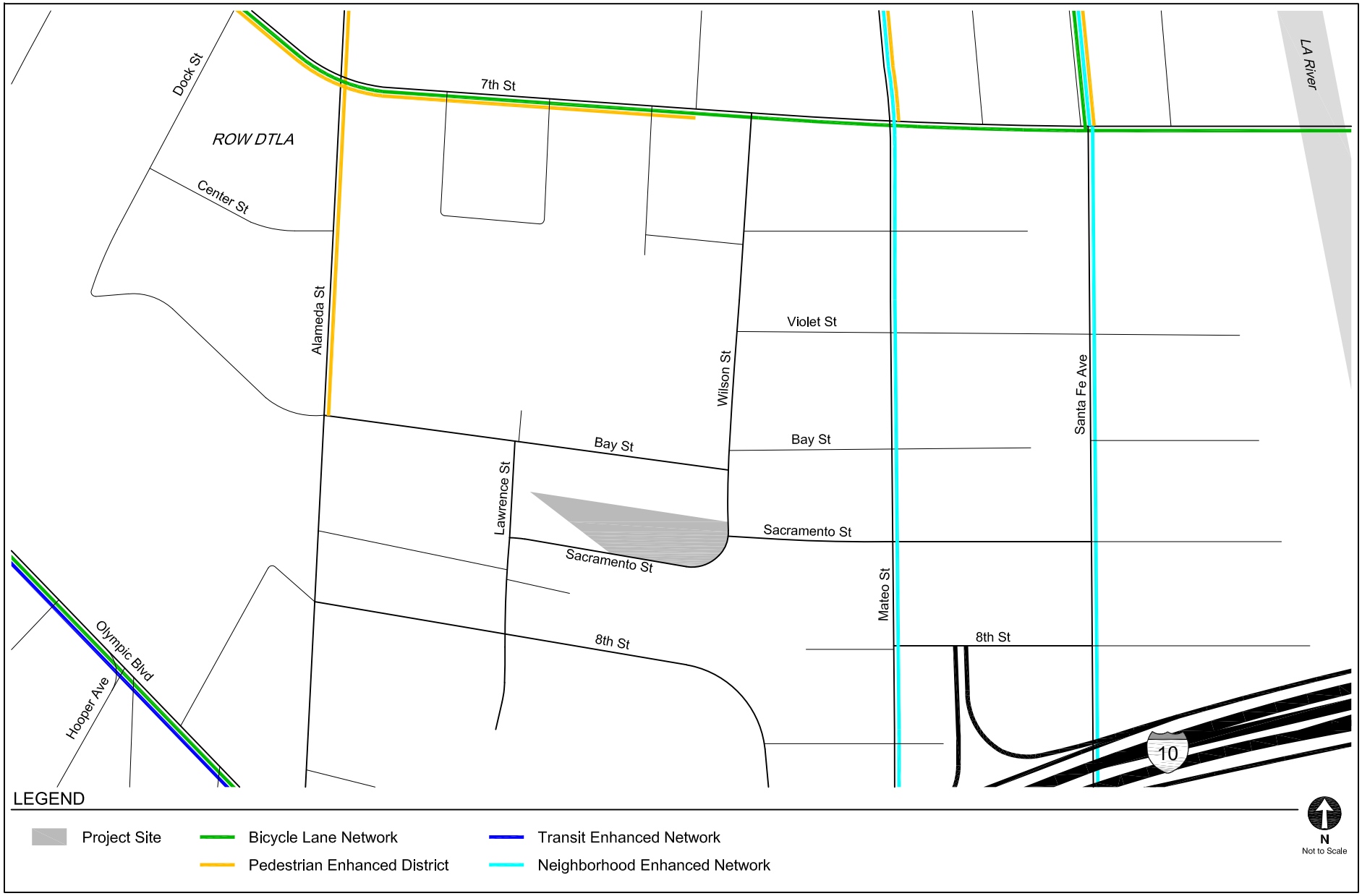
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 11



MOBILITY PLAN ROADWAY MODAL PRIORITIES

FIGURE 12

TABLE 1
STUDY INTERSECTIONS

No.	North/South Street	East/West Street	Jurisdiction
1.	Alameda Street	7th Street	City of Los Angeles
2.	Mateo Street	7th Street	City of Los Angeles
3.	Santa Fe Avenue	7th Street	City of Los Angeles
4.	Alameda Street	Bay Street	City of Los Angeles
5.	Alameda Street	8th Street	City of Los Angeles
6. [a]	I-10 WB Ramps	8th Street	City of Los Angeles / Caltrans
7.	Santa Fe Avenue	8th Street	City of Los Angeles

Notes:
[a] Unsignalized intersection

TABLE 2
EXISTING TRANSIT SERVICE IN STUDY AREA

Provider, Route, and Service Area		Service Type	Hours of Operation	Average Headway (minutes)			
				Morning Peak Hour		Afternoon Peak Hour	
Metro Bus Service [a]				NB/EB	SB/WB	NB/EB	SB/WB
60	Downtown LA - Artesia Station via Long Beach Bl	Local	4:30 A.M. - 12:00 A.M.	7	7	6	5
62	Downtown LA - Hawaiian Gardens via Telegraph Rd	Local	4:15 A.M. - 12:20 A.M.	30	48	48	24
66	Wilshire Center - Downtown LA - Montebello via 8th St - Olympic Bl	Local	4:00 A.M. - 1:30 A.M.	9	10	10	9

Notes:
Metro - Los Angeles County Metropolitan Transportation Authority.
NB - Northbound. EB - Eastbound. SB - Southbound. WB - Westbound.
[a] Transit routes and frequencies are current as of the time of publishing this analysis, including recent changes based on the Metro Next Generation Bus Study.

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

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average 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										
60	Decatur St & 7th St	50	24	28	15	20	35	30	306	258
62	Decatur St & 7th St	50	21	23	17	18	33	32	67	40
66	Lawrence St & Olympic Bl	50	32	44	17	26	33	24	230	140
							Total Remaining Peak Hour Transit System Capacity		**3,331,847**	

Notes:
Metro - Los Angeles County Metropolitan Transportation Authority.
NB - Northbound. EB - Eastbound. SB - Southbound. WB - Westbound.
[a] Capacity assumptions:
Metro - 40 seated / 50 standing.
[b] Based on ridership data provided by Metro in 2019.

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

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Average 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										
60	Decatur St & 7th St	50	29	29	18	5	17	45	152	380
62	Decatur St & 7th St	50	32	28	4	21	46	29	92	37
66	Lawrence St & Olympic Bl	50	44	31	28	21	22	29	153	168
								Total Remaining Peak Hour Transit System Capacity		**3,142,698**

Notes:
Metro - Los Angeles County Metropolitan Transportation Authority.
NB - Northbound. EB - Eastbound. SB - Southbound. WB - Westbound.
[a] Capacity assumptions:
Metro - 40 seated / 50 standing.
[b] Based on ridership data provided by Metro in 2019.

TABLE 4
RELATED PROJECTS LIST

No.	CPC Case No.	Project	Address	Use	Trip Generation [a]						
					Daily	Morning Peak Hour			Afternoon Peak Hour		
						In	Out	Total	In	Out	Total
1.	N/A	Mixed-Use	2051 E 7th St	320 apartment units, 15,000 sf retail, and 5,000 sf restaurant	2,310	17	127	144	145	64	209
2.	N/A	Mixed-Use	826 S Mateo St	90 live/work units, 11,000 sf retail, and 5,600 sf restaurant	1,267	11	34	45	62	39	101
3.	CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR	Camden Arts Mixed-Use	1525 E Industrial St	344 live/work units, 24,774 sf of creative office uses, and 4,042 sf of restaurant space	1,729	37	59	96	69	44	113
4.	CPC-2016-2683-GPA-VZC-HD-CU-CUB-DB-SPR	Mixed Use (Revised)	1800 E 7th St	122 apartment units, 9,500 sf commercial uses, and 5,885 sf of amenity space	816	26	45	71	45	37	82
5.	CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI	668 S Alameda St Mixed-Use	668 S Alameda St	475 live/work units, 15,815 sf arts and production space, 15,105 sf grocery store, 9,943 sf commercial/retail space, 16,140 sf restaurant/café/bar, and 4,200 sf of other supporting space	4,004	120	184	304	215	153	368
6.	N/A	Industrial Park	1005 S Mateo St	94,849 sf industrial park	426	40	9	49	10	39	49
7.	CPC-2016-3756-GPA-VZC-SP	6AM	1206-1338 E 6th St/1205-1321 Wholesale St	412 hotel rooms, 1,736 apartment units, 316,632 sf warehouse, 253,514 sf office, 45,278 sf restaurant, 82,332 sf retail, 300 student enrollment, and 22,429 sf art museum	14,258	437	585	1,022	710	642	1,352
8.	VTT-74564	2110 Bay Street	2110 Bay St	110 live/work apartment units, 113,350 sf creative office, and 43,657 shopping center (mix of retail, market, health club, restaurant)	2,394	180	63	243	89	192	281
9.	ENV-2017-249-EIR; CPC-2017-247-GPAJ-VZCJ-HD-VCU-MCUP-CUX-ZV-MSC	670 Mesquit	670 S Mesquit St	236 hotel rooms, 308 apartment units, 79,240 sf retail, 89,576 sf restaurant, 93,617 sf event space, 62,148 sf gym, 56,912 sf grocery, and 944,055 sf office	26,489	1,513	451	1,964	698	1,316	2,014
10.	CPC-2016-3689-GPA-VZC-HD-MCUP-DB-SPR	676 Mateo Mixed-Use	676 S Mateo St	172 live/work units and 23,025 sf commercial space	1,991	64	81	145	100	68	168
11.	CPC-2017-437-GPAJVZCJ-HD-VCU-MCUP-SPR	Mixed-Use	2143 E Violet St	347 apartment units, 21,858 sf restaurant, and 187,374 sf office	4,714	206	129	335	182	208	390
12.	CPC-2017-4734-GPA-ZC-HD-CUB-CUX-ZV-ZAA-SPR-RDP	Rendon Hotel	2053 E 7th St	103 hotel rooms	732	24	17	41	27	26	53
13.	CPC-2021-4259-CU-CUB-SPR	Studio	2000 E 8th St.	249,790 SF studio with production support, office, & ancillary uses	308	171	77	284	20	217	337
14.	ENV-2020-6829-EAF; CPC-2020-6828-GPA-ZC-HD-SPR-MCUP	Commercial	655 Mesquit St	184,629 sf office, 4,325 sf retail	1,867	185	31	216	37	181	218
15.	N/A	Mixed--Use	930 E 6th St	236 apartment units and 12,000 sf commercial	1,074	17	79	96	70	32	102
16.	ENV-2016-3860-CE	SPR- Industrial Park	640 S Santa Fe Ave	91,185 sf office, 9,430 sf retail, and 6.550 sf restaurant	1,330	90	8	98	43	114	157
17.	ZA-2018-3405-ZAD-SPR	Mixed-Use	1340 E 6th St	170 apartment units, 16,518 sf retail	530	(91)	16	(75)	10	(67)	(57)

Notes:

[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in November 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site and one-quarter mile (radius of the farthest outlying study intersections.

Chapter 3
Project Traffic

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

PROJECT TRIP GENERATION

The number of peak hour trips expected to be generated by the Project was estimated using peak hour rates published *Trip Generation Manual, 11th Edition,* which are based on surveys of similar land uses at sites around the country and are used to calculate the number of vehicle trips traveling to and from the Project Site during the morning and afternoon peak hour relative to the size of development of the specific land use. In consultation with LADOT during the MOU process, allowable trip generation reductions were applied to the trip generation estimates to account for internal capture, public transit usage/walking arrivals, and pass-by trips:

- Internal Capture: A 10% internal capture adjustment was applied to the commercial retail and restaurant trip generation estimates to account for person trips made between the different uses of the Project without using an off-site road system.

- Transit Usage: The Project Site is located within walking distance of numerous bus stops; therefore, a 5% transit/walk-in reduction was applied to account for transit usage and walk-in arrivals from surrounding neighborhoods and adjacent commercial developments.

- Pass-By: Consistent with Attachment H of the TAG, a pass-by adjustment ranging from 20% to 50% was applied to the commercial restaurant and retail trip generation estimates, respectively, to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

The number of trips currently generated by the existing uses of the Project Site was also estimated using the rates published in *Trip Generation Manual, 11th Edition* for warehouse uses. No additional trip reductions were applied to the existing uses.

After accounting for the reduction described above, the Project is estimated to generate 450 net new morning peak hour trips (379 inbound, 71 outbound) and 436 net new afternoon peak hour trips (100 inbound, 336 outbound), as summarized in Table 5.

PROJECT TRIP DISTRIBUTION

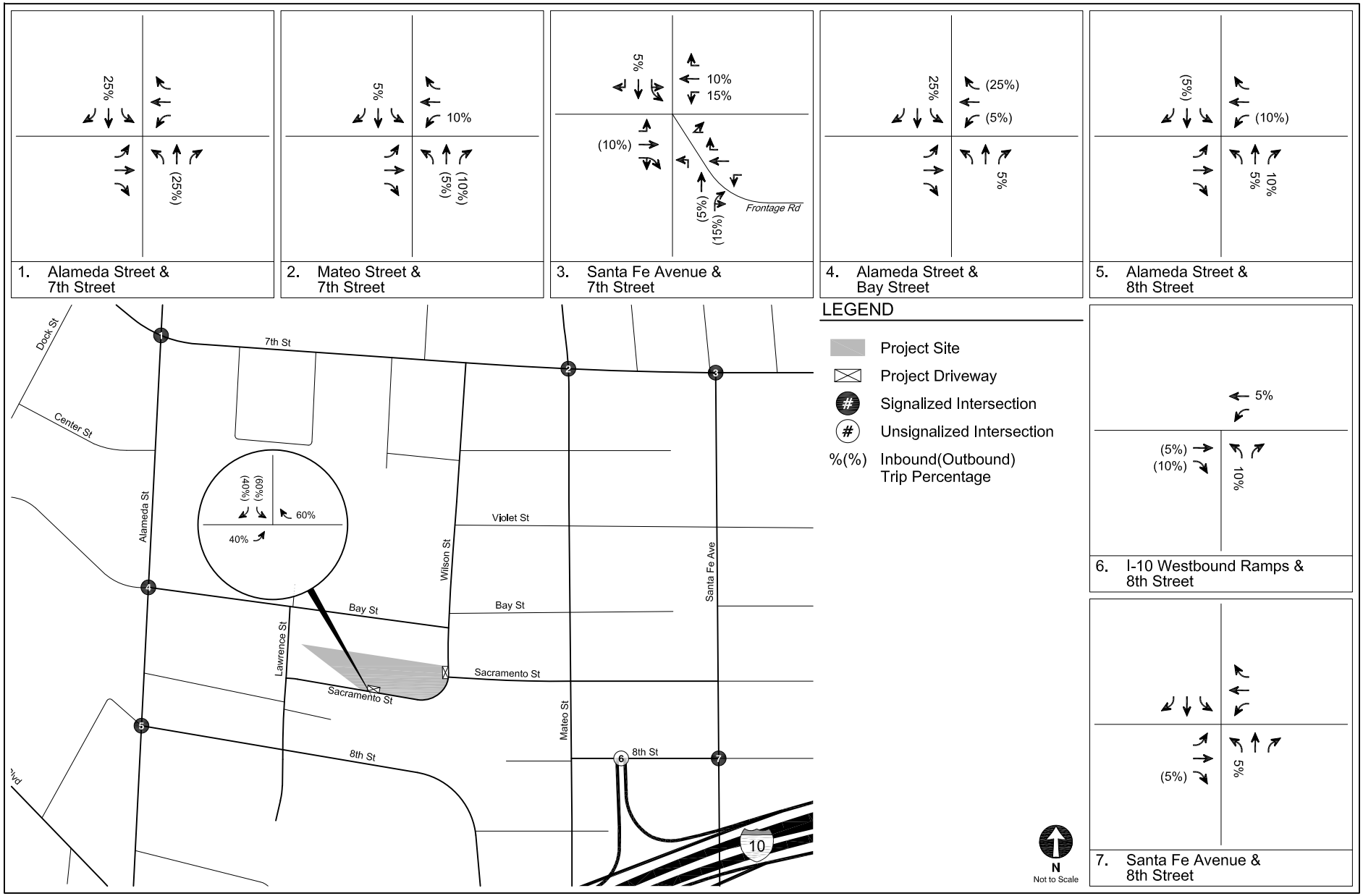
The geographic distribution of trips generated by the Project is primarily dependent on the location of off-site residential and commercial uses from which tenants of the Project would be drawn, characteristics of the street system serving the Project Site, existing intersection traffic volumes, the location of the proposed driveways, as well as input from LADOT staff.

The intersection-level trip distribution for the Project is shown in Figure 13. Generally, the regional pattern is as follows:

- 35% northbound
- 35% eastbound
- 20% southbound
- 10% westbound

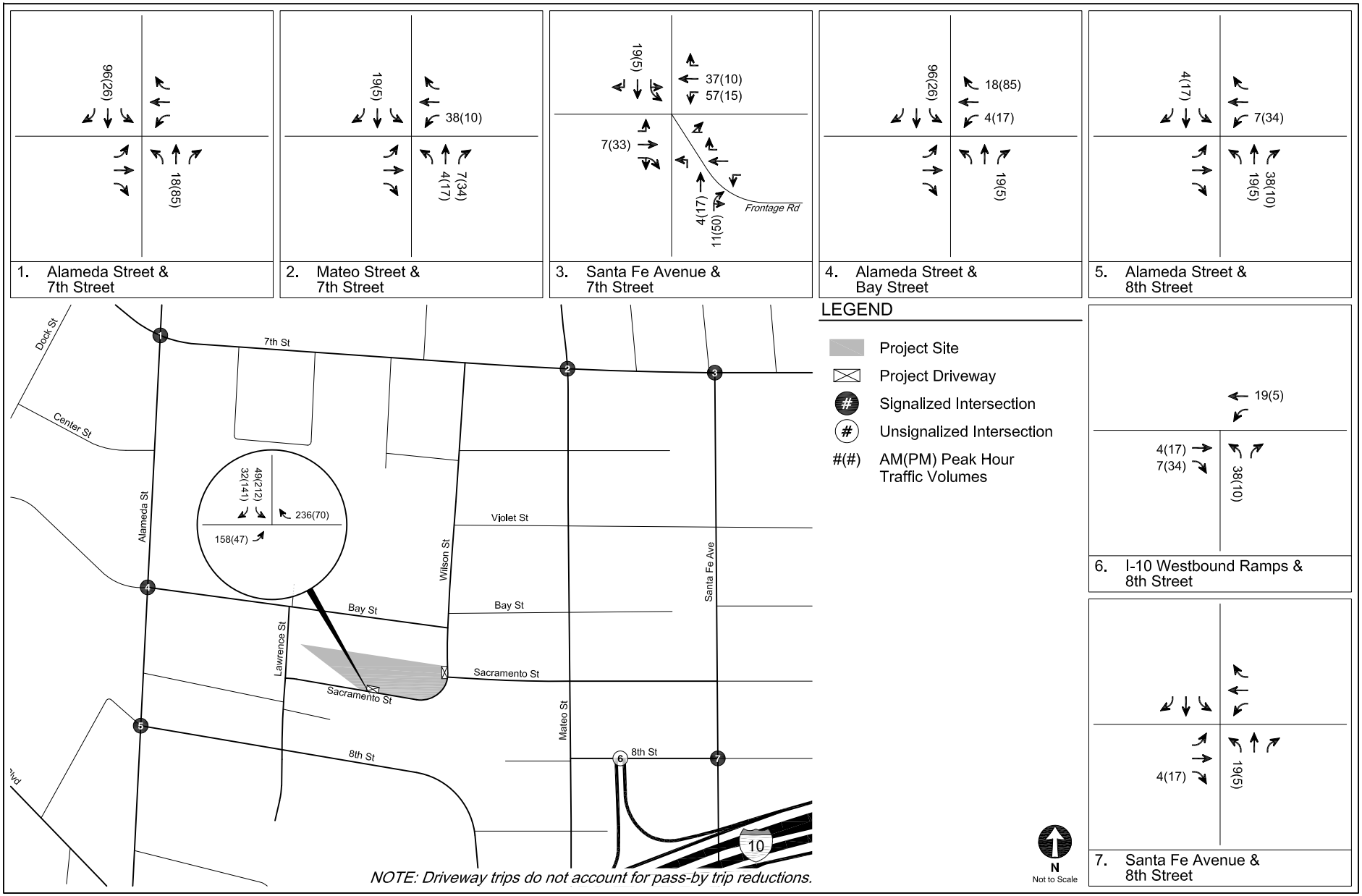
PROJECT TRIP ASSIGNMENT

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



PROJECT TRIP DISTRIBUTION

FIGURE 13



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14

TABLE 5
TRIP GENERATION ESTIMATES

Land Use [a]	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates								
Warehouse	150	per 1,000 sf	77%	23%	0.17	28%	72%	0.18
General Office Building	710	per 1,000 sf	88%	12%	1.52	17%	83%	1.44
Strip Retail Plaza (<40k)	822	per 1,000 sf	60%	40%	2.36	50%	50%	6.59
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	55%	45%	9.57	61%	39%	9.05
Trip Generation Estimates								
Proposed Project								
Office	710	277,700 sf	371	51	422	68	332	400
Transit/Walk Reduction - 5% [b]			*(19)*	*(3)*	*(22)*	*(3)*	*(17)*	*(20)*
Restaurant	932	8,000 sf	42	35	77	44	28	72
Internal Capture Reduction - 10% [c]			*(4)*	*(4)*	*(8)*	*(4)*	*(3)*	*(7)*
Transit/Walk Reduction - 5% [b]			*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Pass-by Reduction - 20% [d]			*(7)*	*(6)*	*(13)*	*(8)*	*(5)*	*(13)*
Retail	820	5,200 sf	7	5	12	17	17	34
Internal Capture Reduction - 10% [c]			*(1)*	*(1)*	*(2)*	*(2)*	*(2)*	*(4)*
Transit/Walk Reduction - 5% [b]			*0*	*0*	*0*	*(1)*	*(1)*	*(2)*
Pass-by Reduction - 50% [d]			*(3)*	*(2)*	*(5)*	*(7)*	*(7)*	*(14)*
Subtotal Proposed Project			**384**	**73**	**457**	**102**	**341**	**443**
Existing Uses to be Removed								
Warehouse	150	40,479 sf	(5)	(2)	(7)	(2)	(5)	(7)
TOTAL NET NEW PROJECT TRIPS			**379**	**71**	**450**	**100**	**336**	**436**

Notes:
sf: square feet
[a] Trip generation rates are for General Urban/Suburban areas from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021).
[b] The Project site is located within a 1/4 mile of a Metro Local Bus stops Decatur St & 7th St (Lines 60 and 62) and at Lawrence St & Olympic Bl (Line 66), therefore a 5% transit adjustment was applied to account for transit usage and walking visitor arrivals.
[c] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e., between office and retail).
[d] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

Chapter 4
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, the improvements associated with the potential conflicts, the results of a Project VMT analysis that satisfies State requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743), and an identification of any hazards created due to geometric design features.

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 shifted from vehicular delay (level of service [LOS]) to VMT, in order to reduce greenhouse gas emissions (GHG), create multimodal networks, and promote mixed-use developments.

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 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 4A through 4D.

Section 4A: Threshold T-1
Conflicting with Plans, Programs, Ordinances, or Policies Analysis

Threshold T-1 assesses whether a project would conflict with an adopted program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.

PLANS, PROGRAMS, ORDINANCES, AND POLICIES

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

As stated in Section 2.1.4 of the TAG, a project that generally conforms with and does not obstruct the City's development policies and standards will generally be considered to be consistent. As detailed in Appendix C, the Project is generally 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. A detailed discussion of the plans, programs, ordinances, or policies related to the Project is provided below.

Mobility Plan

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

- 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.

- 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.

- 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.

- 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.

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

A detailed analysis of the Project's consistency with the specific policies of the Mobility Plan is provided in Table 6 and Appendix C. As detailed in Chapter 2, the Mobility Plan identifies key corridors within the Project area as components of various "mobility-enhanced networks." Though no specific improvements have been identified and there is no schedule for implementation, the mobility-enhanced networks represent a focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The Project would be designed with the mobility-enhanced networks as a top priority.

Vehicular access would be provided via one full-access driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. The Project is requesting a Waiver of Dedication and Improvement for both Sacramento Street and Wilson Street to maintain the existing roadway and ROW widths. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways via commercial entrances along Sacramento Street. All driveways and access points would be designed consistent with LADOT standards and all ADA requirements. The Project would conform to all design element requirements along the Project frontages to encourage walking and enhance the pedestrian environment.

The Project is located within 0.25 miles of numerous Metro bus stops and would provide bicycle parking for employees and visitors, thereby promoting public and active transportation modes and reducing the Project VMT per employee compared to the average for the area, as demonstrated in Section 4B. Further, the Project does not propose modifying, removing, or otherwise negatively affecting existing bicycle infrastructure.

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.

A detailed analysis of the Project's consistency with Plan for a Healthy Los Angeles is provided in Table 7. 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 along the Project frontage. Further, the Project supports healthy lifestyles by providing bicycle parking and designing 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's General Plan's Land Use Element contains 35 Community Plans that establish specific goals and strategies for the various neighborhoods across Los Angeles. The Project Site is located within the *Central City North Community Plan* area of the City. The City is in the process of updating the Central City and the Central City North Community Plans as part of the *Draft Downtown Los Angeles Community Plan* (LADCP, 2021). The Project's consistency with both *Central City North Community Plan* and *Draft Downtown Los Angeles Community Plan* are described below.

***Central City North Community Plan*.** A detailed analysis of the Project's consistency with *Central City North Community Plan* is provided in Table 8. The Project would replace warehouse uses with employment opportunities in proximity to numerous Metro bus stops. The Project's proximity to transit and provision of bicycle parking and pedestrian network connections provide alternative modes of transportation for employees and visitors traveling to and from the Project Site and maximizes the development opportunities of the transit system while minimizing adverse impacts. The Project would also provide publicly accessible open space in the form of an open-air lobby to serve the Project employees, visitors, and members of the local community. Thus, the Project promotes and encourages development standards in line with the goals and objectives of *Central City North Community Plan*.

***Draft Downtown Los Angeles Community Plan*.** LADCP is partnering with the downtown community to update the Central City and Central City North Community Plans. The downtown Community Plan will describe a collective vision for downtown's future and include policies, plans, and implementation programs that frame the City's long-term priorities. Downtown will have the first Community Plan in the City to apply new zoning tools developed as part of the comprehensive update to the City's Zoning Code.

Draft Downtown Los Angeles Community Plan is currently a draft document undergoing refinement and has not yet been adopted. Thus, the information provided herein is for informational purposes only. A detailed analysis of the Project's consistency with *Draft Downtown Los Angeles Community Plan* is provided in Table 9. The purpose of *Draft Downtown Los Angeles Community Plan* is to create and implement a vision of the future for downtown Los Angeles. According to regional projections, by Year 2040, downtown Los Angeles will be adding approximately 125,000 people, 70,000 housing units, and 55,000 jobs. Per *Draft Downtown Los Angeles Community Plan*, the following "core principles" represent the long-term priorities of the plan:

- Accommodate anticipated growth through Year 2040 in an inclusive, equitable, sustainable, and healthy manner, while supporting and sustaining Downtown's ongoing revitalization
- Reinforce Downtown's jobs creation
- Grow and support the residential base
- Strengthen neighborhood character
- Promote a transit-, bicycle-, and pedestrian-friendly environment

- Create linkages between districts
- Create world-class streets and public realm

The Project would provide mixed-use buildings to accommodate future growth in the nearby Arts District, an emerging neighborhood in downtown Los Angeles, in an inclusive, equitable, sustainable, and healthy manner as it would aim to enhance and improve the existing Project Site. The Project would provide bicycle and pedestrian amenities that promote a transit-, bicycle- and pedestrian-friendly environment, such as wider sidewalks, street trees, publicly accessible open space, an open-air lobby, and landscaping that improves walkability and connectivity for pedestrian access between transit stops and nearby destinations. The Project would also provide bicycle parking to encourage bicycling for residents, employees, and visitors to the Project Site. Pedestrian and bicycle access would be separate from vehicular access, further prioritizing pedestrian and bicycle safety and comfort. Further, the Project would implement TDM strategies to encourage a reduction of single-occupancy vehicle trips and support ways to reduce the VMT per capita.

The Project, through its characteristics highlighted above, both supports policies and does not hinder other goals and policies identified in *Draft Downtown Los Angeles Community Plan*. Therefore, the Project is consistent with and would not obstruct the implementation of the policies recommended by *Draft Downtown Los Angeles Community Plan*, should they be adopted.

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

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments. As further detailed in Section 5E, the proposed bicycle parking short-term and long-term supply for the Project would satisfy LAMC requirements.

LAMC Section 12.26J (TDM Ordinance)

LAMC Section 12.26J, the TDM Ordinance (1993), establishes trip reduction requirements for non-residential projects in excess of 25,000 sf. The Project includes non-residential uses greater than 25,000 sf; therefore, the Project would be subject to the requirements of the TDM Ordinance.

The Project would incorporate TDM measures to encourage the use of alternative transportation modes by providing reduced parking, parking cash-out, marketing and promotions, bicycle parking, and pedestrian network connections, as well as concentrating development in proximity to multi-modal opportunities, consistent with the requirements set forth in the TDM Ordinance.

Vision Zero Action Plan / Vision Zero Corridor Plans

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 corridor identified as part of the HIN. Thus, the Project would not interfere with existing Vision Zero improvement projects, nor would the Project preclude future Vision Zero safety improvements by the City. Thus, the Project does not conflict with Vision Zero.

Streetscape Plans

The Project is not located within the boundaries of any streetscape plan and, therefore, streetscape plans do not apply to this Project.

Citywide Design Guidelines

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

The Pedestrian-First Design guidelines are as follows:

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

A detailed analysis of the Project's consistency with the guidelines of the Pedestrian-First Design approach is provided in Table 10.

The Project design includes separate bicycle, pedestrian, and vehicular access points and street trees to provide adequate shade and enhance the pedestrian environment in accordance with the City's design considerations. Additionally, the Project's active ground floor facilities will ensure the Project engages with the street and its surrounding uses. Thus, the Project design provides for the safety, comfort, and accessibility of pedestrians, aligning with the Pedestrian-First Design approach.

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 0.50 miles of the Project Site and any transportation system improvements in the vicinity. Related Projects located within 0.50 miles of the Project site are identified in Table 4.

Similar to the Project, the Related Projects would be individually responsible for complying with relevant plans, programs, ordinances, or policies addressing the circulation system. Thus, the Project, together with the Related Projects, would not result in cumulative impacts with respect to consistency with each of the plans, ordinances, or policies reviewed. The Project and the Related Projects would not interfere with any of the general policy recommendations and/or pilot proposals and, therefore, there would be no significant Project impact or cumulative impact.

TABLE 6
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Safety First	
Policy 1.1, Roadway User Vulnerability Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.	**Consistent.** The Project is requesting a Waiver of Dedication and Improvement for both Sacramento Street and Wilson Street to maintain the existing roadway and ROW widths. The Project would improve existing curb cuts along the Project frontages by providing driveways designed and placed in accordance with current City standards for typical two-way operations to reduce interruptions to vehicle, bicycle and pedestrian safety. 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.
Policy 1.6 Multi-Modal Detour Facilities Design detour facilities to provide safe passage for all modes of travel.	**Consistent.** Construction activities would be primarily maintained on-site. Temporary sidewalk and parking lane closures along Sacramento Street adjacent to the Project Site may be required during construction activities. Any impediments to the public right-of-way would be addressed with implementation of a Construction Management Plan.
Chapter 2 - World Class Infrastructure	
Policy 2.2 Complete Streets Design Guide Establish the Complete Streets Design Guide as the City's document to guide the operations and design of streets and other public rights-of-way.	**Consistent.** The adjacent streets would be improved with consideration of the safety of all users, including pedestrians, bicyclists, and vehicles.
Policy 2.3 Pedestrian Infrastructure Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.	**Consistent.** The Project would enhance pedestrian access within and around the Project Site by providing pedestrian connections and open-air ground-level lobby spaces. To enhance the pedestrian environment, the Project would maintain or improve sidewalks along the Project frontages to meet Mobility Plan standards and remove and improve existing curb cuts to reduce interruptions to pedestrian traffic and safety. Landscaping along the Project frontages would also be provided to further enhance the pedestrian environment.
Policy 2.4 Neighborhood Enhanced Network Provide a slow speed network of locally serving streets.	**Consistent.** No access to the Project Site is provided along street segments identified in the Neighborhood Enhanced Network, thereby ensuring that minimum Project traffic would interfere with the neighborhood character of the surrounding area.
Policy 2.5 Transit Network Improve the performance and reliability of existing and future bus service.	**Consistent.** No streets adjacent to the Project Site are identified in the Transit Enhanced Network. Nonetheless, the Project would not interfere with existing service and would not preclude future transit service improvements to the surrounding area.
Policy 2.6 Bicycle Networks Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. (includes scooters, skateboards, rollerblades, etc.)	**Consistent.** No streets adjacent to the Project Site are identified as part of the Bicycle Network. The Project would provide infrastructure and services to encourage bicycling for employees and visitors to the Project Site. Approximately 35 short-term and 63 long-term bicycle parking spaces would be provided by the Project.

Notes:

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

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy 2.7 Vehicle Network Provide vehicular access to the regional freeway system.	**Consistent.** Vehicular access to the Project Site would be provided via Sacramento Street, approximately 0.25 miles north of I-10.
Policy 2.9 Multiple Networks Consider the role of each mode enhanced network when designing a street that included multiple modes.	**Consistent.** No streets adjacent to the Project Site are part of any networks designated by the Mobility Plan. Nonetheless, the Project would provide and accommodate the various modes of travel on the streets and minimize conflicts to prioritize safety. The Project would not preclude any future improvements to the adjacent roadway network.
Policy 2.10 Loading Areas Facilitate the provision of adequate on and off-street loading areas.	**Consistent.** The Project will provide passenger and truck-loading zones within the Project Site. The loading zones would be managed to facilitate safe loading operations and limit vehicle queue spillovers into the travel lanes.
Chapter 3 - Access for All Angelenos	
Policy 3.1 Access for All Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes – including goods movement – as integral components of the City's transportation system.	**Consistent.** The Project is committed to encouraging multi-modal transportation alternatives and access for all travel modes to and from the Project Site. The Project would provide loading zones on-site and infrastructure (short- and long-term bicycle parking, easy bicycle access to the Project Site) to encourage walking and bicycling. Additionally, the Project is located within 0.25 miles of numerous Metro bus stops, which provide access for employees and visitors to the Project Site.
Policy 3.2 People with Disabilities Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.	**Consistent.** The Project's vehicular and pedestrian entrances would be designed in accordance with LADOT standards and would comply with Americans with Disabilities Act (ADA) requirements. The Project design would also be in compliance with all ADA requirements and would provide direct connections to pedestrian amenities at adjacent intersections.
Policy 3.3 Land Use Access and Mix Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	**Consistent.** The Project would provide a mix of land uses including office, retail, and restaurant uses, offering users an opportunity to accomplish a number of daily errands in fewer trips. These land uses are also in close proximity to bus and transit line services.

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

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy 3.5 Multi-Modal Features Support "first-mile, last-mile solutions" such as multi-modal transportation services, organizations, and activities in the areas around transit stations and major bus stops (transit stops) to maximize multi-modal connectivity and access for transit riders.	**Consistent.** As part of the Project design features, the Project would provide a reduced parking supply, parking cash-out, promotions and marketing, bicycle parking facilities, and pedestrian network connections. These features would support multi-modal connectivity and access for transit riders.
Policy 3.8 Bicycle Parking Provide bicyclists with convenient, secure, and well-maintained bicycle parking facilities.	**Consistent.** The Project would provide short-term and long-term bicycle parking throughout the Project Site that would satisfy the LAMC requirement.
Chapter 4 - Collaboration, Communication, & Informed Choices	
Policy 4.5 Improved Communication Facilitate communications between citizens and the City in reporting on and receiving responses to non-emergency street improvements.	**Consistent.** As part of the Project's Construction Management Plan, advance notification to the adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of construction, would be provided.
Policy 4.8 Transportation Demand Management Strategies Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	**Consistent.** The Project would implement Project design features to promote and provide employees and patrons with opportunities to utilize alternative transportation modes, including a reduced parking supply, parking cash-out, promotions and marketing, bicycle parking facilities, and pedestrian network connections.
Policy 4.13 Parking and Land Use Management Balance on-street and off-street parking supply with other transportation and land use objectives.	**Consistent.** The Project would provide sufficient off-street parking to accommodate Project parking demand.
Policy 4.14 Wayfinding Provide widespread, user-friendly information about mobility options and local destinations, delivered through a variety of channels including traditional signage and digital platforms.	**Consistent.** The Project would incorporate illumination for parking, signage, and security purposes.

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

TABLE 6 (CONTINUED)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 5 - Clean Environments & Healthy Communities	
Policy 5.1 Sustainable Transportation Encourage the development of a sustainable transportation system that promotes environmental and public health.	**Consistent.** The Project would provide bicycle and pedestrian facilities and connections throughout the Project Site to promote healthy transportation options.
Policy 5.2 Vehicle Miles Traveled (VMT) Support ways to reduce vehicle miles traveled (VMT) per capita.	**Consistent.** The Project would incorporate TDM measures to promote and provide employees and patrons the opportunity to utilize alternative transportation modes to reduce VMT by reducing the number of single occupancy vehicle trips to the Project Site.
Policy 5.4 Clean Fuels and Vehicles Continue to encourage the adoption of alternative fuels, new mobility technologies, and supporting infrastructure.	**Consistent.** The Project would incorporate TDM measures to promote and provide employees and patrons the opportunity to utilize alternative transportation modes to reduce VMT by reducing the number of single occupancy vehicle trips to the Project Site, as well as support electric vehicles by providing charging stations and infrastructure.

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

TABLE 7
PROJECT CONSISTENCY WITH PLAN FOR A HEALTHY LOS ANGELES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Chapter 1 - Los Angeles, a Leader in Health and Equity	
Policy 1.5 Plan for Health Improve Angelenos' health and well-being by incorporating a health perspective into land use, design, policy, and zoning decisions through existing tools, practices, and programs.	**Consistent.** The Project would enhance pedestrian access within and around the Project Site by providing improvements to the sidewalks, landscaping, and pedestrian safety measures within the Project and along the Project frontages. Further, the Project would provide infrastructure such as bicycle parking to encourage bicycling for employees and visitors to the Project Site. As such, the Project would encourage the use of active travel modes and thereby promote healthy living. The Project would also replace existing warehouse facilities and as a result, would improve existing curb cuts to meet current City standards for typical two-way operations, which would improve pedestrian facilities along the Project frontages.
Chapter 2 - A City Built for Health	
Policy 2.8 Basic Amenities Promote increased access to basic amenities, which include public restrooms and free drinking water in public spaces, to support active living and access to health-promoting resources.	**Consistent.** The Project would provide publicly accessible open space, including an open-air lobby, to support active living.
Chapter 5 - An Environment Where Life Thrives	
Policy 5.7 Land Use Planning for Public Health and GHG Emission Reduction Promote land use policies that reduce per capita greenhouse gas emissions, result in improved air quality and decreased air pollution, especially for children, seniors and others susceptible to respiratory diseases.	**Consistent.** The Project is estimated to generate lower VMT per capita for employees than the average for the area, as demonstrated in Section 4B. Additionally, the Project incorporates several design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site, including implementation of a reduced parking supply, parking cash-out, promotions and marketing, bicycle parking facilities, and pedestrian network connections. VMT directly contributes to GHG emissions, so a reduced VMT per capita also reduces GHG per capita.

Notes:

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

TABLE 8
PROJECT CONSISTENCY WITH CENTRAL CITY NORTH COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
GOAL 10 Develop a public transit system that improves mobility with convenient alternatives to automobile travel. **OBJECTIVE 10-1** To encourage improved local and express bus service through the Central City North community and encourage park-and-ride facilities to interface with freeways, high occupancy vehicle (HOV) facilities and rail facilities. **Policies** **10-1.1** Coordinate with the MTA to improve local bus service to and within the Central City North community and on a Bus Restructuring Program for the area. **10-1.2** Encourage the provision of safe, attractive and clearly identifiable transit stops with user friendly design amenities. **10-1.3** Encourage the expansion, wherever feasible, of programs aimed at enhancing the mobility of senior citizens, disabled persons, and the transit dependent population.	**Consistent.** The Project would encourage more transit usage by developing a studio/office project with convenient access to bus transit services. Further, the Project would improve the pedestrian environment within and around the Project Site with enhanced landscaping, street trees, and an open-air lobby with active street frontages. These open spaces would be open to the Project employees and visitors, as well as the public.
GOAL 11 A well maintained, safe, efficient freeway and street network. **OBJECTIVE 11-1** That signalized intersections are integrated with the City's ATSAC system by the year 2010. **Policies** **11-1.1** Install ATSAC equipment at an accelerated rate with expanded funding. **11-1.2** Support the existing Department of Transportation program to provide separate right and/or left turn lanes on arterial streets, where feasible. **11-1.3** Accelerate controller replacement to upgrade and improve signal efficiency.	**Consistent.** The City completed integration of the ATSAC system at signalized intersections in 2013. The Project would not preclude LADOT from making any further changes to traffic signal controllers nor would it preclude the installation of turn lanes on arterial streets.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the *Central City North Community Plan,* Los Angeles Department of City Planning, Revised September 2016.

TABLE 8 (CONTINUED)
PROJECT CONSISTENCY WITH CENTRAL CITY NORTH COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
GOAL 12 Encourage alternative modes of transportation to the use of single occupant vehicles (SOV) in order to reduce vehicular trips. **OBJECTIVE 12-1** To pursue transportation management strategies that can maximize vehicle occupancy, minimize average trip length, and reduce the number of vehicle trips. **Policies** **12-1.1** Encourage non-residential development to provide employee incentives for utilizing alternatives to the automobile (i.e., carpools, vanpools, buses, flex time, bicycles, and walking, etc.) **12-1.2** Encourage the use of multiple-occupancy vehicle programs for shopping and other activities to reduce midday traffic. **12-1.3** Require that proposals for major new non-residential development projects include submission of a TDM Plan to the City. **12-1.4** TDM measures in Central City North should be consistent with adopted City policy.	**Consistent.** Vehicular parking would be provided on-site to serve the various uses of the Project. Additionally, the Project incorporates several design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site, including implementation of a reduced parking supply, parking cash-out, promotions and marketing, bicycle parking facilities, and pedestrian network connections.
GOAL 13 A system of safe, efficient and attractive bicycle and pedestrian facilities. **OBJECTIVE 13-1** To promote an adequate system of bikeways for commuter, school, and recreational use. **Policies** **13-1.1** Plan for and encourage funding and construction of bicycle facilities connecting residential neighborhoods to schools, open space areas, and employment centers. **13-1.2** Identify bicycle facilities along arterials in the community. **13-1.3** Assure that local bicycle facilities are linked with the facilities of neighboring areas of the City. **13.1.4** Encourage the provision of changing rooms, showers, and bicycle storage at new and existing and non-residential developments and public places.	**Consistent.** The Project would include both short-term and long-term bicycle parking facilities, as well as sidewalk landscaping, both connecting within the Project Site and connecting to off-site pedestrian facilities that would encourage alternate modes of access.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the *Central City North Community Plan,* Los Angeles Department of City Planning, Revised September 2016.

TABLE 8 (CONTINUED)
PROJECT CONSISTENCY WITH CENTRAL CITY NORTH COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
OBJECTIVE 13-2 To promote pedestrian oriented mobility and the utilization of the bicycle for commuter, school, recreational use, economic activity, and access to transit facilities. **Policies** **13-2.1** Encourage the safe utilization of easements and/or rights-of-way along flood control channels, public utilities, railroad rights-of-way, and streets wherever feasible for the use of bicycles and/or pedestrians. **13-2.2** Require the installation of sidewalks with all new roadway construction and significant reconstruction of existing roadways.	**Consistent.** The Project incorporates neighborhood serving ground floor commercial retail and restaurant uses to help encourage pedestrian engagement. In addition, pedestrian enhancements include improved sidewalks, street trees, publicly accessible open space, and landscaping to further activate the streetscape and improve the pedestrian experience.
GOAL 14 A sufficient system of well designed and convenient on-street parking and off street parking facilities throughout the Plan area. **OBJECTIVE 14-1** To provide parking in appropriate locations in accord with Citywide standards and community needs. **Policies** **14-1.1** Consolidate parking, where appropriate, to eliminate the number of ingress and egress points onto the arterial. **14-1.2** New parking lots and garages shall be developed in accordance with design standards.	**Consistent.** Vehicular parking would be provided on-site to serve the various uses of the Project. The design of the driveways and parking areas would be compliant with LADOT standards.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the *Central City North Community Plan,* Los Angeles Department of City Planning, Revised September 2016.

TABLE 8 (CONTINUED)
PROJECT CONSISTENCY WITH CENTRAL CITY NORTH COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
GOAL 16 A system of freeways, and streets that provide a circulation system which is consistent with the Mobility Plan 2035 and that supports existing, approved, and planned land uses while maintaining a desired level of service at intersections where feasible. **OBJECTIVE 16-1** To the extent feasible and consistent with the Mobility Plan 2035's and the Community Plans' policies promoting multi-modal transportation and safety, comply with Citywide performance standards for acceptable levels of service (LOS) and insure that necessary road access and street improvements are provided to accommodate traffic generated by new development **Policies** **16-1.1** To the extent feasible and consistent with the Mobility Plan 2035's and the Community Plans' policies promoting multi-modal transportation (e.g. walking, bicycling, driving and taking public transit) and safety, maintain a satisfactory LOS for streets that should not exceed LOS "D" for Boulevards, Avenues, and Collector Streets. If existing levels of service are LOS "E" or LOS "F" on a portion of a arterial or collector street, then the level of service for future growth should be maintained at LOS "E", where feasible and consistent with the policies of the Mobility Plan.	**Consistent.** The Project was analyzed based on the latest LADOT guidelines as defined in the TAG. In compliance with the TAG, the Project was analyzed using VMT as the primary performance metric, which is discussed further in Chapter 4B. A LOS analysis was also performed with the findings discussed in Chapter 5B.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the *Central City North Community Plan,* Los Angeles Department of City Planning, Revised September 2016.

TABLE 9
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy LU 1.1: Ensure the development of complete neighborhoods with diverse uses and resilient infrastructure, parks, streetscapes, transit, and community amenities.	**Consistent.** The Project proposes a mix of office, retail, and restaurant uses located within 0.25 miles of numerous Metro bus stops, which provide access for employees and visitors to the Project Site**.** The Project aims to enhance the existing site by actively engaging with streets and public space and providing diverse uses to ensure the development of a complete neighborhood.
Policy LU 9.7: Expand access to employment opportunities with improved physical connections to and within Downtown and expanded transit service to employment districts.	**Consistent.** The Project would expand access to employment opportunities by locating office, retail, and restaurant uses within 0.25 miles of numerous Metro bus stops.
Policy LU 11.1: Require active ground floors and street frontages that improve walkability and connectivity, especially between transit stations and nearby destinations.	**Consistent.** The Project incorporates neighborhood serving ground floor commercial retail and restaurant uses to help encourage pedestrian engagement. In addition, pedestrian enhancements include improved sidewalks, street trees, publicly accessible open space, and landscaping to further activate the streetscape and improve the pedestrian experience.
Policy LU 11.2: Encourage development that is well integrated with the public realm to create an inviting urban environment.	**Consistent.** The Project would provide mixed-use buildings near transit with accessible entries and passages as part of the surrounding ideal urban environment.
Policy LU 11.4: Encourage building design that connects and orients people toward destinations and activity centers.	**Consistent.** The Project includes open space and comfortable pedestrian walkways to activate the streetscape and connect people towards destinations and activity centers.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the*Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 9 (CONTINUED)
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy LU 11.8: Promote compact development and encourage walking, biking, and transit use by encouraging no or minimal parking, when possible.	**Consistent.** The Project would promote compact development by proposing a mixed-use development located near several existing and future development projects. The Project does not propose excess parking as compared to the LAMC requirements. Additionally, it encourages alternative transportation by providing a reduced parking supply, parking cash-out, promotions and marketing, bicycle parking facilities, and pedestrian network connections. This would promote active transportation modes such as biking and walking. Additionally, the Project is located within 0.25 miles of numerous Metro bus stops, providing employees and visitors to the Project with public transportation alternatives.
Policy LU 11.9: Encourage underground parking, when provided, to increase the amount of above grade building square footage dedicated to active uses and to improve the pedestrian environment.	**Consistent.** The Project would provide five above-ground parking levels None of the proposed parking would be exposed to those traveling on adjacent streets.
Policy LU 22.2: Foster and reinforce cohesive, pedestrian-friendly, and inviting screeetscapes that promote walking, bicycling, and transit use. Encourage the creative infill of landscaped setbacks and inoperative spaces, such as those resulting from inconsistent streetwalls.	**Consistent.** The Project includes the provision of pedestrian amenities including improved sidewalks, street trees, publicly accessible open space, an open-air lobby, and landscaping. Overall, the Project would be designed to actively engage with streets and public spaces.
Policy LU 22.6: Encourage new developments to contribute to the pedestrian and open space network with publicly accessible plazas and paseos. Design these spaces with appropriate shade and landscaping.	**Consistent.** The Project incorporates neighborhood serving ground floor retail and restaurant uses, near major corridors such as Alameda Street, to help encourage pedestrian engagement. In addition, the Project would provide publicly accessible open space, an open-air lobby, and pedestrian network connections.

Notes:
[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the*Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 9 (CONTINUED)
PROJECT CONSISTENCY WITH DRAFT DOWNTOWN COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Policy LU 22.9: Encourage an active, walkable environment through building design that incorporates active ground floor uses and streetscape elements that provide an enhanced pedestrian experience.	**Consistent.** The Project incorporates neighborhood serving ground floor retail and restaurant uses, near major corridors such as Alameda Street, to help encourage pedestrian engagement. In addition, the Project would install landscaping, including new street trees, to further activate the streetscape and improve the pedestrian experience.
Policy MC 2.1: Establish a mode share goal of 75% for transit, walking, and biking for the year 2040 to improve the sustainability of Downtown's mobility network and increase access for residents, workers, and visitors.	**Consistent.** Although Policy MC 2.1 sets a City goal for mode share and not a project-specific goal, the Project would be consistent with this policy. Specifically, the Project would support multi-modal mobility options such as biking and transit usage. Additionally, the Project design incorporates TDM measures to reduce the number of single occupancy vehicle trips to the Project Site.
Policy MC 2.2: Implement strategies to reduce vehicle miles traveled per capita.	**Consistent.** The Project is estimated to generate lower work VMT per employee than the average for the area. Further, it would implement a TDM program to further reduce VMT per capita.
Policy MC 2.5: Facilitate integration between different modes of travel to create a seamless experiences as users switch between modes and to promote transit use and active transportation.	**Consistent.** The Project would support multi-modal mobility options by providing bicycle parking facilities. Additionally, the Project is located within 0.25 miles of numerous Metro bus stops.
Policy MC 4.2: Encourage residential and office buildings to provide bicycle related amenities such as repair stations and showers to facilitate cycling for residents, workers, and visitors.	**Consistent.** The Project proposes a mix of office, retail, and restaurant uses and would provide bicycle infrastructure, services, and amenities to encourage bicycling for employees and visitors to the Project Site.

Notes:

[a] Objectives, Policies, Programs, or Plans based on information provided in the draft text of the*Downtown Community Plan* (Los Angeles Department of City Planning, June 2021).

TABLE 10
PROJECT CONSISTENCY WITH CITYWIDE DESIGN GUIDELINES

Objective, Policy, Program, or Plan [a]	**Analysis of Project Consistency**
Pedestrian-First Design	
Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all Design projects to be safe and accessible and contribute to a better public right-of-way for people of all ages, genders, and abilities, especially the most vulnerable - children, seniors, and people with disabilities. **Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience** Design to avoid pedestrian and vehicular conflicts and to create an inviting and comfortable public right-of-way. A pleasant and welcoming public realm reinforces walkability and improves the quality of life for users. **Guideline 3: Design projects to actively engage with streets and public space and maintain human scale** New projects should be designed to contribute to a vibrant and attractive public realm that promotes a sense of civic pride. Better connections within the built environment contribute to a livable and accessible city and a healthier public realm.	**Consistent.** The Project design includes improved sidewalks, pedestrian amenities, and well-designed vehicular access driveways in accordance with the City's design standards. In addition, the Project would improve pedestrian facilities along Project frontages by implementing landscaping, street trees, and an open-air lobby. 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. The Project driveways would be designed and placed in accordance with City standards so as to not disrupt pedestrian flow on the adjacent sidewalks.

Notes:

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

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

Threshold T-2.1 states that a residential project would result in a significant VMT impact if it cannot meet the household VMT per capita of 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 cannot meet the work VMT per employee of 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 in accordance with the TAG, which satisfies State requirements under SB 743.

VMT METHODOLOGY

The following describes the methodology by which vehicle trips and VMT are calculated in *City of Los Angeles VMT Calculator Version 1.3* (LADOT, 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).

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

Residential and Non-Retail Commercial VMT

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

Source: TAG

The Project is located within the Central APC and, therefore, has a daily household VMT per capita impact threshold of 6.0 and a daily work VMT per employee impact threshold of 7.6.

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

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

The VMT Calculator determines a project's TBZ based on the latitude and longitude of a project address. The Project is located within a Suburban Center (Zone 2) TBZ.

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

- 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

Trip Lengths. The VMT Calculator determines a project's VMT based on trip length information from the City's Travel Demand Forecasting Model, which considers the traffic analysis zones within 0.125 miles of a project to determine the average trip length and trip type, which factor into the calculation of a project's VMT.

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

TDM Measures. Additionally, the VMT Calculator measures the reduction in VMT resulting from a project's incorporation of TDM strategies. 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).

Commercial Retail VMT

According to the TAG, regional-serving retail can lengthen trips and increase VMT because it is likely to shift business away from local-serving retail options. Conversely, local-serving retail (which includes restaurant space) tends to shorten trips and reduce VMT because it attracts trips from nearby residences and businesses that would otherwise travel further to find suitable

options. As detailed in OPR's Technical Advisory and the TAG, retail stores less than 50,000 sf within mixed-use development projects are considered local-serving and are assumed to have less than significant VMT impacts.

PROJECT VMT ANALYSIS

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

As stated in the TAG and per *City of Los Angeles VMT Calculator User Guide* (LADOT and LADCP, May 2020), retail uses (including restaurant uses) totaling less than 50,000 sf would be considered local- serving and would have a negligible effect on regional VMT. Therefore, the VMT impact of the Project's retail component would be considered less-than-significant. However, the restaurant and retail uses are part of the larger mixed-use Project and were, therefore, conservatively considered in the Project's VMT impact analysis.

The Project does not propose any residential uses. Therefore, the Project would have no household VMT impacts.

Project VMT

The Project includes several design features to reduce the number of single occupancy vehicle trips to the Project Site. For the purposes of this analysis, the following TDM measures that are incorporated into the Project design and required by the City's current TDM Ordinance were accounted for in the VMT evaluation:

- Reduced Parking Supply: The Project would provide less on-site vehicle parking than the amount required by the direct application of LAMC parking rates, without consideration of allowable parking reduction mechanisms[3]. A reduced parking supply makes parking less available and, therefore, encourages the use of non-automobile modes to and from the Project Site and reduces VMT.

- Parking Cash-Out: The Project would comply with the state parking cash-out law, which requires employers who provide subsidized parking to offer employees a cash allowance in lieu of a parking space.

- Promotions and Marketing: The Project would provide passive educational and promotional materials, such as posters, informational boards, or website postings, to inform travelers of site-specific transportation options and the effects of their travel choices.

- Bicycle Parking per LAMC: As further discussed in Section 5E, the Project would provide bicycle parking spaces in compliance with the requirements of the LAMC.

- Pedestrian Network Improvements: The Project would implement pedestrian network improvements throughout and around the Project Site to encourage walking.

Should implementation of the selected TDM measures become infeasible for the Project, substitute TDM measures would be implemented that would be equivalent or superior in reducing vehicle trips and VMT.

The VMT analysis results based on the VMT Calculator are summarized in Table 11. The VMT Calculator estimates that the Project would generate 2,668 daily vehicle trips and a total daily VMT of 20,724. The VMT Calculator also estimates that the Project would generate 1,153 employees and total home-based work attraction VMT of 8,150. Thus, the Project would generate average work VMT per employee of 7.4. The average work VMT per employee would not exceed the Central APC significant work VMT impact threshold of 7.6 and, therefore, the overall Project would not result in a significant VMT impact, and no mitigation measures would be required.

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

[3] The direct application of the LAMC parking rates (2.0 spaces per 1,000 sf of office uses, 10 spaces per 1,000 sf of restaurant uses, and 4.0 spaces per 1,000 sf of retail uses) would result in a total parking provision of 656 spaces for the Project; however, the Project is located within a Statewide Enterprise Zone and, therefore, may apply a reduced parking rate of 2.0 spaces per 1,000 sf for commercial uses (including office, restaurant, and retail uses). As further detailed in Section 5D, this would result in a total parking provision of 582 spaces for the Project.

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 of the Southern California Association of Governments* (Southern California Association of Governments [SCAG], Adopted September 2020) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

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

As described above, the Project would not result in a significant VMT impact. Further, the Project would be designed to further reduce single occupancy trips to the Project Site through various TDM strategies that would be incorporated as part of the Project design. Therefore, the Project would result in a less-than-significant cumulative impact under Threshold T-2.1 and no further evaluation or mitigation measures would be required.

Furthermore, the Project Site is well-served by various local bus lines, would contribute to the productivity and use of the regional transportation system, and would encourage active transportation by providing new bicycle parking infrastructure and active street frontages, in line with RTP/SCS goals. Thus, the Project would encourage a variety of transportation options and would be consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region.

TABLE 11
VMT ANALYSIS SUMMARY

Project Information	
Land Use	**Size**
General Office	277,700 sf
High-Turnover Sit-Down Restaurant	8,000 sf
General Retail	5,200 sf
Project Analysis [a]	
Resident Population	0
Employee Population	1,153
Project Area Planning Commission	Central
Travel Behavior Zone (TBZ)	Suburban Center
Maximum Allowable VMT Reduction [b]	20%
VMT Analysis [c]	
Daily Vehicle Trips	2,668
Total Daily VMT	20,724
Total Home-Based Production VMT	0
Household VMT per Capita [d]	N/A
Impact Threshold	6.0
Significant Impact	No
Total Work-Based Attraction VMT	8,510
Work VMT per Employee	7.4
Impact Threshold	7.6
Significant Impact	NO

Notes:

sf = square feet.

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

[b] The maximum allowable VMT reduction is based on the Project's designated TBZ as determined in *Transportation Demand Management Strategies in LA VMT Calculator* (LADOT, November 2019) and *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association, 2010).

[c] Project design features include reduced parking supply, parking cash-out, promotions and marketing, bike parking, and pedestrian network improvements.

[d] Based on home-based production trips only (see Appendix D, Report 4).

Section 4C: Threshold T-2.2

Substantially Inducing Additional Automobile Travel Analysis

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

The Project is not a transportation project that would induce automobile travel. Therefore, further evaluation is not required, and the Project would not result in a significant impact under Threshold T-2.2.

Section 4D: Threshold T-3

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

Evaluation is required for projects that propose new access points or modifications along the public ROW (i.e., street dedications) under Threshold T-3. Project access plans were reviewed to determine if the Project would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

ACCESS OVERVIEW

As described in Chapter 1, vehicular access would be provided via one full-access driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways via commercial entrances along Sacramento Street. The Project proposes all passenger loading and commercial loading be accommodated on-site within the ground-level loading area.

The Project is requesting a Waiver of Dedication and Improvement for both Sacramento Street and Wilson Street to maintain the existing roadway and ROW widths. As such, the Project would not modify roadway widths or otherwise affect the geometric design of roads surrounding the Project Site, nor would it implement any features that would obstruct sight distance or paths of vehicular, pedestrian, or bicycle travel.

PROJECT HAZARDS ANALYSIS

Potential Geometric Design Hazards

The Project would not increase the number of existing curb cuts along the Sacramento Street frontage. Furthermore, the Project would improve an existing curb cut to meet current LADOT standards for commercial driveways. The Project would also introduce a new curb cut along the Wilson Street that would accommodate emergency and service access only.

The driveway along Sacramento Street would be placed to provide adequate sight distance in relation to curvatures in the roadway. In addition, the design would not locate impediments that would affect visibility of approaching vehicles, pedestrians, or bicycles. Additionally, the vehicular driveways would intersect Sacramento Street at a right angle, to maximize sight distance. The driveway along Wilson Street would be designed in accordance with the City's emergency and service access requirements.

Access control systems at the driveways would be placed to maximize queuing capacity internal to the Project Site and limit the potential for queue spillover into the public ROW.

Consistency with Modal Priority Networks

None of the Project frontages are located along a Modal Priority Network of the Mobility Plan. Nevertheless, the designs do not result in any impediments to the visibility of approaching vehicles, pedestrians, or bicycles, and the Project vehicular driveways would intersect Sacramento Street and Wilson Street at right angles, to the extent possible, to maximize sight distance and be designed to City standards, and the Project vehicular driveways would present no substantial conflict with any of those modal priorities. Moreover, the Project would not preclude or interfere with the implementation of future roadway improvements benefiting transit, pedestrians, or bicycles.

Pedestrian and Bicycle Activity

As discussed above, bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways along Sacramento Street. The Project would result in a modest increase in both bicycle and pedestrian activity along Sacramento Street; however, the access locations would be designed to accommodate adequate sidewalks and enhanced connectivity that meet the City's requirements to further protect bicycle and pedestrian safety. The driveways would not cross any existing bicycle infrastructure and adequate sight distance exists for drivers entering and/or exiting driveways to see oncoming bicyclists and pedestrians. Therefore, the Project is not anticipated to result in significant vehicle-pedestrian or vehicle-bicycle conflicts.

Summary

Based on this review, the Project would not result in any hazards from the design or operation and would not result in a significant impact.

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 Project to determine if there may be a cumulatively significant impact. None of the Related Projects in Table 4 and Figure 9 are located along the same block as the Project. Therefore, the Project would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

FREEWAY SAFETY ANALYSIS

Section 2.4.4 of the TAG outlines the methodology of assessing potential vehicle to vehicle impacts that may result in unsafe vehicle queues from freeway off-ramp facilities due to speed differentials between the mainline freeway lanes and the queued vehicles at the off-ramp.

Analysis Methodology

Further freeway safety analysis is required of any freeway off-ramp where a development project must include analysis of any freeway off-ramp where the project adds 25 or more peak hour trips. A project would result in a significant contribution to such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes[4].
2. A project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.
3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

Should a significant contribution be identified, corrective measures to be considered include TDM strategies to reduce a project's trip generation, investments in active transportation or transit system infrastructure to reduce a project's trip generation, changes to the traffic signal timing or lane assignments at the ramp intersection, or physical changes to the off-ramp. Any physical change to the ramp would have to improve safety, not induce greater VMT, and not result in secondary environmental impacts.

Project Safety Analysis

The Project is located approximately 0.25 miles north of I-10. As detailed in Table 12, the Project exceeds the City's freeway safety analysis screening threshold of 25 net new peak hour morning trips at the I-10 Westbound Off-Ramp to 8th Street. Thus, further freeway ramp safety analysis during the morning peak hour is required.

A Project freeway safety analysis of Caltrans facilities was conducted for Future without Project Conditions and Future with Project Conditions Year 2026. The future traffic volumes were forecasted based on available traffic counts at the intersections from Year 2014, which are

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

provided in Appendix B. The traffic volumes were adjusted with 1% annual ambient growth in the same manner as future traffic volumes developed for Year 2026 in Chapter 2.

The assessment of the off-ramp facilities included a review of the resulting queue length as compared to the total available queuing capacity of the ramp to determine whether the queue would extend beyond the length of the ramp onto the freeway mainline. Based on the Freeway Safety Guidance, the ramp capacity includes the length of each approach lane to the intersection and the remaining length of the ramp to the gore point where the ramp diverges from the freeway mainline. Table 13 details the ramp storage capacity for each of the off-ramps.

The 95th percentile ramp queue was calculated using the Highway Capacity Manual (HCM) methodology, which was implemented using Synchro software. The 95th percentile ramp queue measures the probability that a queue length will reach a certain length and is the maximum vehicular queue that would not be exceeded 95% of the time. Synchro queue results that are reported in vehicle-length were converted to linear 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 detailed analysis worksheets are provided in Appendix E.

Table 13 summarizes the queue results. As shown, under Future with Project Conditions, the queue at the off-ramp would not exceed the ramp storage length and the Project would not add 50 feet or more to any queue during any of the analyzed peak hours compared to Future without Project Conditions. Therefore, the Project would not be subject to a speed differential analyses, nor cause an adverse safety condition, and no corrective measures are required. Further, although the Project is not expected to have any measurable contribution to the operation of I-10, the Project would nevertheless implement comprehensive TDM strategies to reduce single-occupancy vehicle trips to and from the Project Site, as detailed in Section 4B.

TABLE 12
FREEWAY OFF-RAMP SCREENING

Freeway Off-Ramp	Peak Hour	Project Traffic	Meets Screening Criteria? [a]
I-10 Westbound [b]			
Off-ramp to	AM	38	YES
8th Street	PM	10	NO

Notes:

[a] Based on *Interim Guidance for Freeway Safety Analysis* (LADOT, 2020), a transportation assessment for a development project must include analysis of any freeway off-ramp where a project adds 25 or more peak hour trips.

[b] 10% of incoming residential and office trips and 10% of incoming commercial trips were assumed to travel westbound on I-10 to the Project Site via the off-ramp to 8th Street.

TABLE 13
FREEWAY OFF-RAMP QUEUING SAFETY ANALYSIS

Off-ramp	Ramp Storage Length (ft)	Peak Hour	95th Percentile Queue (ft)		Exceeds Ramp Storage [b]	Project Adds 50 Feet [c]	Requires Speed Analysis [d]
	Storage Capacity [a]		Future without Project Conditions (Year 2026)	Future with Project Conditions (Year 2026)			
I-10 Westbound Off-Ramp to 8th Street	2,025	A.M.	853	890	NO	NO	NO
	2,025	P.M.	790	805	NO	NO	NO

Notes:

Ramp storage length and 95th percentile queue reported in feet.

[a] Storage length capacity is the distance from the freeway mainline gore point to the terminus of the off-ramp including half the length of the auxiliary lane, expressed in feet.

[b] Based on Future with Project Conditions (Year 2026) queue.

[c] The difference in queue length between Future with Project and without Project Conditions.

[d] Speed differential analysis is required if the ramp storage length is exceeded and the Project adds 50 or more feet to the queue length.

Chapter 5
Non-CEQA Transportation Analysis

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

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

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

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

Section 5A

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?

EXISTING FACILITIES

Pedestrians and Bicycles

Existing pedestrian facilities adjacent to the Project Site include sidewalks along Sacramento Street and Wilson Street. The Project would utilize and improve existing curb cuts along Sacramento Street and the new curb cut along Wilson Street would be accessible to emergency and service vehicles only. No bicycle facilities are located adjacent to the Project Site; therefore, the Project would not introduce any modifications or disruptions to bicycle facilities adjacent to the Project Site. As such, 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, as well as vehicular traffic volumes, it is not anticipated that the volumes of any of those travel modes would reach a level where any degradation, capacity constraint, or conflict would arise.

Transit

As detailed in Chapter 2 and illustrated in Figure 7, the Project Site is located within 0.25 miles of several transit stops providing service to lines operated by Metro within the Study Area. Near the

Project Site, bus stops serving Metro Lines 60 and 62 are located at the intersection of Decatur Street & 7th Street and Metro Line 66 is located at Lawrence Street & Olympic Boulevard. The Project Site is also located within 1.50 miles of the Little Tokyo/Arts District Station that serves the Metro L (Gold) Line and the future Metro Regional Connector.

Tables 3A and 3B summarize the total residual capacity of the Metro bus lines within 0.25 miles of the Project Site 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, the transit lines within 0.25 miles walking distance of the Project Site currently have additional capacity for 1,607 additional riders during the morning peak hour and 1,498 additional riders during the afternoon peak hour.

INTENSIFICATION OF USE

The Project would result in some intensification of pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, given the Project Site's location near local bus services and its proximity to active commercial centers, it is ideally located to encourage non-automobile trips to and from those destinations and reach additional public transit routes. The amount of additional pedestrian, bicycle, and transit activity generated by the Project would not strain the capacity of facilities and operations dedicated to those modes.

Transit Ridership

Although the Project will cumulatively add transit ridership, the Project Site and Study Area are served by numerous Metro bus lines, as detailed in Table 2. As shown in Table 5, transit usage for the Project accounts for the reduction of approximately 26 vehicle trips during the morning peak hour and approximately 25 vehicle trips during the afternoon peak hour. Based on the average vehicle occupancy factor of 1.55 for all trip purposes in Los Angeles County as identified in *SCAG Regional Travel Demand Model and 2012 Model Validation* (SCAG, March 2016), the total Project vehicle-transit trips correspond to 40 and 39 person-transit trips during the morning and afternoon peak hours, respectively. This equates to approximately less than 3% of the total residual capacity of the transit lines within the Study Area during the morning and afternoon peak

hours, confirming that the adjacent transit capacity can accommodate the intensification of transit usage attributable to the Project. Furthermore, as detailed in Chapter 2, additional transit capacity would be provided in the Project area with future operations of the Metro Regional Connector and the Metro WSAB Transit Corridor.

Section 5B

Project Access, Safety, and Circulation Assessment

This section summarizes access, safety, and circulation at and around the Project Site. It includes a quantitative evaluation of the Project's access and circulation operations, including the anticipated LOS at the study intersections and anticipated traffic queues.

PROJECT ACCESS

As previously detailed, vehicular access would be provided via one full-access driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways via commercial entrances along Sacramento Street. The Project proposes all passenger loading and commercial loading to be accommodated on-site within the ground level loading area.

OPERATIONAL EVALUATION

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 seven study intersections, six signalized and one unsignalized, were selected for detailed transportation analysis in consultation with LADOT.

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

- Existing with Project Conditions (Year 2022) – 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 2026) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project is fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2026).

Methodology

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 and all-way stop-control methodology calculates the average delay, in seconds, for each vehicle passing through an intersection. Table 14 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 both signalized and unsignalized intersections.

The queue lengths were estimated using Synchro, which reports the 95th percentile queue length for signalized and unsignalized intersections in vehicles per lane, which can be converted into distance by multiplying the vehicle queue by 25 feet per vehicle. The reported queues are calculated using the HCM signalized intersection methodology.

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

Existing with Project Conditions

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Chapter 3 and shown in Figure 14 were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 8. The resulting volumes are illustrated in Figure 15 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 15 summarizes the intersection LOS under Existing Conditions and Existing with Project Conditions during the weekday morning and afternoon peak hours for the

study intersections. As shown, each of the seven study intersections would operate at LOS D or better under both Existing Conditions and Existing with Project Conditions.

Future with Project Conditions

All future considerations, 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 Chapter 3 and shown in Figure 14 were added to the Future without Project Conditions (Year 2026) morning and afternoon peak hour traffic volumes shown in Figure 11. The resulting volumes are illustrated in Figure 16 and represent Future with Project Conditions after development of the Project in Year 2026.

Intersection LOS. Table 16 summarizes the results of the Future without Project Conditions and Future with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown, three of the seven study intersections would operate at LOS D or better during both the morning and afternoon peak hours under both Future without Project Conditions (Year 2026) and Future with Project Conditions (Year 2026). The remaining four study intersections are anticipated to operate at LOS F during at least one of the morning or afternoon peak hours under both Future without Project Conditions (Year 2026) and Future with Project Conditions (Year 2026).

INTERSECTION QUEUING ANALYSIS

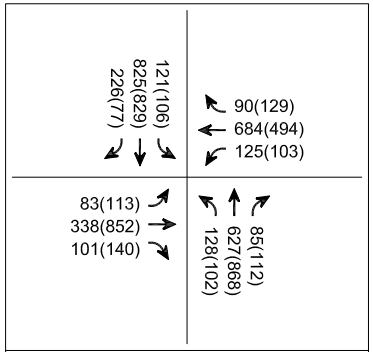
In accordance with operational evaluation guidelines detailed in Section 3.3.3 of the TAG, the Project traffic was evaluated to determine whether the Project access would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan) at Project driveways or would cause or substantially extend queuing at nearby signalized intersections. Per the TAG, unacceptable or extended queuing may be defined as follows:

- *Additional queue along through lanes and either of the following conditions are expected:*
    - *The projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or*
    - *The projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.*
- *Spill over from turn pockets into through lanes.*
- *Block cross streets or alleys.*
- *Spill over from drive-throughs into streets.*
- *Contribute to "gridlock" congestion. For the purposes of this section, "gridlock" is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections.*

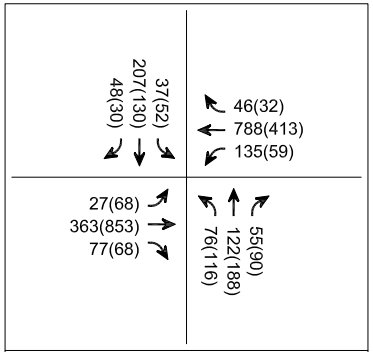
The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length, in vehicles, for each approach lane. The queue lengths were then converted into linear distance by multiplying vehicle lengths by 25 feet. The reported queues are calculated using the HCM signalized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

The queuing analysis under Future Conditions (Year 2026) is provided in Table 17. As detailed, the Project would contribute to extended queuing conditions at three study intersections, where through lane queues extend beyond the available storage capacity prior to the addition of Project traffic. Detailed queuing analysis worksheets are provided in Appendix E.

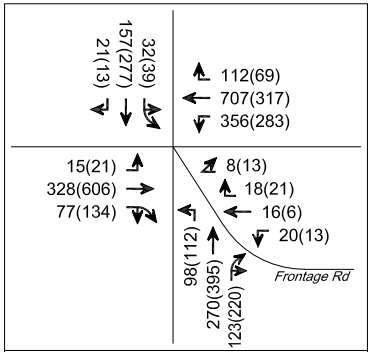
1. Alameda Street & 7th Street



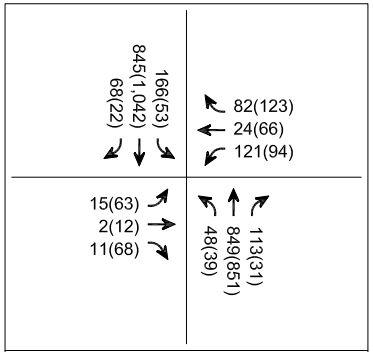
2. Mateo Street & 7th Street



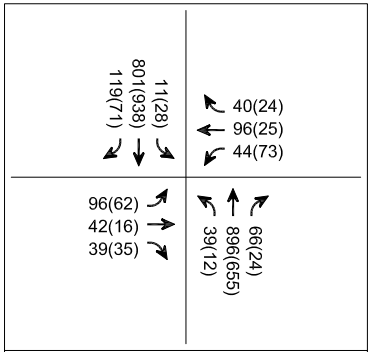
3. Santa Fe Avenue & 7th Street



4. Alameda Street & Bay Street



5. Alameda Street & 8th Street

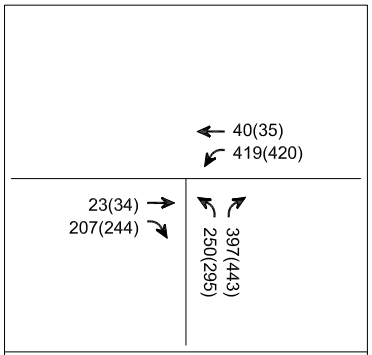


LEGEND

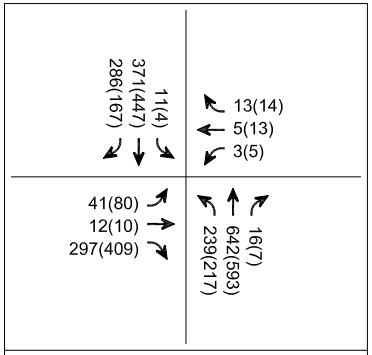
- Project Site
- Project Driveway
- (#) Signalized Intersection
- (#) Unsignalized Intersection
- #(#) AM(PM) Peak Hour Traffic Volumes
- * Negligible Volume

N
Not to Scale

6. I-10 Westbound Ramps & 8th Street

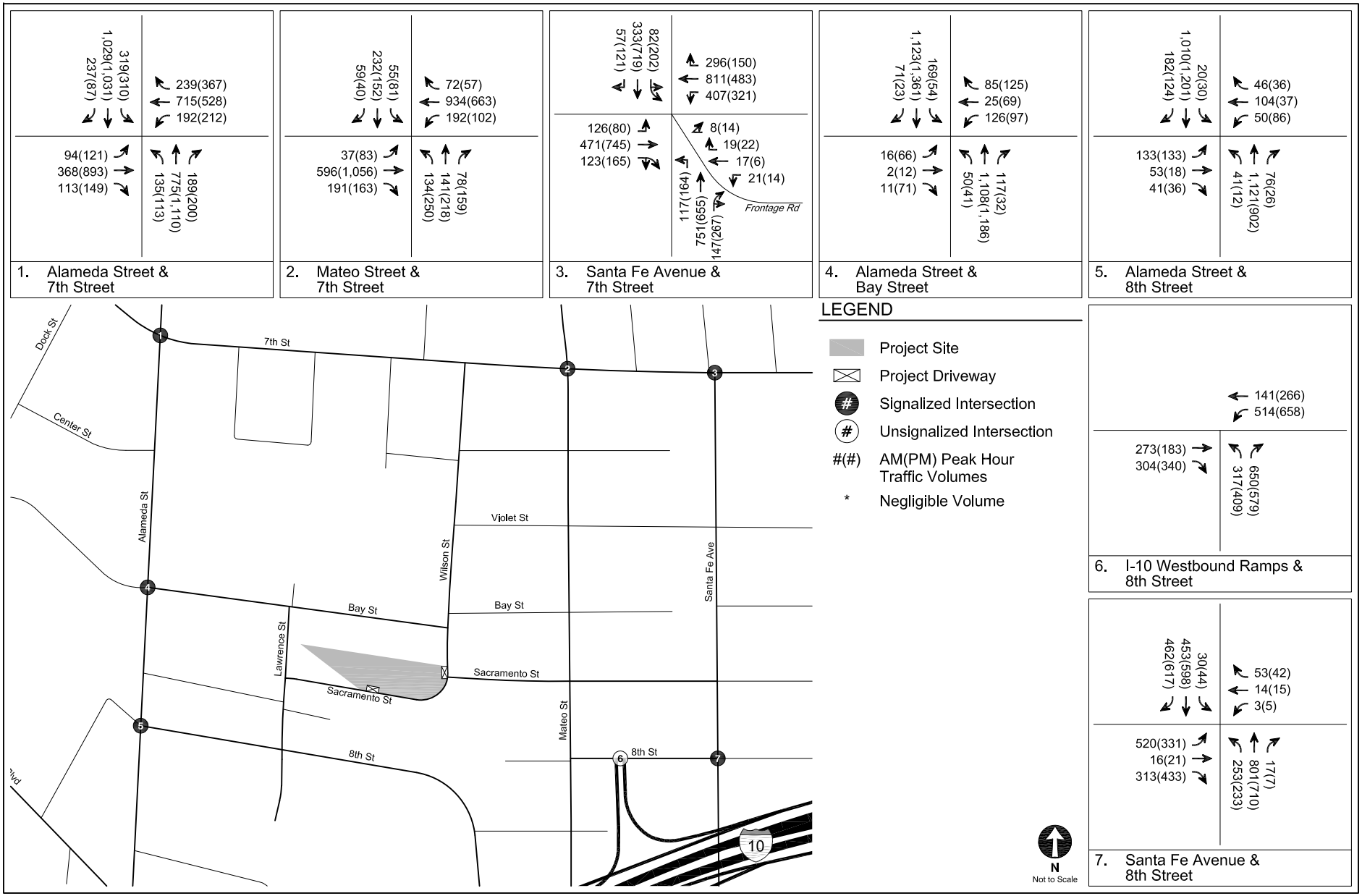


7. Santa Fe Avenue & 8th Street



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

FIGURE 15



FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 16

TABLE 14
INTERSECTION LEVEL OF SERVICE

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

Notes:

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

[a] Measured in seconds.

TABLE 15
EXISTING CONDITIONS (YEAR 2022)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Alameda Street &	AM	23.2	C	23.5	C
[a]	7th Street	PM	34.4	C	36.4	D
2.	Mateo Street &	AM	13.9	B	14.1	B
[a]	7th Street	PM	14.4	B	15.1	B
3.	Santa Fe Avenue &	AM	23.4	C	24.3	C
[b]	7th Street	PM	36.8	D	39.2	D
4.	Alameda Street &	AM	4.7	A	4.8	A
[a]	Bay Street	PM	5.7	A	6.8	A
5.	Alameda Street &	AM	8.9	A	9.0	A
[a]	8th Street	PM	5.8	A	6.5	A
6.	I-10 WB Ramps &	AM	22.8	C	25.7	D
[c]	8th Street	PM	28.2	D	31.2	D
7.	Santa Fe Avenue &	AM	18.3	B	19.0	B
[a]	8th Street	PM	24.4	C	25.8	C

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection. The resulting average delay represents the measure of effectiveness of the traffic signal.

[b] Intersection analysis based on HCM Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[c] Intersection analysis based on HCM 6th Edition All-Way Stop Control Unsignalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through an intersection.

TABLE 16
FUTURE CONDITIONS (YEAR 2026)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Alameda Street &	AM	34.1	C	35.1	D
[a]	7th Street	PM	84.8	F	92.9	F
2.	Mateo Street &	AM	14.6	B	15.1	B
[a]	7th Street	PM	33.4	C	37.2	D
3.	Santa Fe Avenue &	AM	469.6	F	508.8	F
[b]	7th Street	PM	325.9	F	352.6	F
4.	Alameda Street &	AM	4.3	A	4.4	A
[a]	Bay Street	PM	4.7	A	5.6	A
5.	Alameda Street &	AM	10.0	A	10.2	B
[a]	8th Street	PM	7.5	A	7.9	A
6.	I-10 WB Ramps &	AM	155.4	F	162.5	F
[c]	8th Street	PM	236.8	F	241.3	F
7.	Santa Fe Avenue &	AM	166.9	F	168.8	F
[a]	8th Street	PM	129.9	F	135.2	F

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection. The resulting average delay represents the measure of effectiveness of the traffic signal.

[b] Intersection analysis based on HCM Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[c] Intersection analysis based on HCM 6th Edition All-Way Stop Control Unsignalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through an intersection.

TABLE 17
QUEUING ANALYSIS - FUTURE CONDITIONS (YEAR 2026)

No.	Intersection [a]	Future with Project Conditions					Lane	Vehicle Storage Capacity (ft) [d]	Future without Project Conditions (Year 2026)				Future with Project Conditions (Year 2026)				Change in Vehicle Queue Length (ft)	
		Intersection LOS [b]		Approach	Approach LOS [c]				Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour			
		Morning Peak Hour	Afternoon Peak Hour		Morning Peak Hour	Afternoon Peak Hour			Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Morning Peak Hour	Afternoon Peak Hour
1.	Alameda Street & 7th Street	**D**	**F**	EB	D	D	Left	140	215	YES	233	YES	215	YES	233	YES	0	0
							Through/Right	900	195	NO	458	NO	195	NO	458	NO	0	0
				WB	D	F	Left	160	233	YES	778	YES	233	YES	778	YES	0	0
							Through/Right	1,880	503	NO	455	NO	503	NO	455	NO	0	0
				NB	C	F	Left	220	158	NO	163	NO	185	NO	160	NO	27	-3
							Through/Right	1,160	188	NO	935	NO	190	NO	1,148	NO	2	213
				SB	C	E	Left	280	303	YES	585	YES	313	YES	585	YES	10	0
							Through/Right	1,200	370	NO	373	NO	415	NO	385	NO	45	12
2.	Mateo Street & 7th Street	B	**D**	EB	-	B	Left	90	13	NO	55	NO	13	NO	43	NO	0	-12
							Through/Right	1,880	-	-	315	NO	-	-	315	NO	-	0
				WB	-	A	Left	90	108	YES	125	YES	135	YES	125	YES	27	0
							Through/Right	670	-	-	210	NO	-	-	13	NO	-	-197
				NB	-	F	Left/Through/Right	780	-	-	800	YES	-	-	1,020	YES	-	220
				SB	-	C	Left/Through/Right	360	-	-	213	NO	-	-	218	NO	-	5
3.	Santa Fe Avenue & 7th Street	**F**	**F**	EB	F	F	Left	100	0	NO	0	NO	0	NO	0	NO	0	0
							Through/Right	670	0	NO	0	NO	0	NO	0	NO	0	0
				WB	F	F	Left	1,500	0	NO	0	NO	0	NO	0	NO	0	0
							Through/Right	190	0	NO	0	NO	0	NO	0	NO	0	0
				NB	E	C	Left	760	0	NO	0	NO	0	NO	0	NO	0	0
							Through	190	0	NO	0	NO	0	NO	0	NO	0	0
							Right	610	0	NO	0	NO	0	NO	0	NO	0	0
				SB	F	F	Left/Through/Right	520	0	NO	0	NO	0	NO	0	NO	0	0
4.	Alameda Street & Bay Avenue	A	A	EB	-	-	Left	460	15	NO	63	NO	13	NO	60	NO	-2	-3
				NB	-	-	Left	200	3	NO	3	NO	3	NO	3	NO	0	0
				SB	-	-	Left	290	5	NO	0	NO	13	NO	0	NO	8	0
5.	Alameda Street & Bay Avenue	B	A	NB	-	-	Left	110	18	NO	3	NO	18	NO	3	NO	0	0
				SB	-	-	Left	270	5	NO	3	NO	5	NO	3	NO	0	0
7.	Santa Fe Avenue & 8th Street	**F**	**F**	EB	F	F	Left/Through/Right	460	8	NO	10	NO	28	NO	55	NO	20	45
				WB	C	B	Left/Through/Right	820	58	NO	43	NO	58	NO	43	NO	0	0
				NB	C	F	Left/Through	740	445	NO	875	YES	465	NO	880	YES	20	5
							Through/Right	740	390	NO	528	NO	410	NO	533	NO	20	5
				SB	B	E	Left/Through	390	220	NO	798	YES	220	NO	823	YES	0	25
							Through/Right	390	233	NO	495	YES	233	NO	495	YES	0	0

Notes:
LOS: Level of Service
Results per Synchro 11.
[a] Per TAG Section 3.3.3, projects must be evaluated for unacceptable queueing at turn-pockets on an Avenue or Boulevard at project driveway(s) or at nearby signalized intersections
[b] If the projected peak hour intersection LOS is D, E, or F (See *Table 13 - Future Conditions (Year 2026) Intersection Levels of Service*), evaluation of unacceptable queueing at through lanes is also required.
[c] Directional approach LOS included for locations where through lane queue evaluation is required.
[d] Vehicle storage capacity reflects turn pocket lengths (left/right-turn lanes) and distance between the intersection and the nearest cross street or alley (through lanes).
[e] Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.

Section 5C
Residential Street Cut-Through Analysis

This section summarizes the residential street cut-through analysis for the Project. The objective of the residential street cut-through analysis is to determine potential increases in average daily traffic volumes on designated Local Streets, as classified in the City's General 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. Per Section 3.5.2 of the TAG, cut-through trips are defined as those that feature travel along a Local Street with residential land-use frontage, as an alternative to a higher classification street segment, to access a destination that is not within the neighborhood in which the Local Street is located.

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets. The daily trips generated by the Project are not projected to lead to trip diversion from the adjacent and nearby streets to alternative routes along residential Local Streets that are not located adjacent to the Project Site or that provide direct access to the Project driveways; nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets; nor is there a nearby local residential street that provides a viable alternative route to the Project Site. Thus, the Project is not required to conduct a Local Residential Street Cut-Through Analysis and no residential Local Streets would be considered to be excessively burdened by the Project. Thus, no corrective measures are recommended or required.

Section 5D
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 Section 3.4, Project Construction, of the TAG.

CONSTRUCTION EVALUATION CRITERIA

Section 3.4.3 of the TAG identifies the following three types of in-street construction constraints that require further analysis to assess the effects of Project construction on the existing pedestrian, bicycle, transit, or vehicle circulation:

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

The factors to be considered include the magnitude and duration of the temporary loss of access and transportation facilities, 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:

- Closure of streets, sidewalk, or lanes
- Blockage of existing vehicle, bicycle, or pedestrian access along a street or to parcels fronting the street
- Modification of access to transit stations, stops, or facilities during revenue hours

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

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over a 31-month period, with completion anticipated in Year 2026. Peak haul truck activity occurs during the grading/excavation phase and peak worker activity occurs during the building construction phase. These two phases of construction were studied in greater detail.

GRADING / EXCAVATION PHASE

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

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

Grading / Excavation Phase Trip Generation

Based on projections compiled for the Project, it is anticipated that a maximum of 45 haul and delivery trucks per workday would be required during this phase. Thus, up to 90 daily truck trips (45 inbound, 45 outbound) are forecasted to occur during the grading / excavation phase, with approximately 16 trips per hour (eight inbound, eight outbound) uniformly over a typical six-hour off-peak hauling period.

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

BUILDING CONSTRUCTION PHASE

During the building construction phase, parking for construction workers would generally be provided on-site or in local public parking facilities until the parking structure is built to grade. Restrictions against workers parking in the public ROW in the vicinity of (or adjacent to) the Project Site would be identified as part of the Construction Management Plan. Construction materials storage and truck staging would generally be contained on-site or in the parking lane along the Project frontage on Sacramento Street. Construction storage and staging would not affect travel lanes along Sacramento Street and traffic flow in both directions would be maintained throughout the building construction phase.

The traffic constraints associated with construction workers depend 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 construction phase would employ the most construction workers, with a maximum of 400 construction worker trips (200 inbound and 200 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 peak hour traffic constraint at any of the study intersections.

POTENTIAL CONSTRAINTS ON ACCESS, TRANSIT, AND PARKING

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) have been incorporated into the Construction Management Plan.

Access

Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences may encroach into the public ROW (e.g., sidewalks and roadways) adjacent to the Project Site. The sidewalk and adjacent parking lane on Sacramento Street may be temporarily closed throughout the construction period. However, vehicle and emergency access along Sacramento Street would not be impeded.

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

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

The adjacent parking lane along Sacramento Street is anticipated to be used for staging, deliveries, and/or crane placement during construction. Thus, construction activities would potentially result in the temporary loss of up to 11 unmetered public parking spaces.

CONSTRUCTION MANAGEMENT PLAN

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

- Advance bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation.
- Temporary pedestrian, bicycle, and vehicular traffic controls during all construction activities on Sacramento Street to ensure traffic safety on the public ROW. These controls shall include, but not be limited to, flag people trained in pedestrian and bicycle safety.
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Spacing of trucks so as to discourage a convoy effect.
- Containment of construction activity within the Project Site boundaries to the extent feasible.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate.
- Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours.
- Maintenance of a log, available on the job site at all times, documenting the dates of hauling and the number of trips (i.e., trucks) per day.
- Identification of a construction manager and provision of a telephone number for any inquiries or complaints from residents regarding construction activities. The telephone number shall be posted at the site readily visible to any interested party during site preparation, grading, and construction.

It is likely that construction management plans would also be submitted by the Related Projects for approval by the City prior to the start of construction activities. As part of the LADOT and/or Los Angeles Department of Building and Safety established review process of construction management plans, potential overlapping construction activities and proposed haul routes would

be reviewed to minimize the impacts of cumulative construction activities on any particular roadway.

Section 5E
Parking Analysis

This section provides an analysis of the parking requirements of the Project.

VEHICLE PARKING CODE REQUIREMENTS

The parking requirements of the Project are based on rates provided in LAMC Section 12.21.A4(x)(3) for projects within a State Enterprise Zone, which requires commercial developments to provide two spaces per 1,000 sf. As summarized in Table 18, the minimum parking requirement for the Project would be a total of 581 parking spaces. The Project would provide 582 vehicle parking spaces, As such, the Project satisfies the vehicle parking code requirements.

BICYCLE PARKING CODE REQUIREMENTS

LAMC Section 12.21.A.16 details the long-term and short-term bicycle parking requirements for new developments, which are summarized in Table 19. As shown, the Project would require a total of 63 long-term and 35 short-term bicycle parking spaces. The project would also provide 98 (63 long-term and 35 short-term) bicycle parking spaces. As such, the Project's proposed long-term and short-term bicycle parking spaces would satisfy the LAMC requirements for on-site bicycle parking supply.

TABLE 18
CODE VEHICLE PARKING REQUIREMENTS

STANDARD CODE PARKING ANALYSIS [a]			
Land Use	**Size**	**Parking Rate**	**Total Spaces**
General Office	277,700 sf	2.00 sp / 1,000 sf	555
Commercial (Restaurant) [b]	8,000 sf	2.00 sp / 1,000 sf	16
Commercial (Retail) [b]	5,200 sf	2.00 sp / 1,000 sf	10
		Total Standard Code Parking Requirement	**581**

Notes:

[a] Parking rates per Section 12.21.A4(a-c) of the Los Angeles Municipal Code (LAMC).

[b] Per LAMC Section 23.21.A4(x), commercial uses located within State Enterprise Zones may utilize a vehicle parking rate of 1 sp / 500 sf.

TABLE 19
CODE BICYCLE PARKING REQUIREMENTS

Project	Size	Bicycle Short-Term Parking Requirement [a]	Total Short-Term Bicycle Spaces	Bicycle Long-Term Parking Rate [a]	Total Long-Term Bicycle Spaces
General Office	277,700 sf	1.00 sp / 10,000 sf	28	1.00 sp / 5,000 sf	56
Commercial - Restaurant	8,000 sf	1.00 sp / 2,000 sf	4	1.00 sp / 2,000 sf	4
Commercial - Retail	5,200 sf	1.00 sp / 2,000 sf	3	1.00 sp / 2,000 sf	3
Total Bicycle Parking Required			**35**		**63**

Notes:
[a] Bicycle parking rates per Los Angeles Municipal Code Section 12.21.A16(a).

Chapter 6
Summary and Conclusions

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

- The Project is located at 1727-1829 Sacramento Street.
- The Project proposes 277,700 sf of office uses, 8,000 sf of restaurant uses, and 5,200 sf of retail uses and is anticipated to be completed in Year 2026.
- Vehicular access would be provided on Sacramento Street, with emergency and service access via Wilson Street.
- The Project is estimated to generate 450 morning peak hour trips and 436 afternoon peak hour trips.
- The Project would be consistent with the City's plans, programs, ordinances, and polices and would not result in any geometric design hazard impacts.
- The Project would not result in VMT impacts and would not require mitigation.
- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.
- The addition of Project trips would not adversely affect any residential Local Streets.
- Construction traffic would be generated outside of the commuter morning and afternoon peak hours to the extent feasible and would be substantially less than the traffic generated by operation of the Project. A Construction Management Plan would be prepared to ensure that construction constraints are minimized.
- The Project would provide 582 vehicle parking spaces and 98 bicycle parking spaces on-site in accordance with the requirements of the LAMC.

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.

Central City North Community Plan, Los Angeles Department of City Planning, Updated September 2016.

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

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

Draft Downtown Los Angeles Community Plan, Los Angeles Department of City Planning, 2021.

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

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

Los Angeles Municipal Code, City of Los Angeles.

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

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

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.

References, cont.

State of California Senate Bill 743, Steinberg, 2013.

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

Transit Oriented Communities Affordable Housing Incentive Program Guidelines (TOC Guidelines), Los Angeles Department of City Planning, Revised February 26, 2018.

Transportation Assessment Guidelines, Los Angeles Department of Transportation, Revised August 2022.

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

Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

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

Appendix A

Memorandum of Understanding

LADOT

Attachment C

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: 1811 Sacramento

Project Address: 1727-1829 Sacramento Street, Los Angeles, CA 90021

Project Description: The Project proposes the construction of a mixed-use development including 277,700 square feet (sf) of office use, 8,000 sf of restaurant use and 5,200 sf of retail use with five levels of above-grade parking. The existing 40,479 sf warehouse on-site will be demolished with the development of the project.

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

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

✓	Reduced Parking Supply[2]	✓	Bicycle Parking and Amenities	✓	Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 Promotions & marketing [a]
2 Pedestrian network connections [a]
3 _____
4 _____
5 _____
6 _____

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other ITE 11th Edition

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

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

	IN	OUT	TOTAL
AM Trips	379	71	450
PM Trips	100	336	436

NET Daily Vehicle Trips (DVT)
_____ DVT (ITE ___ ed.)
3,003 DVT (VMT Calculator ver. 1.3)

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

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

[a] The Project would be required to implement the TDM measure to comply with the City's current TDM Ordinance requirements for non-residential developments over 100,000 sf, as detailed in LAMC Section 12.26J.

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2026 Ambient Growth Rate: 1.0 % Per Yr.

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

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

1 See Table 1 3 _____

2 _____ 4 _____

5 _____ 6 _____

Provide a separate list if more than six study intersections and/or street segments.

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

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval.

V. ACCESS ASSESSMENT

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

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., the Transportation Assessment must assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. Complete **Attachment C.1: Access Assessment Criteria** and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☑	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☑	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☑	☐	☐
*Project trip distribution percentages at each study intersection	☑	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☑	☐	☐
Pedestrian access points and any pedestrian paths	☑	☐	☐
Pedestrian loading zones	☐	☐	☑
Delivery loading zone or area	☑	☐	☐
Bicycle parking onsite	☑	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☐	☑

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ YES ☑ NO
Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	Gibson Transportation Consulting, Inc.	SCD 1811 Sacramento LLC
Address:	555 W. 5th Street, Suite 3375, Los Angeles, CA 90013	633 W. 5th Street, Floor 68, Los Angeles, CA 90071
Phone Number:	(213) 683-0088	(213) 314-7560
E-Mail:	lmullarkey-williams@gibsontrans.com	fei.ye@skanska.com

Approved by:	x	Consultant's Representative		11/29/22 Date	x	LADOT Representative		11/30/22 **Date
Adjacent Municipality:				Approved by: (if applicable)		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.

Attachment C.1: Access Assessment Worksheet

LADOT

Access Assessment Worksheet

This Worksheet supports the analysis needed to assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. If the project exceeds the screening criteria in Section V of the MOU, complete and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.:

I. PROJECT INFORMATION

Project Name: 1811 Sacramento

Project Address: 1727-1829 Sacramento Street, Los Angeles, CA 90021

Project Description: The Project proposes the construction of a mixed-use development including 277,700 square feet (sf) of office use, 8,000 sf of restaurant use and 5,200 sf of retail use with five levels of above-grade parking. The existing 40,479 sf warehouse on-site will be demolished with the development of the project.

LADOT Project Case Number: _____

II. PEDESTRIAN/ PERSON TRIP GENERATION

Source of Pedestrian/Person Trip Generation Rate(s)? □ ITE 10th Edition □ Other:

	Land Use	Size/Unit	Daily Person Trips
Proposed	To be provided		
	Total new trips:		

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

III. PEDESTRIAN ATTRACTORS INVENTORY

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

- site pedestrian entrance(s)
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
  - Geographic Distribution: N 25 % S 25 % E 25 % W 25 %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and other municipal bus stops)

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

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

IV. FACILITIES INVENTORY

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

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

Olympic Blvd at 1,313 (feet)

7th Street at 1,195 (feet)

_____ at _____(feet)

_____ at _____(feet)

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

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

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

Crossing Distances

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

□ Yes ☑ No

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

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

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

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

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

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

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

For each street along the property frontage, provide:

the roadway configuration: See Table 5

- **2-Lane**
- **3-Lane w/ striped median**
- **3-Lane w/ raised median**
- **4-Lane**
- **5-Lane w/ striped median**
- **5-Lane w/ raised median**
- **6-Lane**
- **Other:_____**

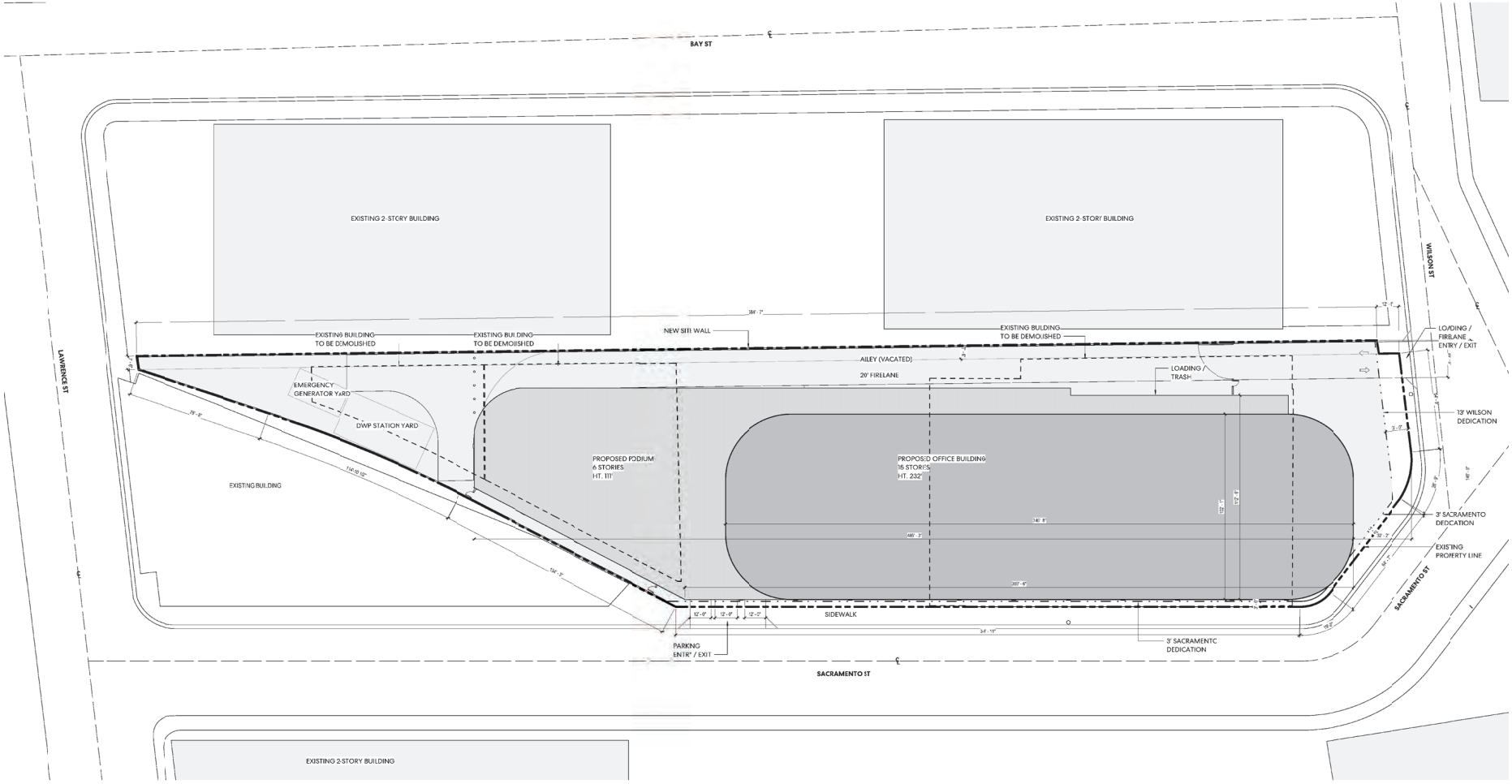
and crossing distance: _____ ft total _____ ft to median _____ ft to median

V. Project Construction

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

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

- ✓ sidewalk
- bike lane
- ✓ parking lane
- travel lane
- bus stop
- bicycle parking (racks or corrals)
- bike share or other micro-mobility station
- car share station
- parklet
- other: _____



Source: Perkins & Will. July, 2022.

PROJECT SITE PLAN

FIGURE 1

LEGEND

Project Site

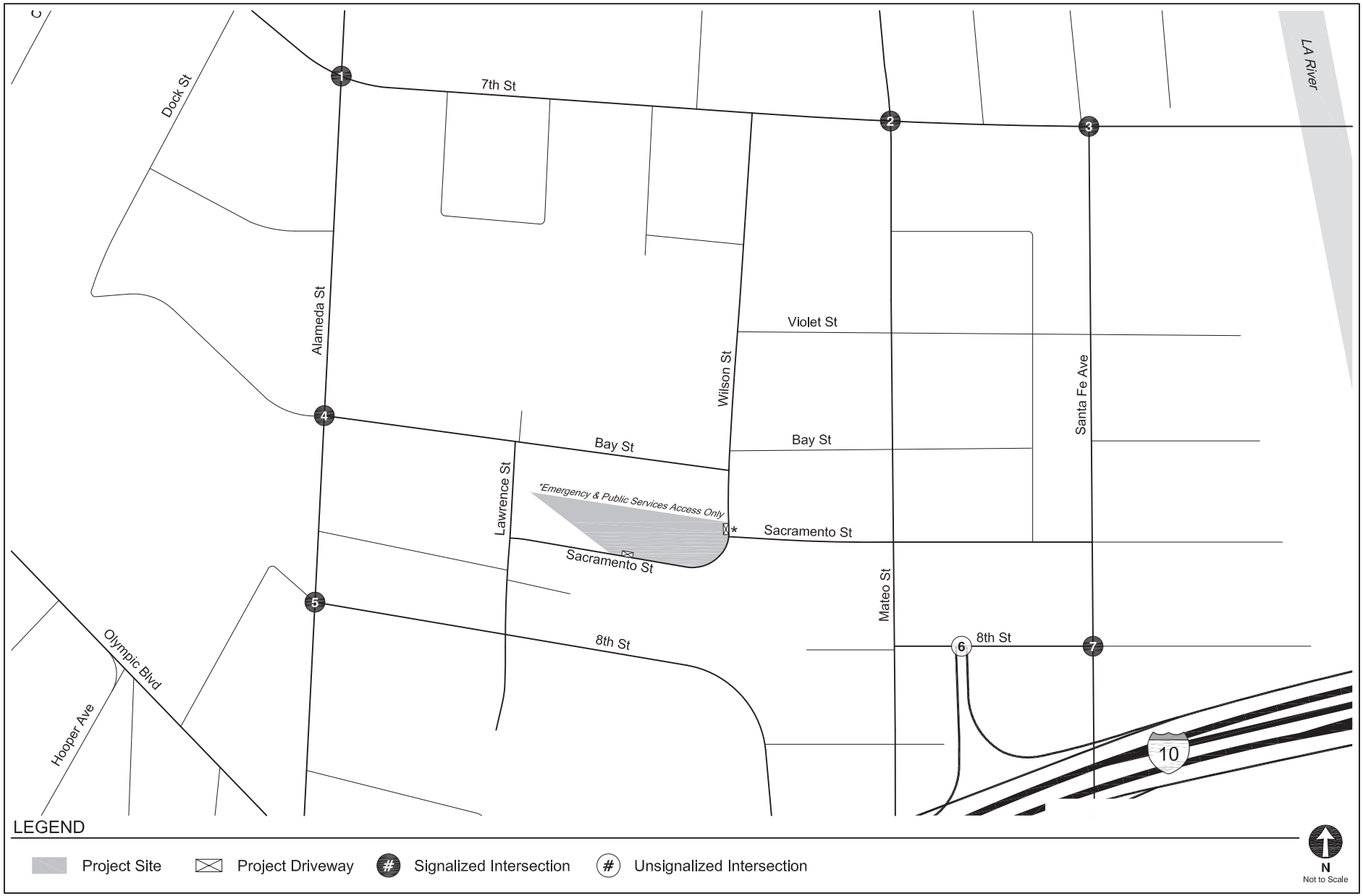
N
Not to Scale

PROJECT SITE LOCATION

FIGURE 2

TABLE 1
STUDY INTERSECTIONS

No.	North/South Streetreet	EaStreet/WeStreet Streetreet	Jurisdiction
1.	Alameda Street	7th Street	City of Los Angeles
2.	Mateo Street	7th Street	City of Los Angeles
3.	Santa Fe Avenue	7th Street	City of Los Angeles
4.	Alameda Street	Bay Street	City of Los Angeles
5.	Alameda Street	8th Street	City of Los Angeles
6.	I-10 WB Ramps	8th Street	City of Los Angeles / Caltrans
7.	Santa Fe Avenue	8th Street	City of Los Angeles



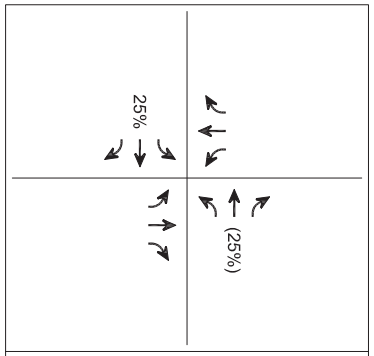
STUDY AREA AND ANALYZED INTERSECTIONS

FIGURE 3

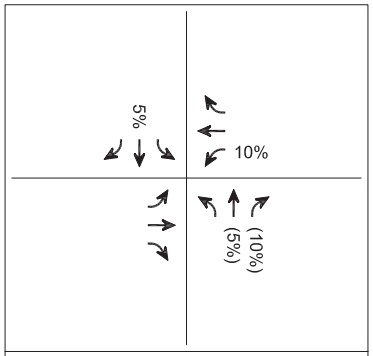
TABLE 2
TRIP GENERATION ESTIMATES

Land Use [a]	ITE Land Use	Rate	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation Rates								
Warehouse	150	per 1,000 sf	77%	23%	0.17	28%	72%	0.18
General Office Building	710	per 1,000 sf	88%	12%	1.52	17%	83%	1.44
Strip Retail Plaza (<40k)	822	per 1,000 sf	60%	40%	2.36	50%	50%	6.59
High-Turnover (Sit-Down) Restaurant	932	per 1,000 sf	55%	45%	9.57	61%	39%	9.05
Trip Generation Estimates								
Proposed Project								
Office	710	277,700 sf	371	51	422	68	332	400
Transit/Walk Reduction - 5% [b]			*(19)*	*(3)*	*(22)*	*(3)*	*(17)*	*(20)*
Restaurant	932	8,000 sf	42	35	77	44	28	72
Internal Capture Reduction - 10% [c]			*(4)*	*(4)*	*(8)*	*(4)*	*(3)*	*(7)*
Transit/Walk Reduction - 5% [b]			*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Pass-by Reduction - 20% [d]			*(7)*	*(6)*	*(13)*	*(8)*	*(5)*	*(13)*
Retail	820	5,200 sf	7	5	12	17	17	34
Internal Capture Reduction - 10% [c]			*(1)*	*(1)*	*(2)*	*(2)*	*(2)*	*(4)*
Transit/Walk Reduction - 5% [b]			*0*	*0*	*0*	*(1)*	*(1)*	*(2)*
Pass-by Reduction - 50% [d]			*(3)*	*(2)*	*(5)*	*(7)*	*(7)*	*(14)*
Subtotal Proposed Project			**384**	**73**	**457**	**102**	**341**	**443**
Existing Uses to be Removed								
Warehouse	150	40,479 sf	(5)	(2)	(7)	(2)	(5)	(7)
TOTAL NET NEW PROJECT TRIPS			**379**	**71**	**450**	**100**	**336**	**436**

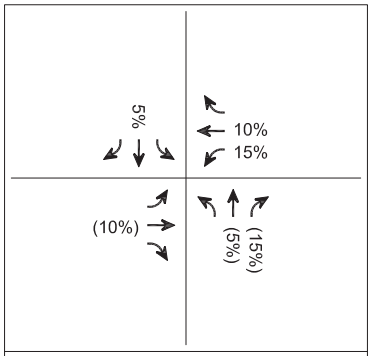
Notes:
sf: square feet
[a] Trip generation rates are for General Urban/Suburban areas from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021).
[b] The Project site is located within a 1/4 mile of a Metro Local Bus stop (Line 18,60,62) at 7th St and Dectur St, therefore a 5% transit adjustment was applied to account for transit usage and walking visitor arrivals.
[c] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development (i.e., between office and retail).
[d] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.



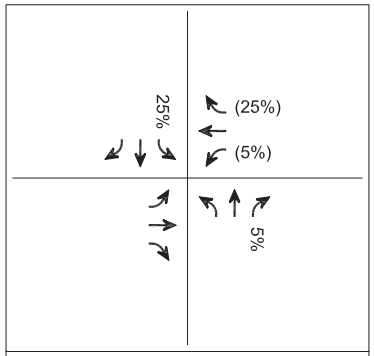
1. Alameda Street & 7th Street



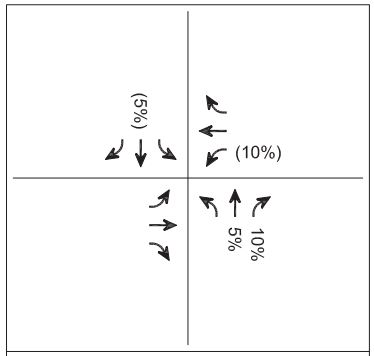
2. Mateo Street & 7th Street



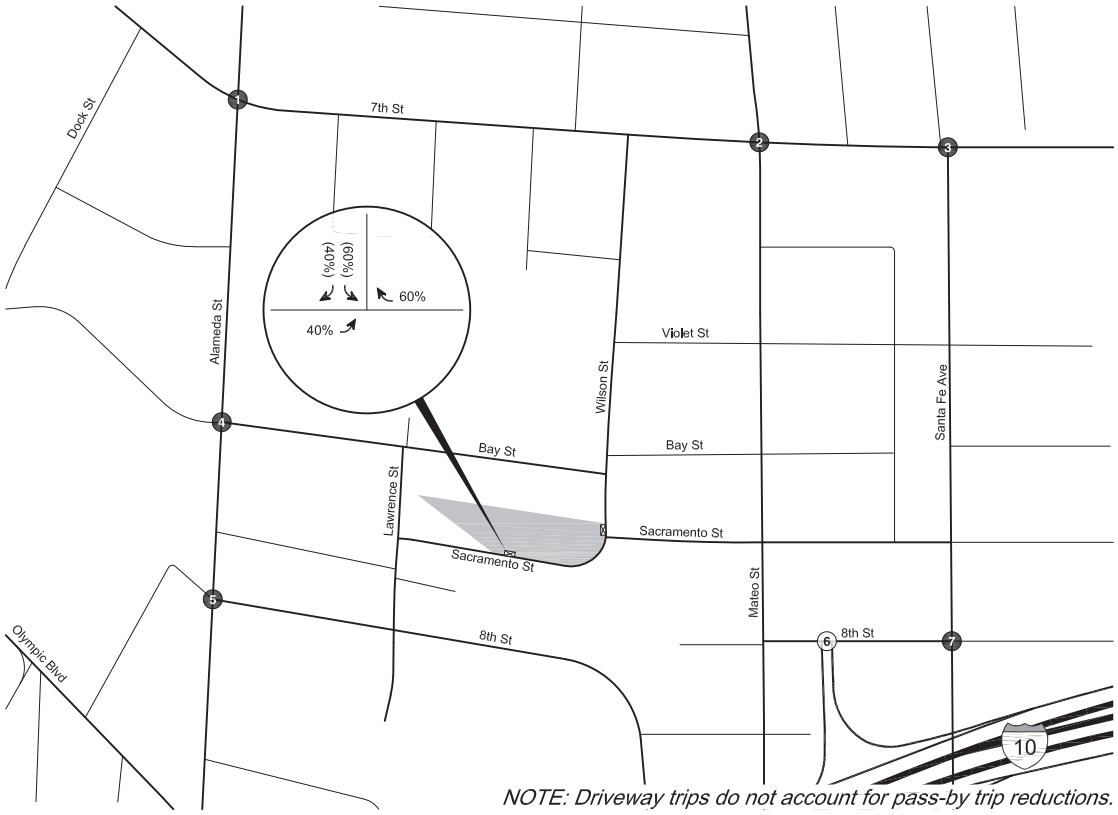
3. Santa Fe Avenue & 7th Street



4. Alameda Street & Bay Street



5. Alameda Street & 8th Street

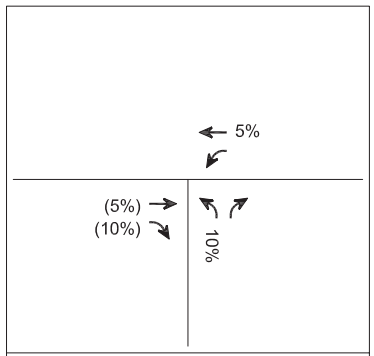


NOTE: Driveway trips do not account for pass-by trip reductions.

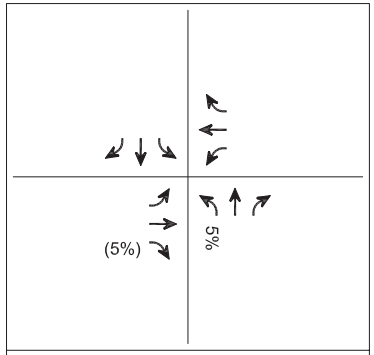
LEGEND

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

N
Not to Scale



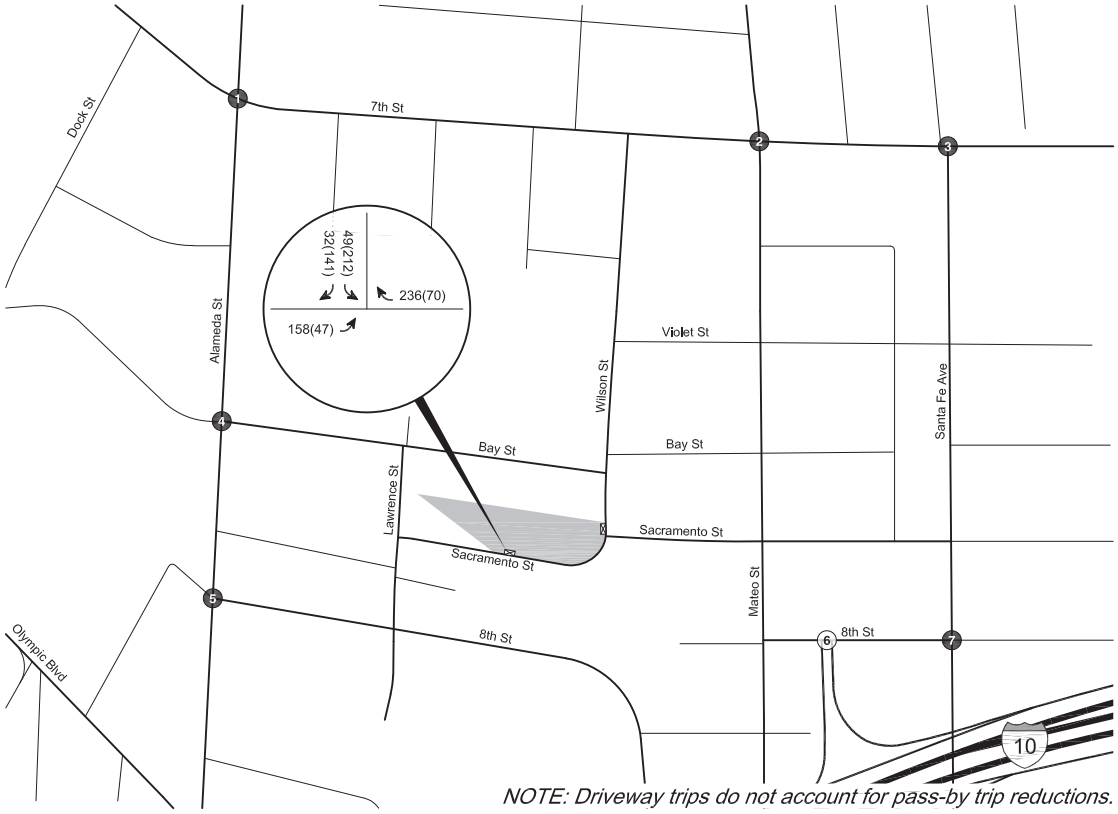
6. I-10 Westbound Ramps & 8th Street



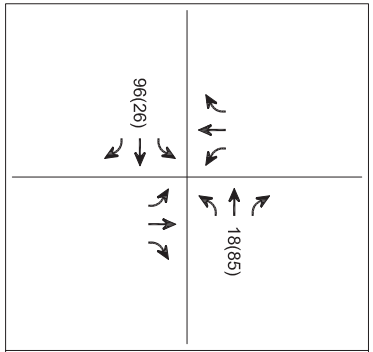
7. Santa Fe Avenue & 8th Street

PROJECT TRIP DISTRIBUTION

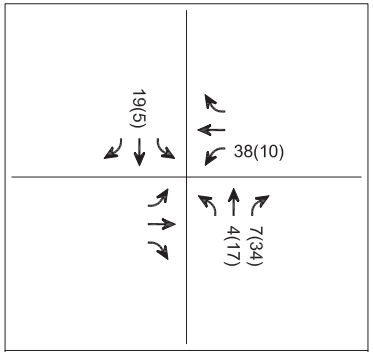
FIGURE 4



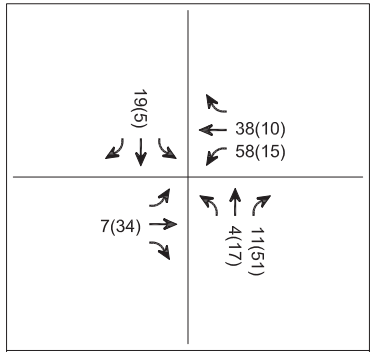
1. Alameda Street & 7th Street



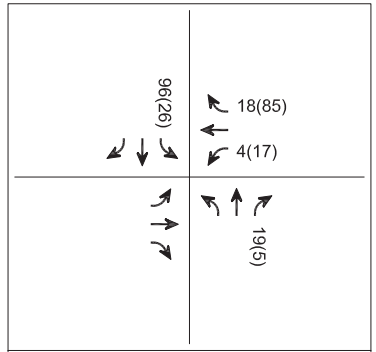
2. Mateo Street & 7th Street



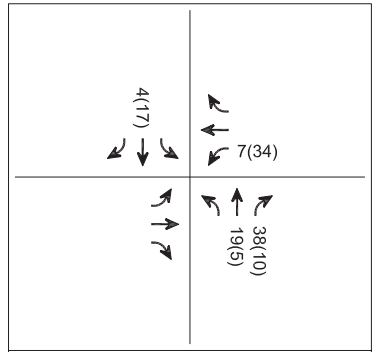
3. Santa Fe Avenue & 7th Street



4. Alameda Street & Bay Street



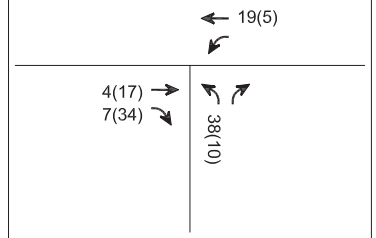
5. Alameda Street & 8th Street



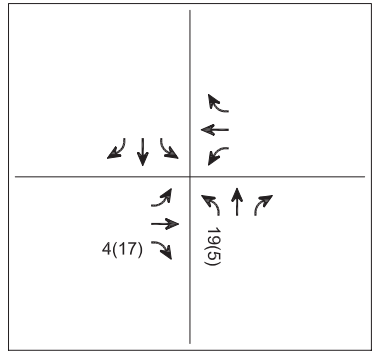
LEGEND

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

6. I-10 Westbound Ramps & 8th Street



7. Santa Fe Avenue & 8th Street

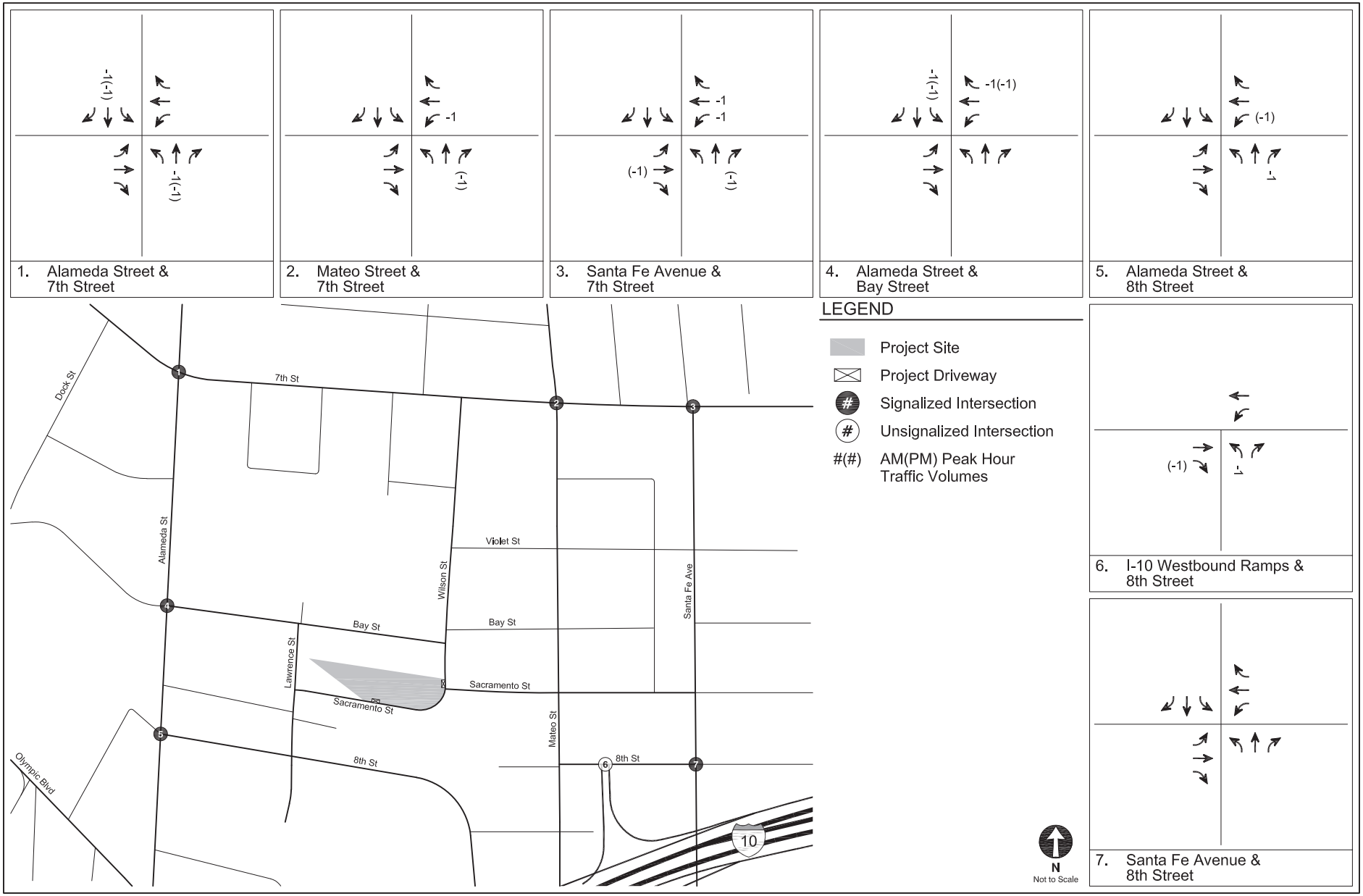


N
Not to Scale

NOTE: Driveway trips do not account for pass-by trip reductions.

PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5



EXISTING USES TO BE REMOVED
PEAK HOUR TRAFFIC VOLUMES

FIGURE 6

TABLE 3
RELATED PROJECTS LIST

No.	Project	Address	Use	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
1.	Mixed-Use	2051 E 7th St	320 apartment units, 15,000 sf retail, and 5,000 sf restaurant	2,310	17	127	144	145	64	209
2.	Mixed-Use	826 S Mateo St	90 live/work units, 11,000 sf retail, and 5,600 sf restaurant	1,267	11	34	45	62	39	101
3.	Camden Arts Mixed-Use	1525 E Industrial St	344 live/work units, 24,774 sf of creative office uses, and 4,042 sf of restaurant space	1,729	37	59	96	69	44	113
4.	Mixed-Use	2130 E Violet St	94,000 sf office, 3,500 sf retail and 4,000 sf restaurant	1,351	137	30	167	39	122	161
5.	Mixed Use (Revised)	1800 E 7th St	122 apartment units, 9,500 sf commercial uses, and 5,885 sf of amenity space	816	26	45	71	45	37	82
6.	ROW DTLA Mixed-Use	777 S Alameda St	850,400 sf office, 117,400 sf restaurant, 66,200 sf retail, and 125 hotel rooms	916	(134)	(172)	(306)	(157)	35	(122)
7.	668 S Alameda St Mixed-Us	668 S Alameda St	475 live/work units, 15,815 sf arts and production space, 15,105 sf grocery store, 9,943 sf commercial/retail space, 16,140 sf restaurant/café/bar, and 4,200 sf of other supporting space	4,004	120	184	304	215	153	368
8.	Industrial Park	1005 S Mateo St	94,849 sf industrial park	426	40	9	49	10	39	49
9.	6AM	1206-1338 E 6th St/1205-1321 Wholesale St	412 hotel rooms, 1,736 apartment units, 316,632 sf warehouse, 253,514 sf office, 45,278 sf restaurant, 82,332 sf retail, 300 student enrollment, and 22,429 sf art museum	14,258	437	585	1,022	710	642	1,352
10.	2110 Bay Street	2110 Bay St	110 live/work apartment units, 113,350 sf creative office, and 43,657 shopping center (mix of retail, market, health club, restaurant)	2,394	180	63	243	89	192	281
11.	641 Imperial Street	641 S Imperial St	140 live/work units and 14,700 sf office	1,093	34	60	94	61	48	109
12.	670 Mesquit	670 S Mesquit St	236 hotel rooms, 308 apartment units, 79,240 sf retail, 89,576 sf restaurant, 93,617 sf event space, 62,148 sf gym, 56,912 sf grocery, and 944,055 sf office	26,489	1,513	451	1,964	698	1,316	2,014
13.	1024 Mateo St MU	1024 S Mateo St	97 apartment units, 9 affordable apartment units, 14,000 sf retail, 13,100 sf restaurant, 95,000 sf office	1,862	102	64	166	73	101	174
14.	676 Mateo Mixed-Use	676 S Mateo St	172 live/work units and 23,025 sf commercial space	1,991	64	81	145	100	68	168
15.	Mixed-Use	2143 E Violet St	347 apartment units, 21,858 sf restaurant, and 187,374 sf office	4,714	206	129	335	182	208	390

Notes:

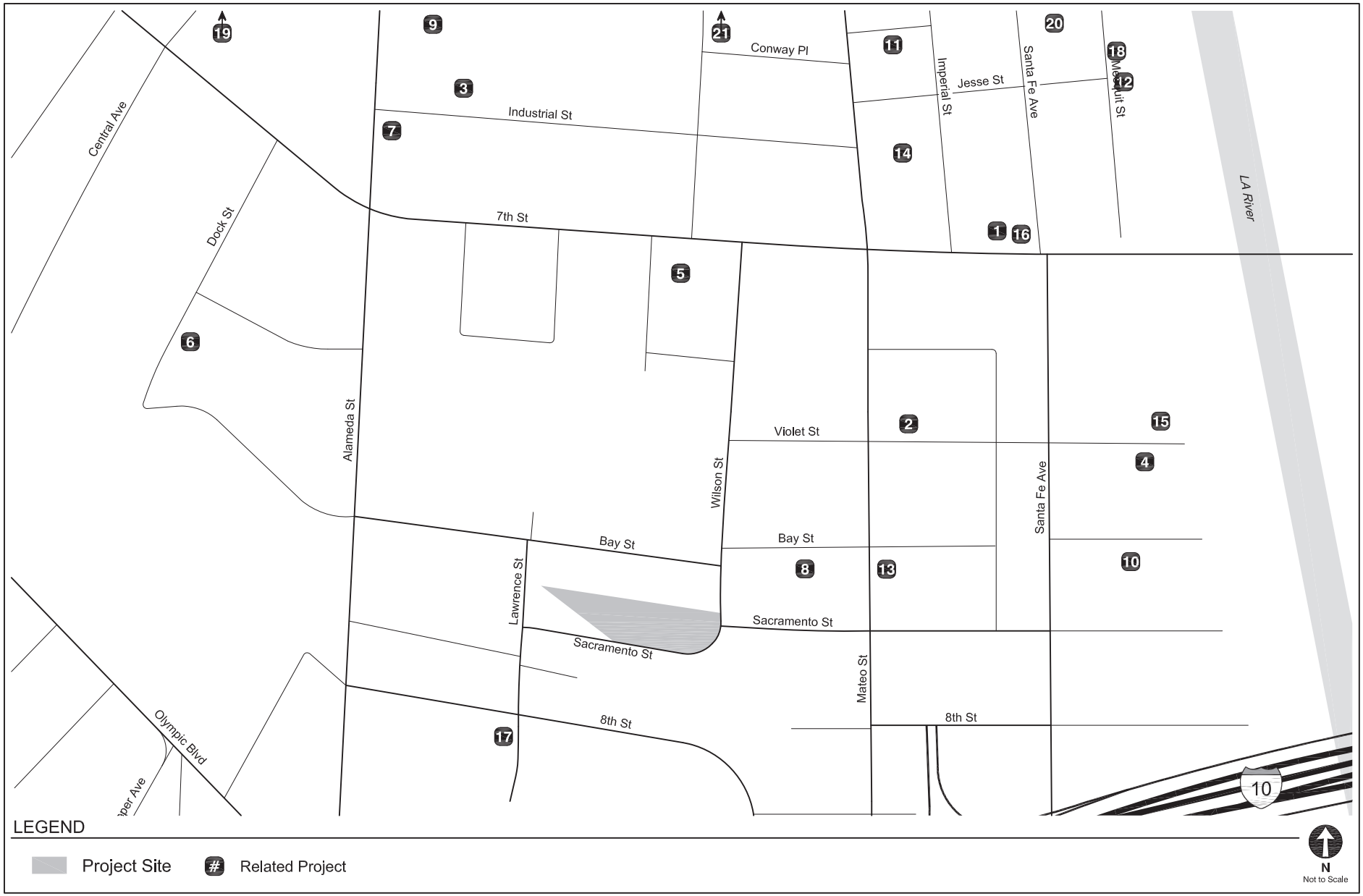
[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in July 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site one-quarter mile (1,320 foot) radius of the farthest outlying study intersections.

TABLE 3 CONT.
RELATED PROJECTS LIST

No.	Project	Address	Use	Trip Generation [a]						
				Daily	Morning Peak Hour			Afternoon Peak Hour		
					In	Out	Total	In	Out	Total
16.	Rendon Hotel	2053 E 7th St	103 hotel rooms	732	24	17	41	27	26	53
17.	Studio	2000 E 8th St.	249790 SF studio with production support, office & ancillary uses	308	171	77	284	20	217	337
18.	Commercial	655 Mesquit St	184,629 sf office, 4,325 sf retail	1,867	185	31	216	37	181	218
19.	Mixed--Use	930 E 6th St	236 apartment units and 12,000 sf commercial	1,074	17	79	96	70	32	102
20.	SPR- Industrial Park	640 S Santa Fe Ave	91,185 sf office, 9,430 sf retail, and 6.550 sf restaurant	1,330	90	8	98	43	114	157
21.	Mixed-Use	1340 E 6th St	170 apartment units, 16,518 sf retail	530	(91)	16	(75)	10	(67)	(57)

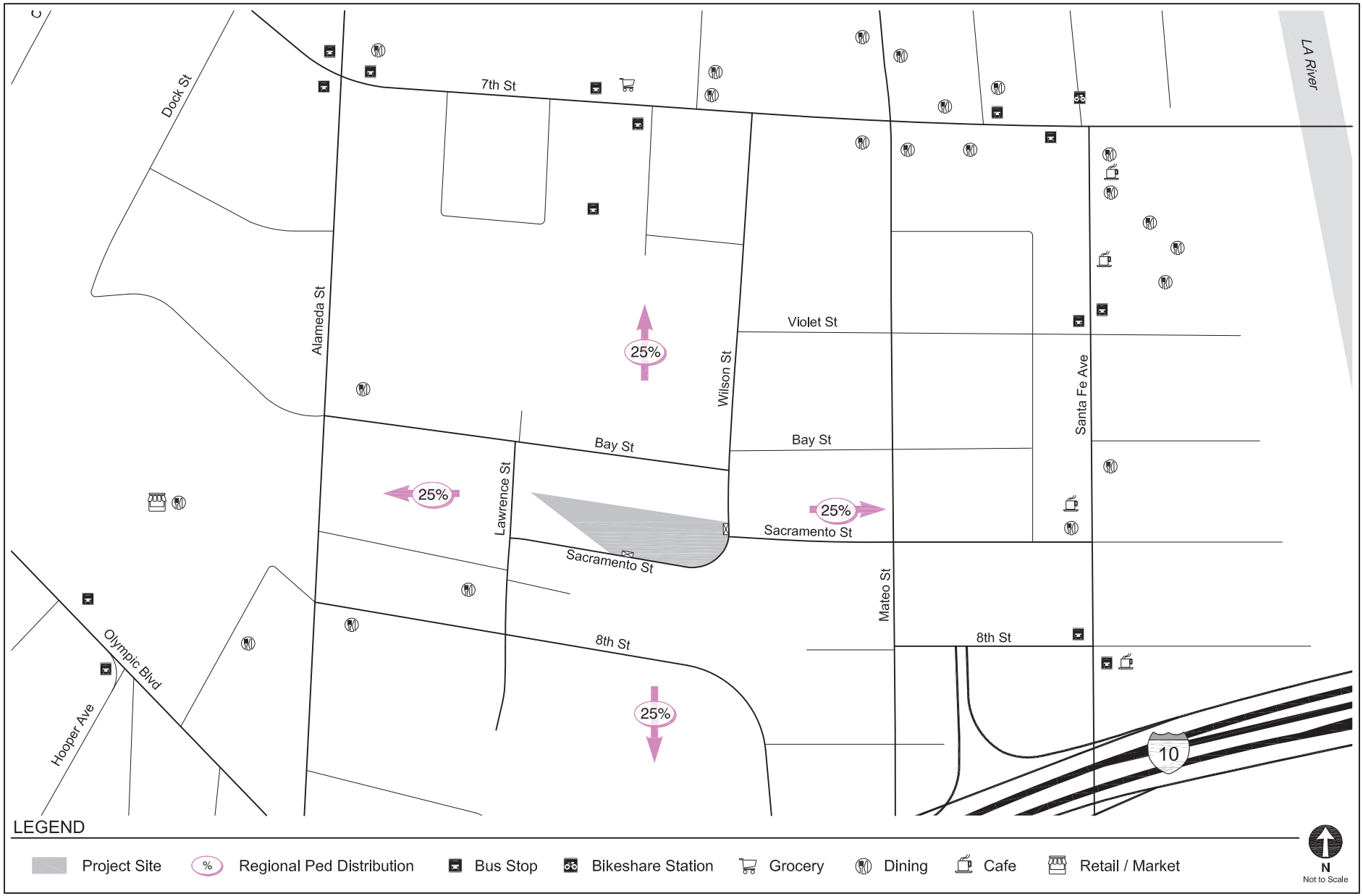
Notes:

[a] Related project information provided by the Los Angeles Department of Transportation and Los Angeles Department of City Planning in July 2022 and recent traffic studies prepared in the area. This list includes known development projects within one-half mile (2,460 foot) radius of the Project Site and one-quarter mile (1,320 foot) radius of the farthest outlying study intersections.



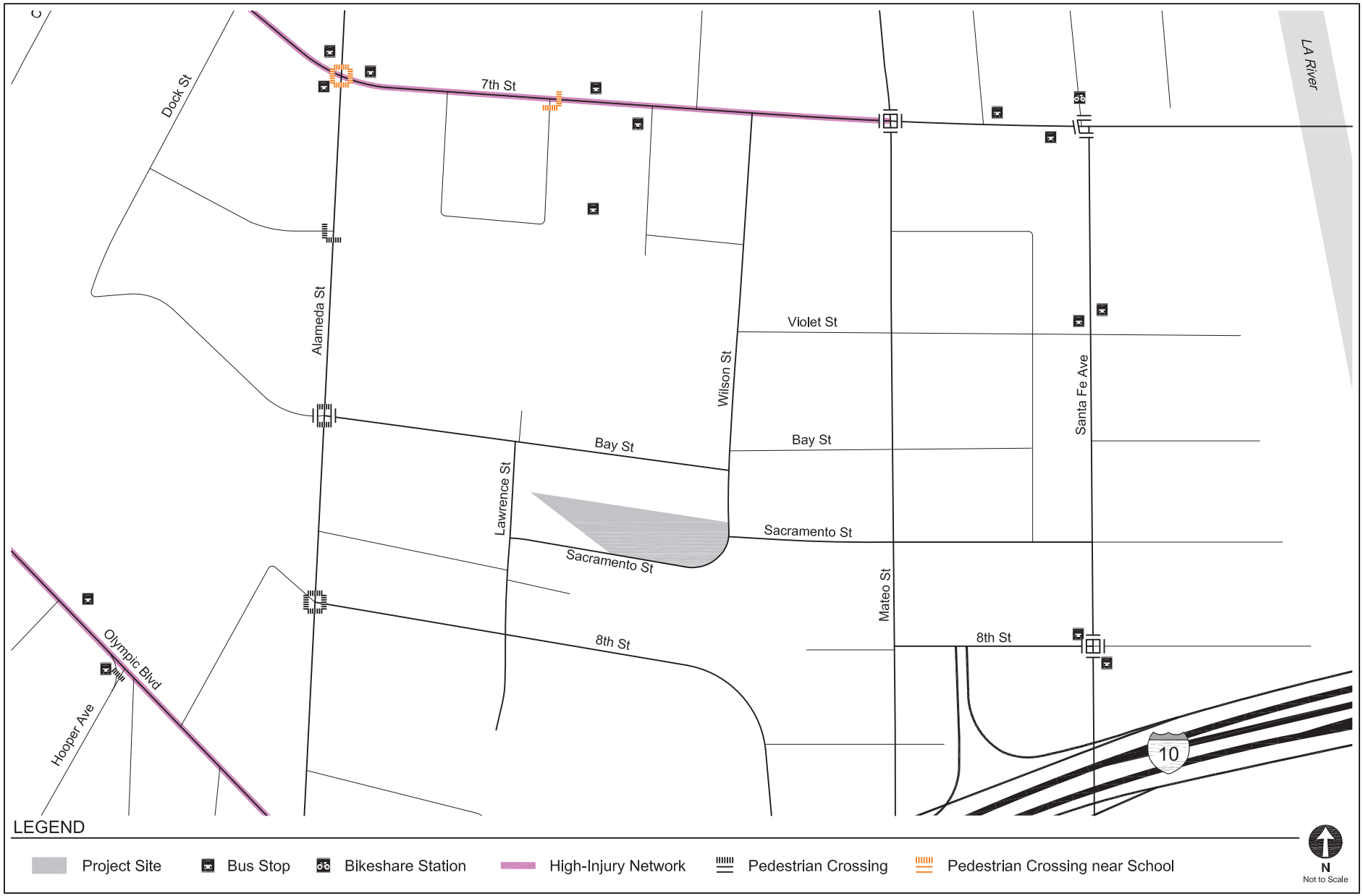
LOCATIONS OF RELATED PROJECTS

FIGURE 7



PEDESTRIAN ATTRACTORS INVENTORY

FIGURE 8



EXISTING TRANSPORTATION FACILITIES

FIGURE 9

TABLE 4
FREEWAY OFF-RAMP SCREENING PROCESS

Freeway Off-Ramp	Peak Hour	Project Traffic	Meets Screening Criteria? [a]
I-10 Eastbound [b]			
Off-ramp to 8th Street	AM	38	NO
	PM	10	NO
I-10 Westbound [c]			
Off-ramp to Porter Street	AM	38	NO
	PM	10	NO
I-5 Northbound [d]			
Off-ramp to 7th Street	AM	38	NO
	PM	10	NO
US-101 Southbound [e]			
Off-ramp to 7th Street	AM	38	NO
	PM	10	NO

Notes:

[a] Based on *Interim Guidance for Freeway Safety Analysis* (LADOT, 2020), a transportation assessment for a development project must include analysis of any freeway off-ramp where a project adds 25 or more peak hour trips.

[b] 10% of incoming trips were assumed to trave Eastbound on the I-10 to the Project Site via an off-ramp to 8th Street.

[c] 10% of incoming trips were assumed to travel Westbound on the I-10 to the Project Site via an off-ramp to Porter Street.

[d] 10% of incoming trips were assumed to trave Northbound on the I-5 to the Project Site via an off-ramp to 7th Street.

[e] 10% of incoming trips were assumed to travel Southbound on the US-101 to the Project Site via an off-ramp to 7th Street.

TABLE 5
ROADWAY CONFIGURATION AND CROSSING DISTANCE
ALONG PROJECT FRONTAGES

Street Segment	Roadway Configuration	Crossing Distance		
		Total Distance (ft)	Distance to Median (ft)	Distance to Median (ft)
Sacramento Street	2-lane	40	N/A	N/A
Lawrence Street	2-lane	60	N/A	N/A
Wilson Street	2-lane	28	N/A	N/A

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

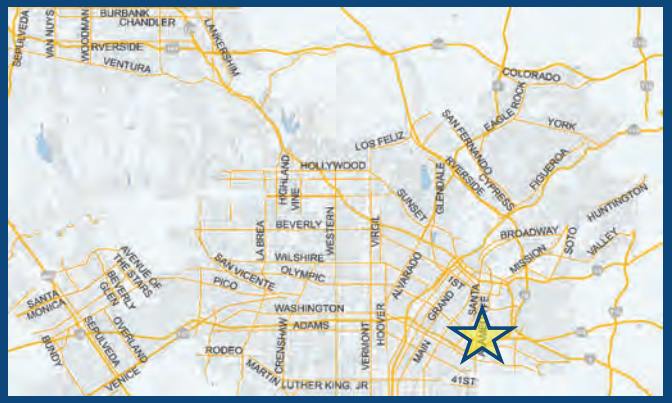
Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 1811 SACRAMENTO ST

Scenario:

Address: 1811 E SACRAMENTO ST, 90021



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
Industrial | Warehousing/Self-Storage	40.479	ksf
Industrial | Warehousing/Self-Storage	40.479	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 | General Retail	5.2	ksf
Retail | General Retail	5.2	ksf
Retail | High-Turnover Sit-Down Restaurant	8	ksf
Office | General Office	277.7	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
76 Daily Vehicle Trips	3,079 Daily Vehicle Trips
579 Daily VMT	23,946 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	3,003 Net Daily Trips
The net increase in daily VMT ≤ 0	23,367 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	13.200 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

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:	Lauren Mullarkey-Williams
Print Name:	Lauren Mullarkey-Williams
Title:	Associate
Company:	Gibson Transportation Consulting, Inc.
Address:	555 W. 5th Street, Suite 3375, Los Angeles, CA 90013
Phone:	(213) 683-0088
Email Address:	lmullarkey-williams@gibsontrans.com
Date:	11/29/22

Appendix B

Traffic Volume Data

Turning Movement Count Report AM

Location ID: 5
North/South: Alameda Street
East/West: 7th Street

Date: 12/13/22
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	
6:00	18	63	7	13	76	24	5	80	15	20	30	13	364
6:15	30	95	9	20	121	16	5	99	21	25	21	4	466
6:30	25	94	12	21	175	18	16	148	22	14	21	8	574
6:45	25	110	11	21	178	20	11	143	17	18	40	8	602
7:00	39	113	14	30	227	12	16	133	19	22	34	12	671
7:15	54	149	13	20	216	30	15	169	14	11	28	8	727
7:30	67	163	10	28	223	24	15	160	18	26	37	7	778
7:45	52	189	13	26	231	22	10	122	21	14	56	13	769
8:00	45	179	12	21	240	30	12	145	21	31	46	12	794
8:15	60	200	21	24	201	24	12	136	20	27	32	12	769
8:30	53	177	14	24	221	31	12	129	23	25	29	9	747
8:45	52	168	18	35	181	30	13	137	26	27	44	11	742
Total Volume:	520	1700	154	283	2290	281	142	1601	237	260	418	117	8003
Approach %	22%	72%	6%	10%	80%	10%	7%	81%	12%	33%	53%	15%	
Peak Hr Begin:	7:30												
PHV	224	731	56	99	895	100	49	563	80	98	171	44	3110
PHF	0.899			0.940			0.896			0.879			0.979

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

Turning Movement Count Report PM

Location ID: 5
North/South: Alameda Street
East/West: 7th Street

Date: 12/13/22
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	23	170	23	26	68	16	19	176	34	21	71	12	659
15:15	25	191	23	20	81	18	21	170	31	11	59	12	662
15:30	41	181	28	39	104	24	17	166	15	18	81	18	732
15:45	32	199	31	24	116	24	21	169	17	22	75	19	749
16:00	31	159	26	28	117	25	25	178	18	25	74	14	720
16:15	31	169	40	27	157	35	13	186	19	12	75	19	783
16:30	33	207	22	36	156	33	25	198	22	16	86	21	855
16:45	37	186	36	21	161	20	19	247	29	14	81	18	869
17:00	25	136	36	25	138	15	23	216	28	18	106	19	785
17:15	33	146	39	19	190	15	18	192	18	8	99	22	799
17:30	26	163	28	21	157	36	21	216	20	17	106	23	834
17:45	32	185	43	32	173	28	24	194	26	17	108	10	872

Total Volume:	369	2092	375	318	1618	289	246	2308	277	199	1021	207	9319
Approach %	13%	74%	13%	14%	73%	13%	9%	82%	10%	14%	72%	15%	

Peak Hr Begin:	16:30												
PHV	128	675	133	101	645	83	85	853	97	56	372	80	3308
PHF	0.893			0.921			0.877			0.888			0.952

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
6:00	3	0	0	0	2	0	3	0
6:15	2	1	1	0	2	0	0	2
6:30	1	0	1	0	2	2	2	0
6:45	1	1	7	0	1	0	6	0
7:00	5	0	4	0	2	0	5	1
7:15	11	1	1	0	2	0	8	0
7:30	12	0	9	0	1	0	7	0
7:45	9	1	3	0	2	0	7	1
8:00	9	1	4	0	4	1	6	0
8:15	4	0	5	0	1	3	2	1
8:30	2	0	3	1	4	1	0	0
8:45	3	0	2	0	1	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	3	0	3	0	3	1	6	0
15:15	7	0	7	0	2	0	3	0
15:30	6	0	2	0	1	1	6	1
15:45	18	0	6	0	5	1	5	0
16:00	14	1	11	1	6	0	9	1
16:15	15	0	8	1	7	2	10	0
16:30	10	0	9	0	10	0	9	0
16:45	3	1	3	1	3	0	3	0
17:00	3	1	5	0	1	1	2	0
17:15	2	0	2	0	1	0	2	0
17:30	6	1	2	0	1	0	8	0
17:45	19	0	2	0	8	1	12	1

Turning Movement Count Report AM

Location ID: 7
North/South: Mateo Street
East/West: 7th Street

Date: 12/13/22
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	
6:00	5	4	1	7	101	11	2	12	18	2	40	1	204
6:15	3	16	1	8	163	4	2	10	14	2	36	4	263
6:30	7	11	5	4	213	8	0	7	29	5	46	2	337
6:45	8	20	6	4	206	16	1	26	17	6	50	5	365
7:00	10	28	6	14	273	16	3	16	26	10	51	4	457
7:15	5	18	5	21	243	24	4	14	19	12	39	3	407
7:30	12	23	7	16	252	27	8	19	22	5	45	4	440
7:45	11	33	7	19	280	22	8	21	22	9	49	5	486
8:00	9	40	5	17	259	43	8	20	20	8	49	7	485
8:15	10	39	7	20	246	33	4	22	16	7	37	4	445
8:30	11	45	8	10	242	42	4	24	14	10	44	7	461
8:45	12	37	8	13	238	32	7	27	21	13	62	5	475
Total Volume:	103	314	66	153	2716	278	51	218	238	89	548	51	4825
Approach %	21%	65%	14%	5%	86%	9%	10%	43%	47%	13%	80%	7%	
Peak Hr Begin:	7:45												
PHV	41	157	27	66	1027	140	24	87	72	34	179	23	1877
PHF	0.879			0.960			0.897			0.922			0.966

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

Turning Movement Count Report PM

Location ID: 7
North/South: Mateo Street
East/West: 7th Street

Date: 12/13/22
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	17	34	10	7	82	13	13	28	23	16	101	9	353
15:15	9	48	11	11	97	13	12	13	18	13	86	8	339
15:30	13	35	12	8	132	6	6	24	24	15	99	7	381
15:45	11	32	3	7	121	12	14	26	22	12	98	7	365
16:00	14	39	4	9	118	21	9	24	32	19	89	13	391
16:15	9	32	11	13	185	13	15	27	16	15	104	8	448
16:30	16	39	11	21	176	12	16	34	35	22	102	13	497
16:45	9	34	6	8	146	12	16	34	33	24	108	18	448
17:00	15	58	11	16	129	9	28	35	31	26	140	12	510
17:15	13	52	12	16	161	15	18	26	33	31	122	15	514
17:30	14	52	15	4	174	12	17	38	17	18	124	9	494
17:45	15	28	11	19	173	11	14	40	21	23	151	11	517
Total Volume:	155	483	117	139	1694	149	178	349	305	234	1324	130	5257
Approach %	21%	64%	15%	7%	85%	8%	21%	42%	37%	14%	78%	8%	
Peak Hr Begin:	17:00												
PHV	57	190	49	55	637	47	77	139	102	98	537	47	2035
PHF	0.881			0.910			0.846			0.922			0.984

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

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

Manual Traffic Count Summary

Street:

North/South Santa Fe Street

East/West 7th Street

Day: Tuesday Date: 10/14/2014 Weather: Sunny

Hours: 7-10AM 3-6PM

School Day: Yes

	N/B	S/B	E/B	W/B
Dual-Wheel:	282	149	305	365
Bikes:	0	15	0	15
Buses:	97	3	143	47

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	130	7:30	61	7:45	108	9:45	272	7:30
PM PK 15 MIN	185	5:45	96	5:15	185	5:45	174	5:15
AM PK HOUR	466	7:00	197	7:00	382	8:00	1027	7:30
PM PK HOUR	611	5:00	350	4:00	674	5:00	596	5:00

NORTHBOUND Approach

Hours	Rt	Th	Lt	Total
7-8	80	274	112	466
8-9	104	246	91	441
9-10	86	197	102	385
3-4	141	212	86	439
4-5	107	253	70	430
5-6	157	350	104	611
Total	675	1532	565	2772

SOUTHBOUND Approach

Hours	Rt	Th	Lt	Total
7-8	18	155	24	197
8-9	19	128	30	177
9-10	14	148	30	192
3-4	29	222	51	302
4-5	24	280	46	350
5-6	12	252	36	300
Total	116	1185	217	1518

Total	**XING S/L**		**XING N/L**	
N/S	Ped	Sch	Ped	Sch
663	0	0	17	0
618	0	0	11	0
577	0	0	4	0
741	0	0	14	0
780	0	0	28	0
911	0	0	13	0
4290	0	0	87	0

EASTBOUND Approach

Hours	Rt	Th	Lt	Total
7-8	59	188	11	258
8-9	71	297	14	382
9-10	80	255	12	347
3-4	131	427	20	578
4-5	117	453	29	599
5-6	124	531	19	674
Total	582	2151	105	2838

WESTBOUND Approach

Hours	Rt	Th	Lt	Total
7-8	150	562	286	998
8-9	104	620	277	1001
9-10	93	523	239	855
3-4	31	237	204	472
4-5	36	276	211	523
5-6	64	284	248	596
Total	478	2502	1465	4445

Total	**XING W/L**		**XING E/L**	
E/W	Ped	Sch	Ped	Sch
1256	33	0	0	0
1383	33	0	2	0
1202	40	0	0	0
1050	29	0	0	0
1122	46	0	1	0
1270	45	0	0	0
7283	226	0	3	0

Turning Movement Count Report AM (Passenger Vehicles)

Location ID: 1
North/South: Alameda Street
East/West: Bay Street

Date: 03/05/15
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	
5:00	3	41	10	3	1	2	3	65	7	2	0	3	140
5:15	1	55	60	3	8	4	2	48	34	2	0	0	217
5:30	6	96	37	3	37	3	14	76	38	0	0	0	310
5:45	8	80	38	1	52	5	17	101	32	1	0	0	335
6:00	5	113	41	5	18	6	10	82	28	0	0	2	310
6:15	9	118	18	6	5	9	8	103	26	1	0	2	305
6:30	9	119	19	6	4	5	9	114	17	1	0	0	303
6:45	6	112	15	9	5	11	14	119	15	0	2	2	310
7:00	14	171	12	15	6	9	11	135	17	1	0	1	392
7:15	9	130	4	4	2	20	14	129	5	0	0	1	318
7:30	12	175	13	7	3	9	13	175	9	3	1	0	420
7:45	13	184	12	9	4	10	18	187	11	4	1	0	453
8:00	13	177	9	6	5	18	15	141	9	3	0	3	399
8:15	12	197	14	8	5	16	14	168	13	2	0	3	452
8:30	15	160	14	8	6	21	23	166	10	2	1	3	429
8:45	15	163	18	16	0	22	17	176	12	0	0	3	442
9:00	14	155	18	16	9	23	17	156	8	1	1	4	422
9:15	6	146	14	16	5	18	20	121	7	6	1	3	363
9:30	13	132	15	14	2	16	18	131	6	9	0	4	360
9:45	16	126	18	12	7	21	27	140	8	4	2	6	387
Total Volume:	199	2650	399	167	184	248	284	2533	312	42	9	40	7067
Approach %	6%	82%	12%	28%	31%	41%	9%	81%	10%	46%	10%	44%	

Turning Movement Count Report PM (Passenger Vehicles)

Location ID: 1
North/South: Alameda Street
East/West: Bay Street

Date: 03/05/15
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	
2:00	12	152	6	13	2	13	14	114	10	39	8	35	418
2:15	19	139	9	7	4	20	17	151	4	78	17	80	545
2:30	17	199	9	11	3	12	16	157	7	30	18	20	499
2:45	13	182	18	13	4	20	13	150	7	44	13	30	507
3:00	12	130	17	9	4	16	16	140	8	25	8	16	401
3:15	12	172	21	14	3	10	18	141	10	23	3	15	442
3:30	13	181	25	7	8	14	10	165	14	17	2	9	465
3:45	10	202	37	6	16	12	11	160	32	14	1	8	509
4:00	10	203	54	9	4	16	20	148	37	20	0	11	532
4:15	7	216	54	14	4	9	9	156	26	17	6	10	528
4:30	4	199	47	7	5	14	10	147	20	11	1	11	476
4:45	6	195	22	6	17	12	7	142	17	10	1	8	443
5:00	6	219	5	14	18	22	8	164	12	23	2	9	502
5:15	3	259	6	8	12	18	3	170	7	15	3	20	524
5:30	4	247	7	4	21	9	6	201	10	16	0	10	535
5:45	8	221	7	6	9	15	5	226	6	8	4	20	535
6:00	3	215	4	2	0	4	7	223	3	10	2	10	483
6:15	4	203	3	4	0	7	5	205	2	6	2	13	454
6:30	3	196	2	5	1	6	3	214	3	11	1	13	458
6:45	1	120	3	2	1	7	2	191	1	9	0	6	343
Total Volume:	167	3850	356	161	136	256	200	3365	236	426	92	354	9599
Approach %	4%	88%	8%	29%	25%	46%	5%	89%	6%	49%	11%	41%	

Turning Movement Count Report AM (Trucks)

Location ID: 1
North/South: Alameda Street
East/West: Bay Street

Date: 03/05/15
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	
5:00	1	24	0	4	0	5	1	22	0	0	0	0	57
5:15	1	23	0	1	0	4	4	22	0	0	0	0	55
5:30	0	28	0	2	0	5	4	29	0	0	0	0	68
5:45	1	23	0	2	0	3	1	23	0	0	0	0	53
6:00	2	37	0	4	0	10	1	35	1	0	0	0	90
6:15	0	35	1	2	2	5	4	36	0	0	0	0	85
6:30	3	36	0	4	0	10	4	28	2	1	0	0	88
6:45	3	27	1	0	0	6	1	36	0	1	0	0	75
7:00	1	18	1	4	0	7	4	45	0	1	0	1	82
7:15	1	31	1	4	1	12	5	35	0	1	0	0	91
7:30	0	24	0	3	0	8	2	27	0	0	0	0	64
7:45	0	23	0	4	0	11	4	29	0	2	0	0	73
8:00	0	14	0	1	0	7	3	23	2	2	0	0	52
8:15	1	31	1	0	0	8	6	28	0	2	0	0	77
8:30	3	25	1	7	0	6	3	38	1	0	0	0	84
8:45	2	30	0	2	2	7	5	30	0	1	0	0	79
9:00	2	29	0	4	0	6	3	31	1	2	0	1	79
9:15	1	24	1	4	0	13	3	27	3	1	0	0	77
9:30	1	30	1	2	0	5	6	32	0	2	0	2	81
9:45	0	25	1	4	0	7	2	37	1	2	0	0	79

Total Volume:	23	537	9	58	5	145	66	613	11	18	0	4	1489
Approach %	4%	94%	2%	28%	2%	70%	10%	89%	2%	82%	0%	18%	

Turning Movement Count Report PM (Trucks)

Location ID: 1
North/South: Alameda Street
East/West: Bay Street

Date: 03/05/15
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	
2:00	3	25	0	2	1	3	1	27	0	1	0	0	63
2:15	1	12	0	0	0	1	0	23	1	0	0	1	39
2:30	2	17	0	2	0	1	2	21	1	0	1	0	47
2:45	2	15	0	1	0	3	1	14	0	0	0	2	38
3:00	1	18	0	1	0	1	0	15	2	4	1	0	43
3:15	1	10	0	0	0	2	3	13	0	1	0	0	30
3:30	1	8	0	2	1	2	1	19	1	1	0	0	36
3:45	1	17	1	1	0	1	1	5	0	0	2	1	30
4:00	0	14	0	1	0	1	0	11	0	1	0	0	28
4:15	0	9	0	0	0	2	2	13	1	0	0	0	27
4:30	1	14	0	2	1	2	0	6	2	0	0	0	28
4:45	0	12	0	1	0	2	1	11	0	0	0	0	27
5:00	0	11	0	2	0	1	1	11	0	1	0	0	27
5:15	0	6	1	0	1	3	0	6	0	0	1	0	18
5:30	0	4	0	2	0	2	0	12	0	1	1	0	22
5:45	0	7	0	0	1	2	1	5	1	0	0	0	17
6:00	0	8	0	0	0	0	2	5	0	0	0	0	15
6:15	0	9	0	0	0	0	2	5	2	0	0	0	18
6:30	0	1	1	1	0	0	2	4	0	1	0	0	10
6:45	0	9	0	0	0	1	0	3	0	1	0	0	14

Total Volume:	13	226	3	18	5	30	20	229	11	12	6	4	577
Approach %	5%	93%	1%	34%	9%	57%	8%	88%	4%	55%	27%	18%	

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Alameda St

East/West 8th St

Day: Thursday Date: 02/07/2019 Weather: SUNNY

Hours: Chekrs: NDS

School Day: Yes I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	554	530	210	207
BIKES	19	22	10	7
BUSES	6	7	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	256	9.30	244	8.00	57	7.15	60	9.00
PM PK 15 MIN	189	17.45	289	16.15	36	15.00	28	17.15
AM PK HOUR	949	7.15	901	8.00	199	7.15	190	8.15
PM PK HOUR	706	17.00	1090	15.45	110	15.00	91	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	46	859	20	925
8-9	38	851	28	917
9-10	49	766	30	845
15-16	12	631	14	657
16-17	9	622	18	649
17-18	7	667	32	706
TOTAL	161	4396	142	4699

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	7	694	106	807
8-9	11	774	116	901
9-10	18	683	123	824
15-16	27	894	69	990
16-17	28	857	97	982
17-18	20	452	139	611
TOTAL	111	4354	650	5115

TOTAL N-S	**XING S/L** Ped	Sch	**XING N/L** Ped	Sch
1732	20	1	4	1
1818	28	0	5	0
1669	65	1	1	0
1647	6	2	0	0
1631	6	0	3	0
1317	3	0	2	0
9814	128	4	15	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	96	41	55	192
8-9	93	41	38	172
9-10	100	41	54	195
15-16	60	16	34	110
16-17	39	25	19	83
17-18	45	24	15	84
TOTAL	433	188	215	836

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	39	95	38	172
8-9	36	93	39	168
9-10	53	93	42	188
15-16	39	24	23	86
16-17	12	30	17	59
17-18	21	47	21	89
TOTAL	200	382	180	762

TOTAL E-W	**XING W/L** Ped	Sch	**XING E/L** Ped	Sch
364	18	1	22	2
340	17	1	18	0
383	8	0	5	0
196	4	5	5	10
142	7	0	16	9
173	20	0	17	0
1598	74	7	83	21

Alameda St & 8th St

Peak Hour Turning Movement Count

ID: 19-05065-001
City: Los Angeles

Day: Thursday
Date: 02/07/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 10:00 AM
NONE	NONE
03:45 PM - 04:45 PM	03:00 PM - 06:00 PM

CONTROL: Signalized

	TEV	AM	NOON	PM
	2187	0	1884	
PHF	0.98		0.96	

Alameda St — SOUTHBOUND

AM	120	753	8	0	1022	AM
NOON	0	0	0	0	0	NOON
PM	80	980	30	0	678	PM
	0	3	0	0		

8th St — EASTBOUND

AM	NOON	PM	
246	0	111	
0	0	0	0
99	0	38	0
43	0	23	1
57	0	25	0
AM	NOON	PM	

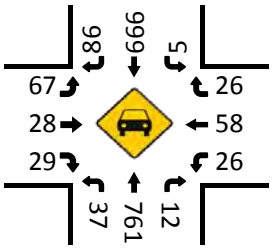
8th St — WESTBOUND

PM	NOON	AM	
16	0	38	0
24	0	81	1
21	0	39	0
0	0	0	0
69	0	70	
PM	NOON	AM	

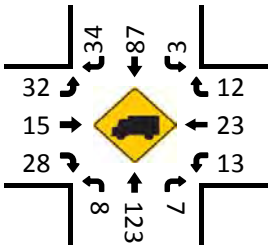
Alameda St — NORTHBOUND

	0	0	3	0		
PM	1026	0	7	624	16	PM
NOON	0	0	0	0	0	NOON
AM	849	0	45	885	19	AM

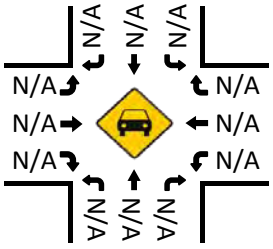
Cars (AM)



HT (AM)



Cars (NOON)



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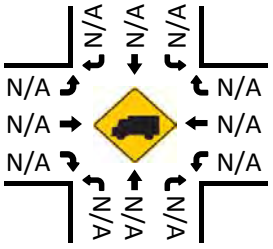
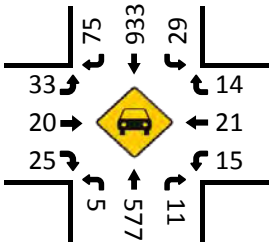
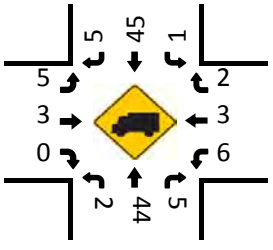


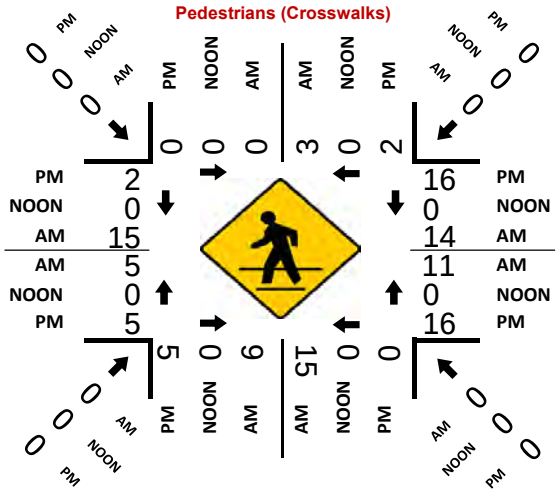
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



Location: Alameda St & 8th St
City: Los Angeles
Control: Signalized

Project ID: 19-05065-001
Date: 2/7/2019

Total

NS/EW Streets:	Alameda St				Alameda St				8th St				8th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	194	7	1	1	145	24	0	17	7	9	0	9	33	10	0	467
7:15 AM	17	211	2	0	1	187	30	0	28	14	15	0	16	21	8	0	550
7:30 AM	8	240	4	0	4	164	26	0	26	8	14	0	8	19	11	0	532
7:45 AM	10	214	7	0	1	198	26	0	25	12	17	0	6	22	9	0	547
8:00 AM	10	220	6	0	2	204	38	0	20	9	11	0	9	19	10	0	558
8:15 AM	8	212	7	0	0	203	22	0	24	10	6	0	10	31	10	0	543
8:30 AM	8	195	6	0	6	167	27	0	24	10	11	0	5	18	9	0	486
8:45 AM	12	224	9	0	3	200	29	0	25	12	10	0	12	25	10	0	571
9:00 AM	6	182	4	0	5	170	31	0	30	9	10	0	8	32	20	0	507
9:15 AM	17	180	8	0	3	178	30	0	21	10	16	0	12	18	7	0	500
9:30 AM	16	230	10	0	5	174	36	0	32	7	12	0	17	15	9	0	563
9:45 AM	10	174	8	0	5	161	26	0	17	15	16	0	16	28	6	0	482
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	132	2476	78	1	36	2151	345	0	289	123	147	0	128	281	119	0	6306
APPROACH %'s :	4.91%	92.15%	2.90%	0.04%	1.42%	84.95%	13.63%	0.00%	51.70%	22.00%	26.30%	0.00%	24.24%	53.22%	22.54%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	45	885	19	0	8	753	120	0	99	43	57	0	39	81	38	0	2187
PEAK HR FACTOR :	0.662	0.922	0.679	0.000	0.500	0.923	0.789	0.000	0.884	0.768	0.838	0.000	0.609	0.920	0.864	0.000	0.980
	0.941				0.903				0.873				0.878				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	3	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	3	156	3	1	4	220	16	0	21	8	7	0	14	4	9	0	466
3:15 PM	4	148	7	0	7	212	22	0	14	4	12	0	10	9	2	0	451
3:30 PM	4	155	3	0	7	209	16	1	17	1	7	0	4	6	7	0	437
3:45 PM	0	172	1	0	8	253	15	0	8	3	8	0	11	5	5	0	489
4:00 PM	1	150	4	0	2	265	14	0	13	4	7	0	2	3	4	0	469
4:15 PM	2	143	3	0	12	252	25	0	11	7	6	0	3	4	4	0	472
4:30 PM	4	159	8	0	8	210	26	0	6	9	4	0	5	12	3	0	454
4:45 PM	1	170	3	1	5	130	32	1	9	5	2	0	2	11	6	0	378
5:00 PM	3	161	7	0	6	126	38	0	10	9	6	0	4	14	6	0	390
5:15 PM	1	149	12	0	6	136	35	0	9	4	4	0	6	16	6	0	384
5:30 PM	2	174	8	0	6	99	36	0	14	4	1	0	3	10	6	0	363
5:45 PM	1	183	5	0	2	91	30	0	12	7	4	0	8	7	3	0	353
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	26	1920	64	2	73	2203	305	2	144	65	68	0	72	101	61	0	5106
APPROACH %'s :	1.29%	95.43%	3.18%	0.10%	2.83%	85.29%	11.81%	0.08%	51.99%	23.47%	24.55%	0.00%	30.77%	43.16%	26.07%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	7	624	16	0	30	980	80	0	38	23	25	0	21	24	16	0	1884
PEAK HR FACTOR :	0.438	0.907	0.500	0.000	0.625	0.925	0.769	0.000	0.731	0.639	0.781	0.000	0.477	0.500	0.800	0.000	0.963
	0.935				0.943				0.896				0.726				

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South I-10 WB On_Off Ramps

East/West 8th St

Day: Wednesday Date: January 15, 2014 Weather: SUNNY

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

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	367	0	84	190
BIKES	0	0	1	2
BUSES	3	0	2	10

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	165	7.45	0	0.00	64	7.15	114	8.00
PM PK 15 MIN	194	17.30	0	0.00	61	17.00	123	17.00
AM PK HOUR	565	7.00	0	0.00	203	7.00	437	7.45
PM PK HOUR	674	17.00	0	0.00	215	16.45	441	15.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	197	0	368	565
8-9	128	0	273	401
9-10	164	0	328	492
15-16	58	0	332	390
16-17	74	0	315	389
17-18	264	0	410	674
TOTAL	885	0	2026	2911

SOUTHBOUND Approach

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

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
565	0	0	0	0
401	2	0	0	0
492	1	0	0	0
390	0	0	0	0
389	0	0	0	0
674	1	0	0	0
2911	4	0	0	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	18	185	203
8-9	0	17	158	175
9-10	0	19	140	159
15-16	0	21	174	195
16-17	0	19	184	203
17-18	0	16	195	211
TOTAL	0	110	1036	1146

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	388	19	0	407
8-9	394	25	0	419
9-10	315	30	0	345
15-16	388	21	0	409
16-17	402	30	0	432
17-18	389	28	0	417
TOTAL	2276	153	0	2429

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
610	1	0	1	0
594	0	0	0	0
504	0	0	0	0
604	3	0	0	0
635	2	0	0	0
628	1	0	0	0
3575	7	0	1	0

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South S Santa Fe Ave

East/West 8th St

Day: Thursday Date: September 10, 2015 Weather: SUNNY

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

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	409	350	278	5
BIKES	31	19	0	4
BUSES	69	76	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	223	7.45	169	7.45	93	7.45	10	7.45
PM PK 15 MIN	205	17.30	197	15.30	127	17.30	17	16.30
AM PK HOUR	821	7.15	624	7.15	330	7.00	30	7.45
PM PK HOUR	759	17.00	684	15.30	450	17.00	49	16.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	212	592	15	819
8-9	209	521	10	740
9-10	212	494	15	721
15-16	237	438	16	691
16-17	220	449	11	680
17-18	198	554	7	759
18-19	-655	0	0	-655
TOTAL	633	3048	74	3755

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	12	367	240	619
8-9	8	310	281	599
9-10	17	334	185	536
15-16	7	452	184	643
16-17	10	449	179	638
17-18	4	418	156	578
18-19	0	0	0	0
TOTAL	58	2330	1225	3613

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1438	6	0	16	0
1339	8	0	12	0
1257	5	0	1	0
1334	3	0	6	0
1318	21	1	5	0
1337	0	0	8	0
-655	0	0	0	0
7368	43	1	48	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	32	10	288	330
8-9	41	7	241	289
9-10	30	6	252	288
15-16	36	6	260	302
16-17	25	13	294	332
17-18	75	9	366	450
TOTAL	239	51	1701	1991

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	2	5	9	16
8-9	4	6	13	23
9-10	5	3	13	21
15-16	12	10	18	40
16-17	10	13	17	40
17-18	5	12	13	30
TOTAL	38	49	83	170

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
346	5	0	14	0
312	10	0	14	0
309	5	0	7	0
342	8	0	12	0
372	14	0	9	1
480	4	0	16	0
2161	46	0	72	1

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

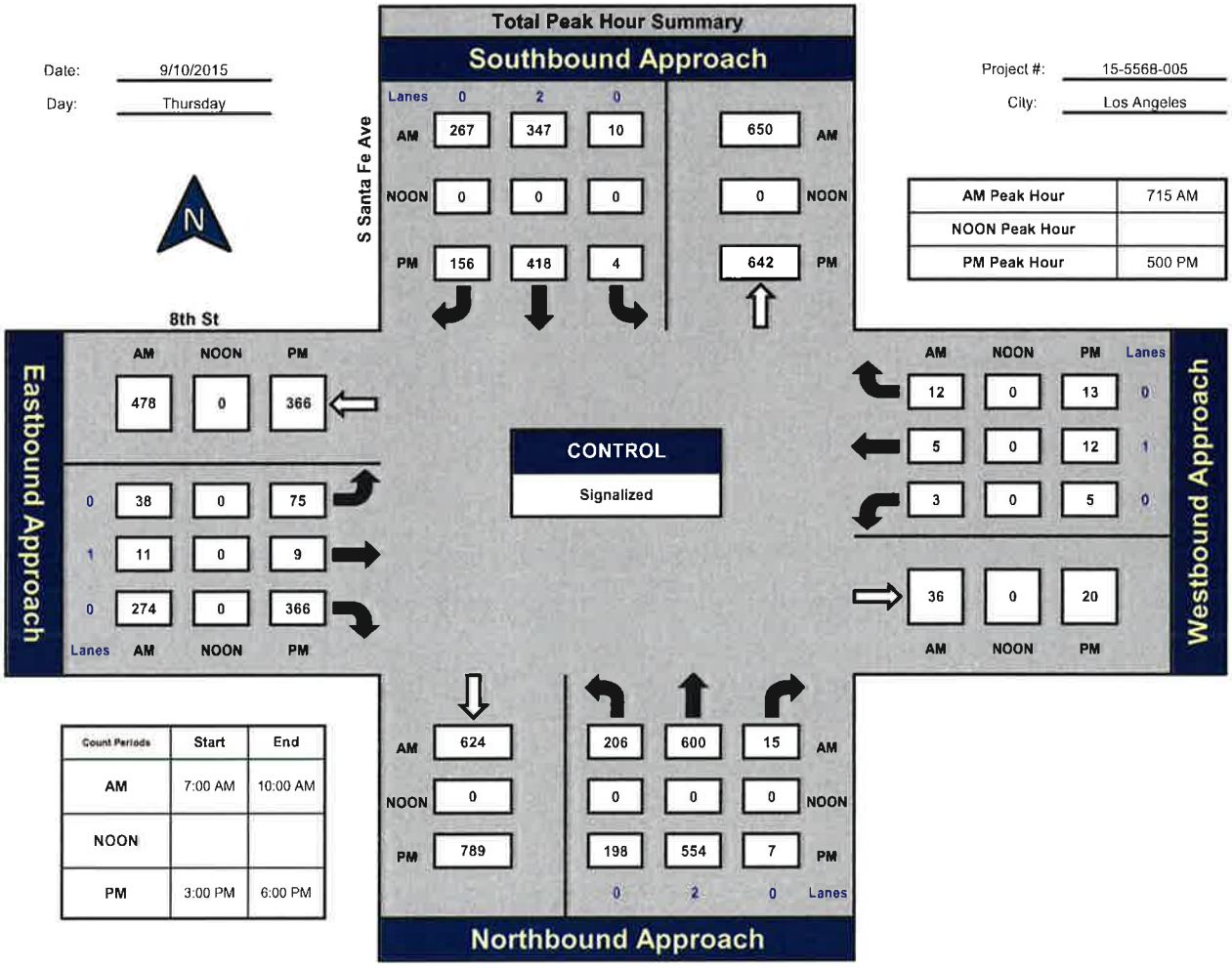
S Santa Fe Ave and 8th St , Los Angeles

Date: 9/10/2015

Day: Thursday

Project #: 15-5568-005

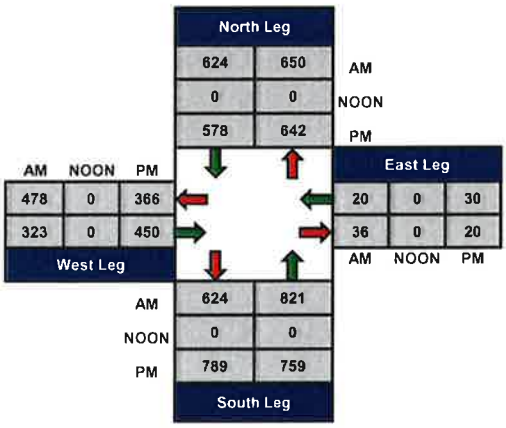
City: Los Angeles



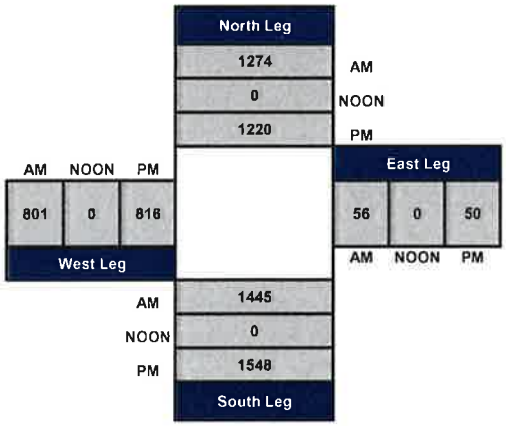
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Appendix C

CEQA T-1 Plans, Policies, Programs Consistency Worksheet

Plans, Policies and Programs Consistency Worksheet

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

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

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

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

I. SCREENING CRITERIA FOR POLICY ANALYSIS

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

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

☑ Yes ☐ No

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

☐ Yes ☑ No

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

☑ Yes ☐ No

II. PLAN CONSISTENCY ANALYSIS

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

These questions address potential conflict with:

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

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

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

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

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

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

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

☐ Yes ☐ No ☑ N/A

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

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

☐ **Yes** ☐ **No** ☑ N/A

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

Sacramento Street
Frontage 1 Existing PROW'/Curb' : Existing 60/40 Required 66/40 Proposed 66/40

Wilson Street
Frontage 2 Existing PROW'/Curb' : Existing 76/60 Required 66/40 Proposed 76/60

Frontage 3 Existing PROW'/Curb' : Existing _____ Required _____ Proposed _____

Frontage 4 Existing PROW'/Curb' : Existing _____ Required _____ Proposed _____

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

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

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

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

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

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

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

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

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

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

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

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

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

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

☐ **Yes** ☑ No

B.2 Driveway Access

These questions address potential conflict with:

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

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

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

Site Planning Best Practices:

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

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

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

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

☐ **Yes** ☑ No

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

Impact Analysis

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

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

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

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

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

☐ **Yes** ☐ No ☑ N/A

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

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

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

☐ **Yes** ☐ No ☑ N/A

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

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

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

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

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

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

☐ Yes ☑ No

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

☐ Yes ☐ **No** ☑ N/A

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

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

☑ Yes ☐ **No**

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

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

☑ Yes ☐ No

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

☑ Yes ☐ **No** ☐ N/A

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

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

E. Consistency with Regional Plans

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

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

☑ Yes ☐ No

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

☐ Yes ☑ No ☐ N/A

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

☑ Yes ☐ No ☐ N/A

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

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

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

References

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

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

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

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

SCAG. Connect SoCal, 2020-2045 RTP/SCS, https://www.connectsocal.org/Pages/default.aspx

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

The Transportation Element of the City's General Plan, Mobility Plan 2035, established the "Complete Streets Design Guide" as the City's document to guide the operations and design of streets and other public rights-of-way. It lays out a vision for designing safer, more vibrant streets that are accessible to people, no matter what their mode choice. As a living document, it is intended to be frequently updated as City departments identify and implement street standards and experiment with different configurations to promote complete streets. The guide is meant to be a toolkit that provides numerous examples of what is possible in the public right-of-way and that provides guidance on context-sensitive design.

The Plan for A Healthy Los Angeles (March 2015) includes policies directing several City departments to develop plans that promote active transportation and safety.

The City of Los Angeles Community Plans, which make up the Land Use Element of the City's General Plan, guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 Community Plans provide specific, neighborhood-level detail for land uses and the transportation network, relevant policies, and implementation strategies necessary to achieve General Plan and community-specific objectives.

The stated goal of Vision Zero is to eliminate traffic-related deaths in Los Angeles by 2025 through a number of strategies, including modifying the design of streets to increase the safety of vulnerable road users. Extensive crash data analysis is conducted on an ongoing basis to prioritize intersections and corridors for implementation of projects that will have the greatest effect on overall fatality reduction. The City designs and deploys Vision Zero Corridor Plans as part of the implementation of Vision Zero. If a project is proposed whose site lies on the High Injury Network (HIN), the applicant should consult with LADOT to inform the project's site plan and to determine appropriate improvements, whether by funding their implementation in full or by making a contribution toward their implementation.

The Citywide Design Guidelines (October 24, 2019) includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access and comfort as they access to and from the building and the immediate public right of way.

The City's Transportation Demand Management (TDM) Ordinance (LA Municipal Code 12.26.J) requires certain projects to incorporate strategies that reduce drive-alone vehicle trips and improve access to destinations and services. The ordinance is revised and updated periodically and should be reviewed for application to specific projects as they are reviewed.

The City's LAMC Section 12.37 (Waivers of Dedication and Improvement) requires certain projects to dedicate and/or implement improvements within the public right-of-way to meet the street designation standards of the Mobility Plan 2035.

The Bureau of Engineering (BOE) Street Standard Dimensions S-470-1 provides the specific street widths and public right of way dimensions associated with the City's street standards.

Appendix D

VMT Analysis Worksheets

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

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

Project Information

Project: 1811 SACRAMENTO ST

Scenario:

Address: 1811 E SACRAMENTO ST, 90021

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
Industrial | Warehousing/Self-Storage	40.479	ksf
Industrial | Warehousing/Self-Storage	40.479	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 | General Retail	5.2	ksf
Retail | General Retail	5.2	ksf
Retail | High-Turnover Sit-Down Restaurant	8	ksf
Office | General Office	277.7	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
76 Daily Vehicle Trips	3,079 Daily Vehicle Trips
579 Daily VMT	23,946 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	3,003 Net Daily Trips
The net increase in daily VMT ≤ 0	23,367 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	13.200 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

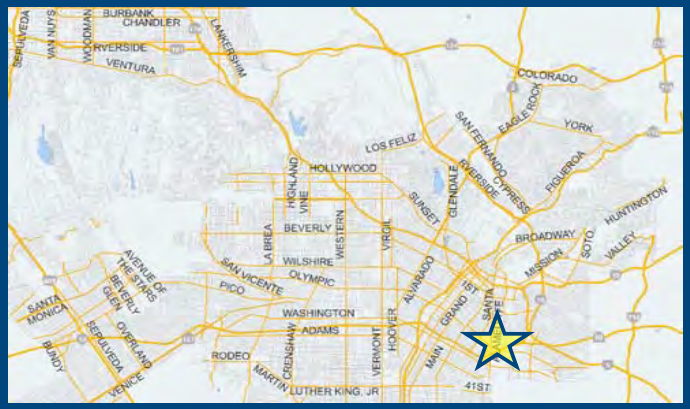
CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 1811 SACRAMENTO ST

Scenario:

Address: 1811 E SACRAMENTO ST, 90021



Proposed Project Land Use Type	Value	Unit
Retail | General Retail		
Retail | High-Turnover Sit-Down Restau		
Office | General Office		

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

656 city code parking provision for the project site

582 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

100 percent of employees eligible

Price Workplace Parking

☐ Proposed Prj ☐ Mitigation

6.00 daily parking charge (dollar)

100 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
2,668 Daily Vehicle Trips	**2,668** Daily Vehicle Trips
20,724 Daily VMT	**20,724** Daily VMT
0.0 Household VMT per Capita	**0.0** Household VMT per Capita
7.4 Work VMT per Employee	**7.4** 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

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

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	5.200	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	8.000	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	277.700	ksf
	Medical Office	*0.000*	*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: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

Version 1.3

Analysis Results			
Total Employees: 1,153 Total Population: 0			
Proposed Project		***With Mitigation***	
2,668	**Daily Vehicle Trips**	**2,668**	**Daily Vehicle Trips**
20,724	**Daily VMT**	**20,724**	**Daily VMT**
0	**Household VMT per Capita**	**0**	**Household VMT per Capita**
7.4	**Work VMT per Employee**	**7.4**	**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)	656	656
		Actual parking provision (spaces)	582	582
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	Employees eligible (%)	100%	100%
	Price workplace parking	*Daily parking charge ($)*	*$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*
		Degree of implementation (low, medium, high)	*0*	*0*
	Employer sponsored vanpool or shuttle	*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)	within project and connecting off-site	within project and connecting off-site

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		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	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	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%	5%	5%	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: Suburban Center

		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 sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

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	*12%*	*12%*	*16%*	*16%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*8%*
MAX. TDM EFFECT	*12%*	*12%*	*16%*	*16%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

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

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.1	0	0
Home Based Other Production	0	0.0%	0	5.1	0	0
Non-Home Based Other Production	612	-4.1%	587	8.3	5,080	4,872
Home-Based Work Attraction	1,562	-22.1%	1,217	8.3	12,965	10,101
Home-Based Other Attraction	1,306	-47.3%	688	6.9	9,011	4,747
Non-Home Based Other Attraction	612	-4.1%	587	7.2	4,406	4,226

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	-11.8%	0	0	-11.8%	0	0
Home Based Other Production	-11.8%	0	0	-11.8%	0	0
Non-Home Based Other Production	-11.8%	518	4,298	-11.8%	518	4,298
Home-Based Work Attraction	-15.8%	1,025	8,510	-15.8%	1,025	8,510
Home-Based Other Attraction	-11.8%	607	4,188	-11.8%	607	4,188
Non-Home Based Other Attraction	-11.8%	518	3,728	-11.8%	518	3,728

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 1,153
APC: Central

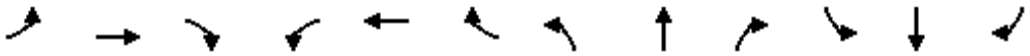
	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**8,510**	**8,510**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**7.4**	**7.4**

Appendix E

HCM Analysis Worksheets

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	338	101	125	684	90	128	610	85	121	730	226
Future Volume (veh/h)	83	338	101	125	684	90	128	610	85	121	730	226
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	90	367	110	136	743	98	139	663	92	132	793	246
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	147	892	264	285	1042	137	265	1185	164	456	1433	444
Arrive On Green	0.33	0.33	0.33	0.11	0.11	0.11	0.76	0.76	0.76	0.10	0.54	0.54
Sat Flow, veh/h	654	2704	800	917	3156	416	543	3135	434	1781	2670	828
Grp Volume(v), veh/h	90	240	237	136	418	423	139	375	380	132	528	511
Grp Sat Flow(s),veh/h/ln	654	1777	1726	917	1777	1795	543	1777	1792	1781	1777	1721
Q Serve(g_s), s	9.2	9.4	9.6	13.0	20.5	20.5	15.0	8.0	8.1	3.6	17.6	17.6
Cycle Q Clear(g_c), s	29.7	9.4	9.6	22.6	20.5	20.5	18.4	8.0	8.1	3.6	17.6	17.6
Prop In Lane	1.00		0.46	1.00		0.23	1.00		0.24	1.00		0.48
Lane Grp Cap(c), veh/h	147	586	570	285	586	593	265	672	678	456	954	924
V/C Ratio(X)	0.61	0.41	0.42	0.48	0.71	0.71	0.52	0.56	0.56	0.29	0.55	0.55
Avail Cap(c_a), veh/h	147	586	570	285	586	593	265	672	678	463	954	924
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	23.3	23.4	41.6	36.0	36.0	10.2	7.8	7.8	13.0	13.7	13.7
Incr Delay (d2), s/veh	7.3	0.5	0.5	1.1	3.5	3.5	6.6	3.0	3.0	0.3	2.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	7.0	7.0	5.9	15.1	15.2	2.4	4.7	4.7	2.6	11.5	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	23.8	23.9	42.7	39.5	39.4	16.8	10.8	10.8	13.4	16.1	16.1
LnGrp LOS	D	C	C	D	D	D	B	B	B	B	B	B
Approach Vol, veh/h		567			977			894			1171	
Approach Delay, s/veh		27.8			39.9			11.8			15.8	
Approach LOS		C			D			B			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		54.0		36.0	14.3	39.7		36.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 48		* 30	9.0	* 34		* 30				
Max Q Clear Time (g_c+I1), s		19.6		24.6	5.6	20.4		31.7				
Green Ext Time (p_c), s		8.2		2.6	0.1	5.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		23.2
HCM 6th LOS		C

Notes

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

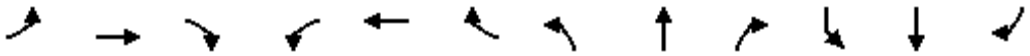
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	363	77	98	788	46	76	118	48	37	188	48
Future Volume (veh/h)	27	363	77	98	788	46	76	118	48	37	188	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	29	395	84	107	857	50	83	128	52	40	204	52
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	288	1473	310	542	1721	100	216	321	119	105	498	119
Arrive On Green	1.00	1.00	1.00	0.50	0.50	0.50	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	615	2921	615	916	3412	199	418	823	306	152	1276	304
Grp Volume(v), veh/h	29	239	240	107	446	461	263	0	0	296	0	0
Grp Sat Flow(s),veh/h/ln	615	1777	1760	916	1777	1835	1546	0	0	1732	0	0
Q Serve(g_s), s	1.5	0.0	0.0	5.9	15.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.5	0.0	0.0	5.9	15.0	15.0	10.4	0.0	0.0	10.7	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.11	0.32		0.20	0.14		0.18
Lane Grp Cap(c), veh/h	288	896	888	542	896	925	656	0	0	721	0	0
V/C Ratio(X)	0.10	0.27	0.27	0.20	0.50	0.50	0.40	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	288	896	888	542	896	925	656	0	0	721	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	0.91	0.91	0.86	0.86	0.86	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.7	0.0	0.0	12.5	14.8	14.8	19.8	0.0	0.0	20.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.7	0.7	0.7	1.7	1.6	1.8	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(95%),veh/ln	0.2	0.3	0.3	2.3	9.8	10.1	7.5	0.0	0.0	8.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.4	0.7	0.7	13.2	16.5	16.4	21.6	0.0	0.0	21.7	0.0	0.0
LnGrp LOS	A	A	A	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h		508			1014			263			296	
Approach Delay, s/veh		0.8			16.1			21.6			21.7	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	17.0	12.7	18.5	12.4
Green Ext Time (p_c), s	7.4	1.8	3.4	1.7

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

Notes

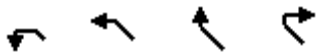
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	321	77	299	670	112	98	266	112	32	138	21
Future Volume (vph)	15	321	77	299	670	112	98	266	112	32	138	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3436		1770	3463		1770	1863	1583		1820	
Flt Permitted	0.33	1.00		0.36	1.00		0.53	1.00	1.00		0.78	
Satd. Flow (perm)	619	3436		664	3463		988	1863	1583		1423	
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)	16	349	84	325	728	122	107	289	122	35	150	23
RTOR Reduction (vph)	0	115	0	0	14	0	0	0	0	0	5	0
Lane Group Flow (vph)	16	318	0	325	836	0	107	289	122	0	203	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	27.0	27.0		47.3	47.3		21.9	21.9	37.1		21.9	
Effective Green, g (s)	27.0	27.0		47.3	47.3		21.9	21.9	37.1		21.9	
Actuated g/C Ratio	0.30	0.30		0.53	0.53		0.24	0.24	0.41		0.24	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	185	1030		535	1819		240	453	652		346	
v/s Ratio Prot		0.09		c0.10	0.24			c0.16	0.03			
v/s Ratio Perm	0.03			c0.22			0.11		0.05		0.14	
v/c Ratio	0.09	0.31		0.61	0.46		0.45	0.64	0.19		0.59	
Uniform Delay, d1	22.6	24.3		13.1	13.4		28.9	30.5	16.8		30.0	
Progression Factor	1.16	1.27		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.9	0.8		2.0	0.8		3.3	4.6	0.1		4.4	
Delay (s)	27.2	31.6		15.1	14.2		32.2	35.0	17.0		34.5	
Level of Service	C	C		B	B		C	D	B		C	
Approach Delay (s)		31.4			14.4			30.2			34.5	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	20	16	18	8
Future Volume (vph)	20	16	18	8
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.94		
Flt Protected		0.97		
Satd. Flow (prot)		1707		
Flt Permitted		0.97		
Satd. Flow (perm)		1707		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	17	20	9
RTOR Reduction (vph)	0	65	0	0
Lane Group Flow (vph)	0	3	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.4		
Effective Green, g (s)		4.4		
Actuated g/C Ratio		0.05		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		83		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		40.8		
Progression Factor		1.00		
Incremental Delay, d2		0.2		
Delay (s)		41.0		
Level of Service		D		
Approach Delay (s)		41.0		
Approach LOS		D		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	16	433	325	850	107	289	122	208	68
v/c Ratio	0.08	0.36	0.60	0.45	0.45	0.64	0.16	0.59	0.28
Control Delay	34.7	22.8	18.5	14.4	34.4	37.0	12.3	35.9	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	22.8	18.5	14.4	34.4	37.0	12.3	35.9	2.7
Queue Length 50th (ft)	8	84	112	160	50	141	35	97	0
Queue Length 95th (ft)	m26	125	174	210	101	225	58	169	0
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	194	1189	607	1891	265	500	840	387	258
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.36	0.54	0.45	0.40	0.58	0.15	0.54	0.26

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	11	117	24	65	48	849	94	71	845	68
Future Volume (veh/h)	15	2	11	117	24	65	48	849	94	71	845	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	2	12	127	26	71	52	923	102	77	918	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	41	246	207	39	85	481	2279	252	469	2352	190
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1298	231	1389	813	219	479	568	3226	357	550	3330	268
Grp Volume(v), veh/h	16	0	14	224	0	0	52	508	517	77	490	502
Grp Sat Flow(s),veh/h/ln	1298	0	1620	1511	0	0	568	1777	1806	550	1777	1822
Q Serve(g_s), s	0.0	0.0	0.6	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.6	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.86	0.57		0.32	1.00		0.20	1.00		0.15
Lane Grp Cap(c), veh/h	284	0	287	330	0	0	481	1255	1276	469	1255	1287
V/C Ratio(X)	0.06	0.00	0.05	0.68	0.00	0.00	0.11	0.41	0.41	0.16	0.39	0.39
Avail Cap(c_a), veh/h	493	0	547	571	0	0	481	1255	1276	469	1255	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.92	0.92	0.92	0.82	0.82	0.82
Uniform Delay (d), s/veh	30.9	0.0	30.7	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	2.4	0.0	0.0	0.4	0.9	0.9	0.6	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.5	8.5	0.0	0.0	0.1	0.6	0.6	0.1	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	30.8	38.1	0.0	0.0	0.4	0.9	0.9	0.6	0.8	0.7
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		30			224			1077			1069	
Approach Delay, s/veh		30.9			38.1			0.9			0.7	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.5	21.5	68.5	21.5
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	14.9	2.0	3.1
Green Ext Time (p_c), s	25.8	1.1	21.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.7
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)	96	42	39	37	96	40	39	877	29	11	797	119
Future Volume (veh/h)	96	42	39	37	96	40	39	877	29	11	797	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	46	42	40	104	43	42	953	32	12	866	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	69	51	92	181	67	479	2470	83	419	2184	325
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	665	404	299	254	1064	394	566	3508	118	571	3102	462
Grp Volume(v), veh/h	192	0	0	187	0	0	42	483	502	12	496	499
Grp Sat Flow(s),veh/h/ln	1369	0	0	1712	0	0	566	1777	1849	571	1777	1787
Q Serve(g_s), s	3.3	0.0	0.0	0.0	0.0	0.0	2.1	9.9	9.9	0.3	0.0	0.0
Cycle Q Clear(g_c), s	12.3	0.0	0.0	9.0	0.0	0.0	2.1	9.9	9.9	10.2	0.0	0.0
Prop In Lane	0.54		0.22	0.21		0.23	1.00		0.06	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	0	340	0	0	479	1251	1302	419	1251	1259
V/C Ratio(X)	0.65	0.00	0.00	0.55	0.00	0.00	0.09	0.39	0.39	0.03	0.40	0.40
Avail Cap(c_a), veh/h	547	0	0	633	0	0	479	1251	1302	419	1251	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	36.0	0.0	0.0	34.6	0.0	0.0	4.3	5.4	5.4	0.8	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	1.4	0.0	0.0	0.4	0.9	0.9	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	0.0	7.0	0.0	0.0	0.5	5.9	6.2	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	0.0	0.0	36.0	0.0	0.0	4.6	6.3	6.3	0.9	0.9	0.9
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		192			187			1027			1007	
Approach Delay, s/veh		38.5			36.0			6.2			0.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	69.0	21.0	69.0	21.0
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	11.9	14.3	12.2	11.0
Green Ext Time (p_c), s	14.2	1.0	13.8	1.0

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	22.8
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	19	200	419	21	213	397
Future Vol, veh/h	19	200	419	21	213	397
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	217	455	23	232	432
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.8	31.8	19.8
HCM LOS	B	D	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	95%
Vol Thru, %	0%	0%	9%	5%
Vol Right, %	0%	100%	91%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	213	397	219	440
LT Vol	213	0	0	419
Through Vol	0	0	19	21
RT Vol	0	397	200	0
Lane Flow Rate	232	432	238	478
Geometry Grp	7	7	2	2
Degree of Util (X)	0.459	0.709	0.392	0.822
Departure Headway (Hd)	7.137	5.916	5.935	6.185
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	502	608	602	583
Service Time	4.906	3.684	4.012	4.246
HCM Lane V/C Ratio	0.462	0.711	0.395	0.82
HCM Control Delay	15.9	21.9	12.8	31.8
HCM Lane LOS	C	C	B	D
HCM 95th-tile Q	2.4	5.8	1.9	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	12	293	3	5	13	220	642	16	11	371	286
Future Volume (veh/h)	41	12	293	3	5	13	220	642	16	11	371	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	45	13	318	3	5	14	239	698	17	12	403	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	78	29	341	75	119	259	396	1208	30	53	1185	890
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	130	115	1340	115	466	1018	518	1905	48	18	1869	1404
Grp Volume(v), veh/h	376	0	0	22	0	0	353	0	601	405	0	321
Grp Sat Flow(s),veh/h/ln	1585	0	0	1599	0	0	778	0	1693	1842	0	1449
Q Serve(g_s), s	13.8	0.0	0.0	0.0	0.0	0.0	25.3	0.0	18.1	0.0	0.0	9.4
Cycle Q Clear(g_c), s	20.8	0.0	0.0	0.9	0.0	0.0	34.6	0.0	18.1	9.1	0.0	9.4
Prop In Lane	0.12		0.85	0.14		0.64	0.68		0.03	0.03		0.97
Lane Grp Cap(c), veh/h	449	0	0	453	0	0	560	0	1074	1209	0	919
V/C Ratio(X)	0.84	0.00	0.00	0.05	0.00	0.00	0.63	0.00	0.56	0.33	0.00	0.35
Avail Cap(c_a), veh/h	453	0	0	457	0	0	560	0	1074	1209	0	919
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	0.0	25.3	0.0	0.0	15.4	0.0	9.3	7.7	0.0	7.7
Incr Delay (d2), s/veh	12.9	0.0	0.0	0.0	0.0	0.0	5.3	0.0	2.1	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.4	0.0	0.0	0.6	0.0	0.0	9.7	0.0	10.6	6.3	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.0	0.0	25.4	0.0	0.0	20.7	0.0	11.4	8.4	0.0	8.8
LnGrp LOS	D	A	A	C	A	A	C	A	B	A	A	A
Approach Vol, veh/h		376			22			954			726	
Approach Delay, s/veh		45.6			25.4			14.9			8.6	
Approach LOS		D			C			B			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	62.0	28.0	62.0	28.0
Change Period (Y+Rc), s	4.9	5.1	4.9	5.1
Max Green Setting (Gmax), s	56.8	23.2	56.8	23.2
Max Q Clear Time (g_c+I1), s	11.4	2.9	36.6	22.8
Green Ext Time (p_c), s	15.0	0.1	12.9	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	852	140	103	494	129	102	784	112	106	804	77
Future Volume (veh/h)	113	852	140	103	494	129	102	784	112	106	804	77
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	123	926	152	112	537	140	111	852	122	115	874	84
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	228	1144	188	134	1045	271	260	1047	150	288	1612	155
Arrive On Green	0.37	0.37	0.37	0.12	0.12	0.12	0.11	0.11	0.11	0.09	0.49	0.49
Sat Flow, veh/h	762	3056	501	523	2792	725	586	3120	447	1781	3276	315
Grp Volume(v), veh/h	123	538	540	112	341	336	111	485	489	115	474	484
Grp Sat Flow(s),veh/h/ln	762	1777	1780	523	1777	1740	586	1777	1790	1781	1777	1814
Q Serve(g_s), s	14.0	24.5	24.5	9.2	16.2	16.3	16.3	24.0	24.0	3.4	16.6	16.6
Cycle Q Clear(g_c), s	30.2	24.5	24.5	33.7	16.2	16.3	18.9	24.0	24.0	3.4	16.6	16.6
Prop In Lane	1.00		0.28	1.00		0.42	1.00		0.25	1.00		0.17
Lane Grp Cap(c), veh/h	228	665	667	134	665	651	260	596	601	288	875	893
V/C Ratio(X)	0.54	0.81	0.81	0.84	0.51	0.52	0.43	0.81	0.81	0.40	0.54	0.54
Avail Cap(c_a), veh/h	228	665	667	134	665	651	260	596	601	298	875	893
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	25.3	25.3	54.1	31.8	31.8	36.2	37.3	37.3	19.1	15.8	15.8
Incr Delay (d2), s/veh	2.6	7.4	7.4	34.4	0.6	0.7	4.7	10.8	10.8	0.9	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	16.7	16.7	7.1	12.2	12.1	5.2	18.9	19.0	2.5	11.2	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	32.7	32.7	88.5	32.4	32.5	40.9	48.1	48.0	20.0	18.2	18.2
LnGrp LOS	D	C	C	F	C	C	D	D	D	C	B	B
Approach Vol, veh/h		1201			789			1085			1073	
Approach Delay, s/veh		33.2			40.4			47.3			18.4	
Approach LOS		C			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		50.0		40.0	14.1	35.9		40.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 44		* 34	9.0	* 30		* 34				
Max Q Clear Time (g_c+I1), s		18.6		35.7	5.4	26.0		32.2				
Green Ext Time (p_c), s		6.9		0.0	0.1	2.3		1.0				

Intersection Summary		
HCM 6th Ctrl Delay		34.4
HCM 6th LOS		C

Notes

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

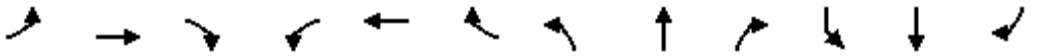
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	853	68	49	413	32	116	171	57	52	125	30
Future Volume (veh/h)	68	853	68	49	413	32	116	171	57	52	125	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	74	927	74	53	449	35	126	186	62	57	136	33
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	540	1681	134	256	1685	131	237	338	104	176	403	91
Arrive On Green	0.50	0.50	0.50	1.00	1.00	1.00	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	911	3333	266	563	3341	260	471	866	266	324	1034	232
Grp Volume(v), veh/h	74	494	507	53	238	246	374	0	0	226	0	0
Grp Sat Flow(s),veh/h/ln	911	1777	1822	563	1777	1824	1603	0	0	1590	0	0
Q Serve(g_s), s	3.9	17.2	17.2	3.9	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.9	17.2	17.2	21.1	0.0	0.0	15.8	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.14	0.34		0.17	0.25		0.15
Lane Grp Cap(c), veh/h	540	896	919	256	896	920	678	0	0	670	0	0
V/C Ratio(X)	0.14	0.55	0.55	0.21	0.27	0.27	0.55	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	540	896	919	256	896	920	678	0	0	670	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.96	0.96	0.96	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	15.3	15.3	4.0	0.0	0.0	21.3	0.0	0.0	19.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.3	1.2	1.7	0.7	0.7	3.2	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(95%),veh/ln	1.5	9.9	10.1	0.7	0.3	0.3	10.7	0.0	0.0	6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	16.6	16.6	5.7	0.7	0.7	24.5	0.0	0.0	20.5	0.0	0.0
LnGrp LOS	B	B	B	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1075			537			374			226	
Approach Delay, s/veh		16.3			1.2			24.5			20.5	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	23.1	10.3	19.2	17.8
Green Ext Time (p_c), s	3.5	1.4	7.9	2.2

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

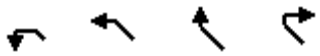
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	573	134	268	307	69	112	378	170	39	272	13
Future Volume (vph)	21	573	134	268	307	69	112	378	170	39	272	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3438		1770	3442		1770	1863	1583		1842	
Flt Permitted	0.51	1.00		0.15	1.00		0.40	1.00	1.00		0.66	
Satd. Flow (perm)	954	3438		286	3442		746	1863	1583		1221	
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)	23	623	146	291	334	75	122	411	185	42	296	14
RTOR Reduction (vph)	0	85	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	23	684	0	291	394	0	122	411	185	0	351	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	37.2	37.2		60.9	60.9		38.5	38.5	57.2		38.5	
Effective Green, g (s)	37.2	37.2		60.9	60.9		38.5	38.5	57.2		38.5	
Actuated g/C Ratio	0.31	0.31		0.51	0.51		0.32	0.32	0.48		0.32	
Clearance Time (s)	4.9	4.9		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	295	1065		376	1746		239	597	754		391	
v/s Ratio Prot		0.20		c0.12	0.11			0.22	0.04			
v/s Ratio Perm	0.02			c0.27			0.16		0.08		c0.29	
v/c Ratio	0.08	0.64		0.77	0.23		0.51	0.69	0.25		0.90	
Uniform Delay, d1	29.3	35.7		22.2	16.4		33.1	35.5	18.6		38.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.5	3.0		9.6	0.3		4.3	4.7	0.2		24.0	
Delay (s)	29.8	38.6		31.7	16.7		37.4	40.2	18.8		62.9	
Level of Service	C	D		C	B		D	D	B		E	
Approach Delay (s)		38.4			23.0			34.2			62.9	
Approach LOS		D			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	13	6	21	13
Future Volume (vph)	13	6	21	13
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.91		
Flt Protected		0.98		
Satd. Flow (prot)		1672		
Flt Permitted		0.98		
Satd. Flow (perm)		1672		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	7	23	14
RTOR Reduction (vph)	0	56	0	0
Lane Group Flow (vph)	0	2	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.2		
Effective Green, g (s)		4.2		
Actuated g/C Ratio		0.04		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		58		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		55.9		
Progression Factor		1.00		
Incremental Delay, d2		0.2		
Delay (s)		56.2		
Level of Service		E		
Approach Delay (s)		56.2		
Approach LOS		E		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	23	769	291	409	122	411	185	352	58
v/c Ratio	0.08	0.65	0.77	0.23	0.51	0.69	0.22	0.90	0.32
Control Delay	34.4	34.2	36.3	16.0	41.1	41.9	15.2	64.5	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	34.2	36.3	16.0	41.1	41.9	15.2	64.5	4.5
Queue Length 50th (ft)	13	244	137	86	74	269	69	251	0
Queue Length 95th (ft)	36	324	240	120	140	383	107	#423	0
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	305	1185	418	1795	251	628	869	413	183
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.65	0.70	0.23	0.49	0.65	0.21	0.85	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	12	68	77	66	39	39	851	26	28	1042	22
Future Volume (veh/h)	63	12	68	77	66	39	39	851	26	28	1042	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	13	74	84	72	42	42	925	28	30	1133	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	43	245	142	105	51	423	2486	75	496	2512	53
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1279	242	1380	480	594	289	486	3521	107	589	3558	75
Grp Volume(v), veh/h	68	0	87	198	0	0	42	467	486	30	566	591
Grp Sat Flow(s),veh/h/ln	1279	0	1622	1362	0	0	486	1777	1851	589	1777	1857
Q Serve(g_s), s	0.0	0.0	4.2	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	0.0	4.2	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.85	0.42		0.21	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	255	0	288	299	0	0	423	1254	1307	496	1254	1311
V/C Ratio(X)	0.27	0.00	0.30	0.66	0.00	0.00	0.10	0.37	0.37	0.06	0.45	0.45
Avail Cap(c_a), veh/h	460	0	548	545	0	0	423	1254	1307	496	1254	1311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.97	0.97	0.97	0.73	0.73	0.73
Uniform Delay (d), s/veh	32.9	0.0	32.2	36.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.6	2.5	0.0	0.0	0.5	0.8	0.8	0.2	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	0.0	3.0	7.8	0.0	0.0	0.1	0.5	0.5	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	0.0	32.8	38.8	0.0	0.0	0.5	0.8	0.8	0.2	0.9	0.8
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		155			198			995			1187	
Approach Delay, s/veh		33.1			38.8			0.8			0.8	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.4	21.6	68.4	21.6
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	15.0	2.0	7.9
Green Ext Time (p_c), s	29.0	1.0	19.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	5.7
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)	62	16	35	40	25	24	12	650	14	28	921	71
Future Volume (veh/h)	62	16	35	40	25	24	12	650	14	28	921	71
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	67	17	38	43	27	26	13	707	15	30	1001	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	30	50	118	61	45	486	2763	59	607	2596	200
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.78	0.78	0.78	1.00	1.00	1.00
Sat Flow, veh/h	826	304	511	611	618	456	523	3558	75	731	3344	257
Grp Volume(v), veh/h	122	0	0	96	0	0	13	353	369	30	532	546
Grp Sat Flow(s),veh/h/ln	1642	0	0	1685	0	0	523	1777	1857	731	1777	1824
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	0.5	5.0	5.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	4.7	0.0	0.0	0.5	5.0	5.0	5.3	0.0	0.0
Prop In Lane	0.55		0.31	0.45		0.27	1.00		0.04	1.00		0.14
Lane Grp Cap(c), veh/h	223	0	0	223	0	0	486	1380	1442	607	1380	1416
V/C Ratio(X)	0.55	0.00	0.00	0.43	0.00	0.00	0.03	0.26	0.26	0.05	0.39	0.39
Avail Cap(c_a), veh/h	592	0	0	605	0	0	486	1380	1442	607	1380	1416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	39.3	0.0	0.0	38.7	0.0	0.0	2.3	2.8	2.8	0.2	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	1.3	0.0	0.0	0.1	0.4	0.4	0.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	0.0	0.0	3.7	0.0	0.0	0.1	2.5	2.6	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	0.0	40.0	0.0	0.0	2.4	3.3	3.2	0.3	0.7	0.7
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		122			96			735			1108	
Approach Delay, s/veh		41.4			40.0			3.2			0.7	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	75.5	14.5	75.5	14.5
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	7.0	8.2	7.3	6.7
Green Ext Time (p_c), s	9.4	0.6	16.4	0.5

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	28.2
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	17	211	420	30	285	443
Future Vol, veh/h	17	211	420	30	285	443
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	229	457	33	310	482
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.8	38.4	26.4
HCM LOS	B	E	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	93%
Vol Thru, %	0%	0%	7%	7%
Vol Right, %	0%	100%	93%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	285	443	228	450
LT Vol	285	0	0	420
Through Vol	0	0	17	30
RT Vol	0	443	211	0
Lane Flow Rate	310	482	248	489
Geometry Grp	7	7	2	2
Degree of Util (X)	0.625	0.808	0.426	0.87
Departure Headway (Hd)	7.263	6.039	6.186	6.406
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	496	597	577	562
Service Time	5.035	3.81	4.262	4.467
HCM Lane V/C Ratio	0.625	0.807	0.43	0.87
HCM Control Delay	21.5	29.5	13.8	38.4
HCM Lane LOS	C	D	B	E
HCM 95th-tile Q	4.2	8	2.1	9.7

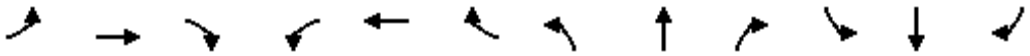
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	10	392	5	13	14	212	593	7	4	447	167
Future Volume (veh/h)	80	10	392	5	13	14	212	593	7	4	447	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	11	426	5	14	15	230	645	8	4	486	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	29	447	92	245	230	342	1029	13	43	1335	494
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	211	82	1274	133	698	656	510	1912	25	4	2481	917
Grp Volume(v), veh/h	524	0	0	34	0	0	334	0	549	367	0	305
Grp Sat Flow(s),veh/h/ln	1566	0	0	1487	0	0	749	0	1698	1865	0	1537
Q Serve(g_s), s	23.6	0.0	0.0	0.0	0.0	0.0	27.9	0.0	19.8	0.0	0.0	10.3
Cycle Q Clear(g_c), s	29.3	0.0	0.0	1.2	0.0	0.0	38.2	0.0	19.8	10.1	0.0	10.3
Prop In Lane	0.17		0.81	0.15		0.44	0.69		0.01	0.01		0.60
Lane Grp Cap(c), veh/h	596	0	0	567	0	0	471	0	914	1044	0	827
V/C Ratio(X)	0.88	0.00	0.00	0.06	0.00	0.00	0.71	0.00	0.60	0.35	0.00	0.37
Avail Cap(c_a), veh/h	602	0	0	573	0	0	471	0	914	1044	0	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	0.0	19.4	0.0	0.0	22.7	0.0	14.2	11.9	0.0	12.0
Incr Delay (d2), s/veh	14.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	2.9	0.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.7	0.0	0.0	0.8	0.0	0.0	11.4	0.0	12.3	7.6	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	0.0	19.4	0.0	0.0	31.4	0.0	17.1	12.9	0.0	13.2
LnGrp LOS	D	A	A	B	A	A	C	A	B	B	A	B
Approach Vol, veh/h		524			34			883			672	
Approach Delay, s/veh		42.3			19.4			22.5			13.0	
Approach LOS		D			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	53.3	36.7	53.3	36.7
Change Period (Y+Rc), s	4.9	5.1	4.9	5.1
Max Green Setting (Gmax), s	48.1	31.9	48.1	31.9
Max Q Clear Time (g_c+I1), s	12.3	3.2	40.2	31.3
Green Ext Time (p_c), s	12.3	0.1	5.7	0.2

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	338	101	125	684	90	128	627	85	121	825	226
Future Volume (veh/h)	83	338	101	125	684	90	128	627	85	121	825	226
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	90	367	110	136	743	98	139	682	92	132	897	246
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	147	892	264	285	1042	137	234	1190	160	450	1479	405
Arrive On Green	0.33	0.33	0.33	0.11	0.11	0.11	0.76	0.76	0.76	0.10	0.54	0.54
Sat Flow, veh/h	654	2704	800	917	3156	416	492	3147	424	1781	2756	755
Grp Volume(v), veh/h	90	240	237	136	418	423	139	385	389	132	578	565
Grp Sat Flow(s),veh/h/ln	654	1777	1726	917	1777	1795	492	1777	1794	1781	1777	1734
Q Serve(g_s), s	9.2	9.4	9.6	13.0	20.5	20.5	21.9	8.4	8.4	3.6	20.1	20.2
Cycle Q Clear(g_c), s	29.7	9.4	9.6	22.6	20.5	20.5	27.8	8.4	8.4	3.6	20.1	20.2
Prop In Lane	1.00		0.46	1.00		0.23	1.00		0.24	1.00		0.44
Lane Grp Cap(c), veh/h	147	586	570	285	586	593	234	672	678	450	954	931
V/C Ratio(X)	0.61	0.41	0.42	0.48	0.71	0.71	0.59	0.57	0.57	0.29	0.61	0.61
Avail Cap(c_a), veh/h	147	586	570	285	586	593	234	672	678	456	954	931
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	23.3	23.4	41.6	36.0	36.0	12.7	7.8	7.8	13.1	14.3	14.3
Incr Delay (d2), s/veh	7.3	0.5	0.5	1.1	3.5	3.5	9.6	3.2	3.2	0.4	2.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	7.0	7.0	5.9	15.1	15.2	3.2	4.8	4.9	2.6	12.9	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	23.8	23.9	42.7	39.5	39.4	22.4	11.0	11.0	13.4	17.2	17.3
LnGrp LOS	D	C	C	D	D	D	C	B	B	B	B	B
Approach Vol, veh/h		567			977			913			1275	
Approach Delay, s/veh		27.8			39.9			12.7			16.8	
Approach LOS		C			D			B			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		54.0		36.0	14.3	39.7		36.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 48		* 30	9.0	* 34		* 30				
Max Q Clear Time (g_c+I1), s		22.2		24.6	5.6	29.8		31.7				
Green Ext Time (p_c), s		9.0		2.6	0.1	2.2		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		23.5
HCM 6th LOS		C

Notes

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

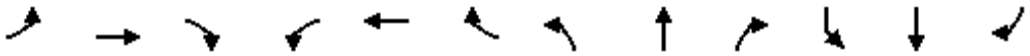
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	363	77	135	788	46	76	122	55	37	207	48
Future Volume (veh/h)	27	363	77	135	788	46	76	122	55	37	207	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	29	395	84	147	857	50	83	133	60	40	225	52
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	288	1473	310	542	1721	100	205	317	130	99	514	111
Arrive On Green	1.00	1.00	1.00	0.50	0.50	0.50	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	615	2921	615	916	3412	199	391	813	334	138	1317	285
Grp Volume(v), veh/h	29	239	240	147	446	461	276	0	0	317	0	0
Grp Sat Flow(s),veh/h/ln	615	1777	1760	916	1777	1835	1538	0	0	1740	0	0
Q Serve(g_s), s	1.5	0.0	0.0	8.5	15.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.5	0.0	0.0	8.5	15.0	15.0	11.2	0.0	0.0	11.6	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.11	0.30		0.22	0.13		0.16
Lane Grp Cap(c), veh/h	288	896	888	542	896	925	652	0	0	724	0	0
V/C Ratio(X)	0.10	0.27	0.27	0.27	0.50	0.50	0.42	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	288	896	888	542	896	925	652	0	0	724	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	0.91	0.91	0.84	0.84	0.84	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.7	0.0	0.0	13.2	14.8	14.8	20.0	0.0	0.0	20.3	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.7	0.7	1.0	1.7	1.6	2.0	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.3	0.3	3.3	9.8	10.0	7.9	0.0	0.0	8.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.4	0.7	0.7	14.2	16.4	16.4	22.0	0.0	0.0	22.2	0.0	0.0
LnGrp LOS	A	A	A	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h		508			1054			276			317	
Approach Delay, s/veh		0.8			16.1			22.0			22.2	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	17.0	13.6	18.5	13.2
Green Ext Time (p_c), s	7.7	1.9	3.4	1.7

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Notes

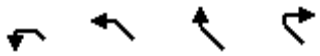
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	328	77	356	707	112	98	270	123	32	157	21
Future Volume (vph)	15	328	77	356	707	112	98	270	123	32	157	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3438		1770	3466		1770	1863	1583		1824	
Flt Permitted	0.32	1.00		0.34	1.00		0.49	1.00	1.00		0.75	
Satd. Flow (perm)	595	3438		638	3466		910	1863	1583		1376	
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)	16	357	84	387	768	122	107	293	134	35	171	23
RTOR Reduction (vph)	0	117	0	0	14	0	0	0	0	0	5	0
Lane Group Flow (vph)	16	324	0	387	876	0	107	293	134	0	224	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	25.9	25.9		48.1	48.1		21.2	21.2	38.3		21.2	
Effective Green, g (s)	25.9	25.9		48.1	48.1		21.2	21.2	38.3		21.2	
Actuated g/C Ratio	0.29	0.29		0.53	0.53		0.24	0.24	0.43		0.24	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	171	989		556	1852		214	438	673		324	
v/s Ratio Prot		0.09		c0.13	0.25			0.16	0.04			
v/s Ratio Perm	0.03			c0.24			0.12		0.05		c0.16	
v/c Ratio	0.09	0.33		0.70	0.47		0.50	0.67	0.20		0.69	
Uniform Delay, d1	23.5	25.2		13.4	13.1		29.8	31.2	16.2		31.4	
Progression Factor	1.16	1.25		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.0	0.9		3.8	0.9		4.6	5.6	0.1		8.7	
Delay (s)	28.3	32.4		17.1	13.9		34.4	36.8	16.4		40.1	
Level of Service	C	C		B	B		C	D	B		D	
Approach Delay (s)		32.3			14.9			31.2			40.1	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	20	16	18	8
Future Volume (vph)	20	16	18	8
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.94		
Flt Protected		0.97		
Satd. Flow (prot)		1707		
Flt Permitted		0.97		
Satd. Flow (perm)		1707		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	17	20	9
RTOR Reduction (vph)	0	65	0	0
Lane Group Flow (vph)	0	3	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.3		
Effective Green, g (s)		4.3		
Actuated g/C Ratio		0.05		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		81		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		40.9		
Progression Factor		1.00		
Incremental Delay, d2		0.2		
Delay (s)		41.1		
Level of Service		D		
Approach Delay (s)		41.1		
Approach LOS		D		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	16	441	387	890	107	293	134	229	68
v/c Ratio	0.09	0.39	0.69	0.47	0.50	0.67	0.17	0.70	0.28
Control Delay	35.4	23.4	20.3	14.1	37.9	38.9	11.9	42.3	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	23.4	20.3	14.1	37.9	38.9	11.9	42.3	2.8
Queue Length 50th (ft)	8	84	140	171	50	144	36	110	0
Queue Length 95th (ft)	m26	125	202	211	105	235	63	194	0
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	179	1149	624	1938	233	478	855	357	246
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.62	0.46	0.46	0.61	0.16	0.64	0.28

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	2	11	121	24	82	48	849	113	166	845	68
Future Volume (veh/h)	15	2	11	121	24	82	48	849	113	166	845	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	2	12	132	26	89	52	923	123	180	918	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	45	267	209	39	105	472	2178	290	453	2301	185
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1277	231	1389	766	203	546	568	3152	420	539	3330	268
Grp Volume(v), veh/h	16	0	14	247	0	0	52	520	526	180	490	502
Grp Sat Flow(s),veh/h/ln	1277	0	1620	1515	0	0	568	1777	1795	539	1777	1822
Q Serve(g_s), s	0.0	0.0	0.6	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.6	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.86	0.53		0.36	1.00		0.23	1.00		0.15
Lane Grp Cap(c), veh/h	290	0	312	353	0	0	472	1228	1240	453	1228	1259
V/C Ratio(X)	0.06	0.00	0.04	0.70	0.00	0.00	0.11	0.42	0.42	0.40	0.40	0.40
Avail Cap(c_a), veh/h	476	0	547	571	0	0	472	1228	1240	453	1228	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.90	0.90	0.90	0.78	0.78	0.78
Uniform Delay (d), s/veh	29.8	0.0	29.6	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	2.5	0.0	0.0	0.4	1.0	1.0	2.0	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.4	9.1	0.0	0.0	0.1	0.6	0.6	0.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	0.0	29.7	37.5	0.0	0.0	0.4	1.0	1.0	2.0	0.8	0.7
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		30			247			1098			1172	
Approach Delay, s/veh		29.8			37.5			0.9			0.9	
Approach LOS		C			D			A			A	

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	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	16.1	2.0	3.1
Green Ext Time (p_c), s	29.3	1.2	21.9	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.8
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)	96	42	39	44	96	40	39	896	66	11	801	119
Future Volume (veh/h)	96	42	39	44	96	40	39	896	66	11	801	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	46	42	48	104	43	42	974	72	12	871	129
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	174	69	51	102	174	64	475	2355	174	393	2179	323
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	654	401	295	302	1008	371	563	3355	248	539	3105	460
Grp Volume(v), veh/h	192	0	0	195	0	0	42	516	530	12	498	502
Grp Sat Flow(s),veh/h/ln	1350	0	0	1681	0	0	563	1777	1826	539	1777	1788
Q Serve(g_s), s	2.9	0.0	0.0	0.0	0.0	0.0	2.2	11.0	11.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	12.5	0.0	0.0	9.6	0.0	0.0	2.2	11.0	11.0	11.3	0.0	0.0
Prop In Lane	0.54		0.22	0.25		0.22	1.00		0.14	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	0	340	0	0	475	1247	1282	393	1247	1255
V/C Ratio(X)	0.65	0.00	0.00	0.57	0.00	0.00	0.09	0.41	0.41	0.03	0.40	0.40
Avail Cap(c_a), veh/h	544	0	0	626	0	0	475	1247	1282	393	1247	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	35.9	0.0	0.0	34.7	0.0	0.0	4.3	5.6	5.6	1.0	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	1.5	0.0	0.0	0.4	1.0	1.0	0.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	0.0	0.0	7.3	0.0	0.0	0.5	6.6	6.8	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	0.0	36.2	0.0	0.0	4.7	6.6	6.6	1.1	0.9	0.9
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		192			195			1088			1012	
Approach Delay, s/veh		38.4			36.2			6.6			0.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.8	21.2	68.8	21.2
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	13.0	14.5	13.3	11.6
Green Ext Time (p_c), s	15.2	1.0	13.7	1.0

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

Intersection	
Intersection Delay, s/veh	25.7
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	207	419	40	250	397
Future Vol, veh/h	23	207	419	40	250	397
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	225	455	43	272	432
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.6	37.9	21.4
HCM LOS	B	E	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	91%
Vol Thru, %	0%	0%	10%	9%
Vol Right, %	0%	100%	90%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	397	230	459
LT Vol	250	0	0	419
Through Vol	0	0	23	40
RT Vol	0	397	207	0
Lane Flow Rate	272	432	250	499
Geometry Grp	7	7	2	2
Degree of Util (X)	0.548	0.723	0.422	0.87
Departure Headway (Hd)	7.255	6.032	6.073	6.28
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	495	596	590	574
Service Time	5.029	3.805	4.153	4.344
HCM Lane V/C Ratio	0.549	0.725	0.424	0.869
HCM Control Delay	18.6	23.1	13.6	37.9
HCM Lane LOS	C	C	B	E
HCM 95th-tile Q	3.3	6	2.1	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	12	297	3	5	13	239	642	16	11	371	286
Future Volume (veh/h)	41	12	297	3	5	13	239	642	16	11	371	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	45	13	323	3	5	14	260	698	17	12	403	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	78	29	346	75	119	261	410	1161	29	53	1181	887
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	128	113	1344	115	465	1014	539	1838	46	18	1869	1404
Grp Volume(v), veh/h	381	0	0	22	0	0	352	0	623	405	0	321
Grp Sat Flow(s),veh/h/ln	1585	0	0	1594	0	0	730	0	1694	1842	0	1449
Q Serve(g_s), s	14.0	0.0	0.0	0.0	0.0	0.0	28.6	0.0	19.3	0.0	0.0	9.4
Cycle Q Clear(g_c), s	21.1	0.0	0.0	0.9	0.0	0.0	38.1	0.0	19.3	9.2	0.0	9.4
Prop In Lane	0.12		0.85	0.14		0.64	0.74		0.03	0.03		0.97
Lane Grp Cap(c), veh/h	452	0	0	455	0	0	531	0	1070	1205	0	916
V/C Ratio(X)	0.84	0.00	0.00	0.05	0.00	0.00	0.66	0.00	0.58	0.34	0.00	0.35
Avail Cap(c_a), veh/h	453	0	0	456	0	0	531	0	1070	1205	0	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	0.0	25.2	0.0	0.0	16.8	0.0	9.7	7.8	0.0	7.8
Incr Delay (d2), s/veh	13.4	0.0	0.0	0.0	0.0	0.0	6.4	0.0	2.3	0.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.6	0.0	0.0	0.6	0.0	0.0	10.3	0.0	11.2	6.3	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	0.0	0.0	25.2	0.0	0.0	23.3	0.0	12.0	8.5	0.0	8.9
LnGrp LOS	D	A	A	C	A	A	C	A	B	A	A	A
Approach Vol, veh/h		381			22			975			726	
Approach Delay, s/veh		46.0			25.2			16.0			8.7	
Approach LOS		D			C			B			A	

Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	61.8		28.2		61.8		28.2					
Change Period (Y+Rc), s	4.9		5.1		4.9		5.1					
Max Green Setting (Gmax), s	56.8		23.2		56.8		23.2					
Max Q Clear Time (g_c+I1), s	11.4		2.9		40.1		23.1					
Green Ext Time (p_c), s	15.0		0.1		11.5		0.0					

Intersection Summary												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	158	0	0	236	49	32
Future Vol, veh/h	158	0	0	236	49	32
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	172	0	0	257	53	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	257	0	-	0	473	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	344	-
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	1308	-	-	-	550	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1308	-	-	-	478	921
Mov Cap-2 Maneuver	-	-	-	-	478	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	718	-

Approach	EB	WB	SB
HCM Control Delay, s	8.2	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1308	-	-	-	590
HCM Lane V/C Ratio	0.131	-	-	-	0.149
HCM Control Delay (s)	8.2	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.5

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	852	140	103	494	129	102	868	112	106	829	77
Future Volume (veh/h)	113	852	140	103	494	129	102	868	112	106	829	77
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	123	926	152	112	537	140	111	943	122	115	901	84
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	228	1144	188	134	1045	271	252	1062	137	270	1617	151
Arrive On Green	0.37	0.37	0.37	0.12	0.12	0.12	0.11	0.11	0.11	0.09	0.49	0.49
Sat Flow, veh/h	762	3056	501	523	2792	725	571	3164	409	1781	3286	306
Grp Volume(v), veh/h	123	538	540	112	341	336	111	529	536	115	487	498
Grp Sat Flow(s),veh/h/ln	762	1777	1780	523	1777	1740	571	1777	1797	1781	1777	1815
Q Serve(g_s), s	14.0	24.5	24.5	9.2	16.2	16.3	16.8	26.4	26.5	3.4	17.3	17.3
Cycle Q Clear(g_c), s	30.2	24.5	24.5	33.7	16.2	16.3	20.0	26.4	26.5	3.4	17.3	17.3
Prop In Lane	1.00		0.28	1.00		0.42	1.00		0.23	1.00		0.17
Lane Grp Cap(c), veh/h	228	665	667	134	665	651	252	596	603	270	875	893
V/C Ratio(X)	0.54	0.81	0.81	0.84	0.51	0.52	0.44	0.89	0.89	0.43	0.56	0.56
Avail Cap(c_a), veh/h	228	665	667	134	665	651	252	596	603	280	875	893
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	25.3	25.3	54.1	31.8	31.8	37.0	38.3	38.3	19.8	16.0	16.0
Incr Delay (d2), s/veh	2.6	7.4	7.4	34.4	0.6	0.7	5.0	16.4	16.3	1.1	2.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	16.7	16.7	7.1	12.2	12.1	5.2	21.3	21.5	2.5	11.6	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	32.7	32.7	88.5	32.4	32.5	42.0	54.7	54.6	20.9	18.5	18.5
LnGrp LOS	D	C	C	F	C	C	D	D	D	C	B	B
Approach Vol, veh/h		1201			789			1176			1100	
Approach Delay, s/veh		33.2			40.4			53.5			18.8	
Approach LOS		C			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		50.0		40.0	14.1	35.9		40.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 44		* 34	9.0	* 30		* 34				
Max Q Clear Time (g_c+I1), s		19.3		35.7	5.4	28.5		32.2				
Green Ext Time (p_c), s		7.1		0.0	0.1	0.9		1.0				

Intersection Summary		
HCM 6th Ctrl Delay	36.4	
HCM 6th LOS	D	

Notes

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

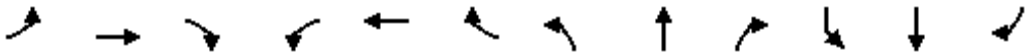
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	853	68	59	413	32	116	188	90	52	130	30
Future Volume (veh/h)	68	853	68	59	413	32	116	188	90	52	130	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	74	927	74	64	449	35	126	204	98	57	141	33
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	540	1681	134	256	1685	131	213	322	144	167	395	85
Arrive On Green	0.50	0.50	0.50	1.00	1.00	1.00	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	911	3333	266	563	3341	260	413	826	368	300	1013	219
Grp Volume(v), veh/h	74	494	507	64	238	246	428	0	0	231	0	0
Grp Sat Flow(s),veh/h/ln	911	1777	1822	563	1777	1824	1608	0	0	1533	0	0
Q Serve(g_s), s	3.9	17.2	17.2	5.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.9	17.2	17.2	22.2	0.0	0.0	19.2	0.0	0.0	8.7	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.14	0.29		0.23	0.25		0.14
Lane Grp Cap(c), veh/h	540	896	919	256	896	920	679	0	0	648	0	0
V/C Ratio(X)	0.14	0.55	0.55	0.25	0.27	0.27	0.63	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	540	896	919	256	896	920	679	0	0	648	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.96	0.96	0.96	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	15.3	15.3	4.2	0.0	0.0	22.3	0.0	0.0	19.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.3	1.2	2.2	0.7	0.7	4.4	0.0	0.0	1.5	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(95%),veh/ln	1.5	9.9	10.1	0.8	0.3	0.3	12.6	0.0	0.0	6.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	16.6	16.6	6.4	0.7	0.7	26.7	0.0	0.0	20.8	0.0	0.0
LnGrp LOS	B	B	B	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1075			548			428			231	
Approach Delay, s/veh		16.3			1.4			26.7			20.8	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	24.2	10.7	19.2	21.2
Green Ext Time (p_c), s	3.6	1.4	7.9	2.4

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

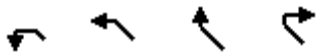
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	606	134	283	317	69	112	395	220	39	277	13
Future Volume (vph)	21	606	134	283	317	69	112	395	220	39	277	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3443		1770	3444		1770	1863	1583		1842	
Flt Permitted	0.51	1.00		0.13	1.00		0.40	1.00	1.00		0.64	
Satd. Flow (perm)	943	3443		234	3444		746	1863	1583		1189	
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)	23	659	146	308	345	75	122	429	239	42	301	14
RTOR Reduction (vph)	0	86	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	23	719	0	308	405	0	122	429	239	0	356	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	35.7	35.7		60.3	60.3		39.2	39.2	58.7		39.2	
Effective Green, g (s)	35.7	35.7		60.3	60.3		39.2	39.2	58.7		39.2	
Actuated g/C Ratio	0.30	0.30		0.50	0.50		0.33	0.33	0.49		0.33	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	280	1024		367	1730		243	608	774		388	
v/s Ratio Prot		0.21		c0.14	0.12			0.23	0.05			
v/s Ratio Perm	0.02			c0.29			0.16		0.10		c0.30	
v/c Ratio	0.08	0.70		0.84	0.23		0.50	0.71	0.31		0.92	
Uniform Delay, d1	30.4	37.4		29.0	16.8		32.5	35.4	18.4		38.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.6	4.0		15.4	0.3		4.1	5.1	0.2		27.4	
Delay (s)	30.9	41.4		44.4	17.1		36.6	40.5	18.7		66.3	
Level of Service	C	D		D	B		D	D	B		E	
Approach Delay (s)		41.1			28.7			33.3			66.3	
Approach LOS		D			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	13	6	21	13
Future Volume (vph)	13	6	21	13
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.91		
Flt Protected		0.98		
Satd. Flow (prot)		1672		
Flt Permitted		0.98		
Satd. Flow (perm)		1672		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	7	23	14
RTOR Reduction (vph)	0	56	0	0
Lane Group Flow (vph)	0	2	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.1		
Effective Green, g (s)		4.1		
Actuated g/C Ratio		0.03		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		57		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.03		
Uniform Delay, d1		56.0		
Progression Factor		1.00		
Incremental Delay, d2		0.3		
Delay (s)		56.3		
Level of Service		E		
Approach Delay (s)		56.3		
Approach LOS		E		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	23	805	308	420	122	429	239	357	58
v/c Ratio	0.08	0.70	0.83	0.24	0.50	0.71	0.28	0.92	0.32
Control Delay	35.3	36.8	46.2	16.4	40.2	42.2	15.4	67.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	36.8	46.2	16.4	40.2	42.2	15.4	67.7	4.6
Queue Length 50th (ft)	14	268	168	91	74	283	89	257	0
Queue Length 95th (ft)	37	347	#300	125	139	400	137	#437	0
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	289	1142	403	1778	254	634	881	406	182
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.70	0.76	0.24	0.48	0.68	0.27	0.88	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	12	68	94	66	123	39	851	31	53	1042	22
Future Volume (veh/h)	63	12	68	94	66	123	39	851	31	53	1042	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	13	74	102	72	134	42	925	34	58	1133	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	58	332	154	99	154	392	2246	83	456	2286	48
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1176	242	1380	417	412	638	486	3496	128	586	3558	75
Grp Volume(v), veh/h	68	0	87	308	0	0	42	470	489	58	566	591
Grp Sat Flow(s),veh/h/ln	1176	0	1622	1468	0	0	486	1777	1847	586	1777	1857
Q Serve(g_s), s	0.0	0.0	3.9	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	3.9	18.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.85	0.33		0.44	1.00		0.07	1.00		0.04
Lane Grp Cap(c), veh/h	268	0	391	407	0	0	392	1142	1187	456	1142	1193
V/C Ratio(X)	0.25	0.00	0.22	0.76	0.00	0.00	0.11	0.41	0.41	0.13	0.50	0.50
Avail Cap(c_a), veh/h	382	0	548	555	0	0	392	1142	1187	456	1142	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.97	0.97	0.97	0.71	0.71	0.71
Uniform Delay (d), s/veh	28.7	0.0	27.4	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.3	4.0	0.0	0.0	0.5	1.1	1.0	0.4	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	2.7	11.0	0.0	0.0	0.1	0.6	0.6	0.1	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	0.0	27.7	37.2	0.0	0.0	0.5	1.1	1.0	0.4	1.1	1.0
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		155			308			1001			1215	
Approach Delay, s/veh		28.3			37.2			1.0			1.0	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	62.7	27.3	62.7	27.3
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	20.3	2.0	9.2
Green Ext Time (p_c), s	29.8	1.3	19.3	0.7

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)	62	16	35	73	25	24	12	655	24	28	938	71
Future Volume (veh/h)	62	16	35	73	25	24	12	655	24	28	938	71
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	67	17	38	79	27	26	13	712	26	30	1020	77
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	146	35	54	159	43	34	473	2671	97	587	2558	193
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.76	0.76	0.76	1.00	1.00	1.00
Sat Flow, veh/h	764	320	490	856	389	305	514	3497	128	720	3349	253
Grp Volume(v), veh/h	122	0	0	132	0	0	13	362	376	30	541	556
Grp Sat Flow(s),veh/h/ln	1574	0	0	1551	0	0	514	1777	1847	720	1777	1825
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	0.6	5.4	5.4	0.3	0.0	0.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	7.3	0.0	0.0	0.6	5.4	5.4	5.8	0.0	0.0
Prop In Lane	0.55		0.31	0.60		0.20	1.00		0.07	1.00		0.14
Lane Grp Cap(c), veh/h	236	0	0	236	0	0	473	1357	1411	587	1357	1394
V/C Ratio(X)	0.52	0.00	0.00	0.56	0.00	0.00	0.03	0.27	0.27	0.05	0.40	0.40
Avail Cap(c_a), veh/h	586	0	0	586	0	0	473	1357	1411	587	1357	1394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	38.5	0.0	0.0	38.8	0.0	0.0	2.6	3.2	3.2	0.2	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	2.1	0.0	0.0	0.1	0.5	0.5	0.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	0.0	0.0	5.3	0.0	0.0	0.1	2.8	2.9	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	0.0	0.0	40.9	0.0	0.0	2.7	3.6	3.6	0.4	0.7	0.7
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		122			132			751			1127	
Approach Delay, s/veh		40.2			40.9			3.6			0.7	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.3	15.7	74.3	15.7
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	7.4	8.6	7.8	9.3
Green Ext Time (p_c), s	9.7	0.6	16.8	0.7

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	31.2
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	244	420	35	295	443
Future Vol, veh/h	34	244	420	35	295	443
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	265	457	38	321	482
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	16.2	43.8	29.1
HCM LOS	C	E	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	92%
Vol Thru, %	0%	0%	12%	8%
Vol Right, %	0%	100%	88%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	295	443	278	455
LT Vol	295	0	0	420
Through Vol	0	0	34	35
RT Vol	0	443	244	0
Lane Flow Rate	321	482	302	495
Geometry Grp	7	7	2	2
Degree of Util (X)	0.663	0.831	0.527	0.901
Departure Headway (Hd)	7.442	6.216	6.283	6.557
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	484	578	571	549
Service Time	5.224	3.997	4.365	4.625
HCM Lane V/C Ratio	0.663	0.834	0.529	0.902
HCM Control Delay	23.8	32.6	16.2	43.8
HCM Lane LOS	C	D	C	E
HCM 95th-tile Q	4.8	8.6	3.1	10.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	10	409	5	13	14	217	593	7	4	447	167
Future Volume (veh/h)	80	10	409	5	13	14	217	593	7	4	447	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	11	445	5	14	15	236	645	8	4	486	182
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	28	455	92	243	228	343	1010	13	43	1326	490
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	203	80	1284	129	687	644	515	1890	24	4	2481	917
Grp Volume(v), veh/h	543	0	0	34	0	0	334	0	555	367	0	305
Grp Sat Flow(s),veh/h/ln	1567	0	0	1461	0	0	732	0	1698	1865	0	1537
Q Serve(g_s), s	24.9	0.0	0.0	0.0	0.0	0.0	29.2	0.0	20.3	0.0	0.0	10.4
Cycle Q Clear(g_c), s	30.8	0.0	0.0	1.2	0.0	0.0	39.5	0.0	20.3	10.2	0.0	10.4
Prop In Lane	0.16		0.82	0.15		0.44	0.71		0.01	0.01		0.60
Lane Grp Cap(c), veh/h	602	0	0	564	0	0	459	0	907	1037	0	821
V/C Ratio(X)	0.90	0.00	0.00	0.06	0.00	0.00	0.73	0.00	0.61	0.35	0.00	0.37
Avail Cap(c_a), veh/h	602	0	0	564	0	0	459	0	907	1037	0	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	0.0	19.1	0.0	0.0	23.5	0.0	14.5	12.1	0.0	12.2
Incr Delay (d2), s/veh	16.9	0.0	0.0	0.0	0.0	0.0	9.7	0.0	3.1	0.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.9	0.0	0.0	0.8	0.0	0.0	11.7	0.0	12.6	7.6	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.0	0.0	19.2	0.0	0.0	33.3	0.0	17.6	13.1	0.0	13.5
LnGrp LOS	D	A	A	B	A	A	C	A	B	B	A	B
Approach Vol, veh/h		543			34			889			672	
Approach Delay, s/veh		45.5			19.2			23.5			13.3	
Approach LOS		D			B			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	53.0	37.0	53.0	37.0
Change Period (Y+Rc), s	4.9	5.1	4.9	5.1
Max Green Setting (Gmax), s	48.1	31.9	48.1	31.9
Max Q Clear Time (g_c+I1), s	12.4	3.2	41.5	32.8
Green Ext Time (p_c), s	12.3	0.1	4.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	0	0	70	212	141
Future Vol, veh/h	47	0	0	70	212	141
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	0	0	76	230	153

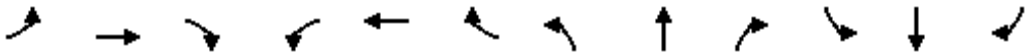
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	76	0	-	0	140	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1523	-	-	-	853	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1523	-	-	-	825	1034
Mov Cap-2 Maneuver	-	-	-	-	825	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	897
HCM Lane V/C Ratio	0.034	-	-	-	0.428
HCM Control Delay (s)	7.4	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.2

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	368	113	192	715	239	135	758	189	319	934	237
Future Volume (veh/h)	94	368	113	192	715	239	135	758	189	319	934	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	400	123	209	777	260	147	824	205	347	1015	258
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	100	886	269	266	863	289	199	1056	263	367	1507	382
Arrive On Green	0.33	0.33	0.33	0.11	0.11	0.11	0.75	0.75	0.75	0.10	0.54	0.54
Sat Flow, veh/h	544	2684	816	879	2615	875	435	2820	701	1781	2808	711
Grp Volume(v), veh/h	102	263	260	209	528	509	147	519	510	347	641	632
Grp Sat Flow(s),veh/h/ln	544	1777	1723	879	1777	1713	435	1777	1744	1781	1777	1742
Q Serve(g_s), s	3.3	10.5	10.7	19.0	26.4	26.4	24.5	15.9	15.9	9.0	23.5	23.8
Cycle Q Clear(g_c), s	29.7	10.5	10.7	29.7	26.4	26.4	33.7	15.9	15.9	9.0	23.5	23.8
Prop In Lane	1.00		0.47	1.00		0.51	1.00		0.40	1.00		0.41
Lane Grp Cap(c), veh/h	100	586	569	266	586	565	199	665	653	367	954	935
V/C Ratio(X)	1.02	0.45	0.46	0.79	0.90	0.90	0.74	0.78	0.78	0.95	0.67	0.68
Avail Cap(c_a), veh/h	100	586	569	266	586	565	199	665	653	367	954	935
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	23.7	23.8	46.5	38.6	38.6	18.2	9.1	9.1	21.6	15.1	15.2
Incr Delay (d2), s/veh	96.2	0.5	0.6	11.2	13.5	13.9	18.3	7.3	7.5	33.4	3.8	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	7.8	7.7	9.3	20.1	19.6	6.3	7.5	7.4	12.1	14.8	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.9	24.3	24.4	57.7	52.1	52.6	36.6	16.4	16.5	55.0	18.9	19.1
LnGrp LOS	F	C	C	E	D	D	D	B	B	D	B	B
Approach Vol, veh/h		625			1246			1176			1620	
Approach Delay, s/veh		43.3			53.2			19.0			26.7	
Approach LOS		D			D			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		54.0		36.0	14.6	39.4		36.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 48		* 30	9.0	* 34		* 30				
Max Q Clear Time (g_c+I1), s		25.8		31.7	11.0	35.7		31.7				
Green Ext Time (p_c), s		9.8		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		34.1
HCM 6th LOS		C

Notes

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

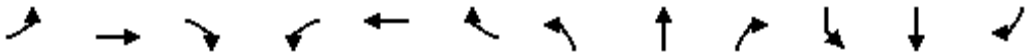
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	596	191	155	934	72	134	137	71	55	213	59
Future Volume (veh/h)	37	596	191	155	934	72	134	137	71	55	213	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	40	648	208	168	1015	78	146	149	77	60	232	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1335	428	405	1687	130	241	237	110	124	457	117
Arrive On Green	1.00	1.00	1.00	0.50	0.50	0.50	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	516	2646	849	645	3344	257	475	608	283	199	1172	301
Grp Volume(v), veh/h	40	435	421	168	539	554	372	0	0	356	0	0
Grp Sat Flow(s),veh/h/ln	516	1777	1718	645	1777	1824	1366	0	0	1672	0	0
Q Serve(g_s), s	3.5	0.0	0.0	15.7	19.4	19.4	7.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.0	0.0	0.0	15.7	19.4	19.4	21.2	0.0	0.0	14.1	0.0	0.0
Prop In Lane	1.00		0.49	1.00		0.14	0.39		0.21	0.17		0.18
Lane Grp Cap(c), veh/h	229	896	866	405	896	920	589	0	0	699	0	0
V/C Ratio(X)	0.17	0.49	0.49	0.41	0.60	0.60	0.63	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	229	896	866	405	896	920	589	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)	0.52	0.52	0.52	0.61	0.61	0.61	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	0.0	14.9	15.9	15.9	23.1	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.0	1.0	1.9	1.8	1.8	5.1	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(95%),veh/ln	0.5	0.4	0.4	4.3	11.4	11.6	11.6	0.0	0.0	10.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.8	1.0	1.0	16.8	17.7	17.7	28.2	0.0	0.0	23.5	0.0	0.0
LnGrp LOS	A	A	A	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h		896			1261			372			356	
Approach Delay, s/veh		1.2			17.6			28.2			23.5	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	21.4	16.1	25.0	23.2
Green Ext Time (p_c), s	9.9	2.2	6.2	2.0

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

Notes

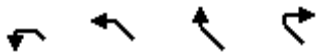
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	464	123	350	774	296	117	747	136	82	314	57
Future Volume (vph)	126	464	123	350	774	296	117	747	136	82	314	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.96		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3428		1770	3392		1770	1863	1583		1815	
Flt Permitted	0.17	1.00		0.18	1.00		0.39	1.00	1.00		0.09	
Satd. Flow (perm)	325	3428		341	3392		722	1863	1583		160	
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)	137	504	134	380	841	322	127	812	148	89	341	62
RTOR Reduction (vph)	0	122	0	0	46	0	0	0	0	0	5	0
Lane Group Flow (vph)	137	516	0	380	1117	0	127	812	148	0	487	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	22.9	22.9		33.9	33.9		35.7	35.7	41.6		35.7	
Effective Green, g (s)	22.9	22.9		33.9	33.9		35.7	35.7	41.6		35.7	
Actuated g/C Ratio	0.25	0.25		0.38	0.38		0.40	0.40	0.46		0.40	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	82	872		222	1277		286	738	731		63	
v/s Ratio Prot		0.15		c0.11	0.33			0.44	0.01			
v/s Ratio Perm	0.42			c0.53			0.18		0.08		c3.05	
v/c Ratio	1.67	0.59		1.71	0.88		0.44	1.10	0.20		7.72	
Uniform Delay, d1	33.5	29.4		25.8	26.1		19.9	27.1	14.4		27.1	
Progression Factor	1.38	1.57		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	343.3	2.5		338.7	8.6		2.8	64.0	0.1		3058.0	
Delay (s)	389.6	48.9		364.5	34.7		22.6	91.1	14.5		3085.1	
Level of Service	F	D		F	C		C	F	B		F	
Approach Delay (s)		109.1			115.9			72.7			3085.1	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	469.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	129.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	21	17	19	8
Future Volume (vph)	21	17	19	8
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.94		
Flt Protected		0.97		
Satd. Flow (prot)		1707		
Flt Permitted		0.97		
Satd. Flow (perm)		1707		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	18	21	9
RTOR Reduction (vph)	0	68	0	0
Lane Group Flow (vph)	0	3	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.0		
Effective Green, g (s)		4.0		
Actuated g/C Ratio		0.04		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		75		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		41.2		
Progression Factor		1.00		
Incremental Delay, d2		0.2		
Delay (s)		41.4		
Level of Service		D		
Approach Delay (s)		41.4		
Approach LOS		D		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	137	638	380	1163	127	812	148	492	71
v/c Ratio	1.57	0.62	1.68	0.85	0.44	1.10	0.18	7.24	0.30
Control Delay	333.2	35.9	347.2	30.9	27.4	93.1	12.9	2853.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	333.2	35.9	347.2	30.9	27.4	93.1	12.9	2853.5	3.2
Queue Length 50th (ft)	~116	141	~274	294	54	~556	44	~525	0
Queue Length 95th (ft)	m#227	m196	#492	384	111	#777	80	#719	0
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	87	1037	226	1367	286	738	827	68	239
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.57	0.62	1.68	0.85	0.44	1.10	0.18	7.24	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	11	122	25	68	50	1108	98	74	1123	71
Future Volume (veh/h)	16	2	11	122	25	68	50	1108	98	74	1123	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2	12	133	27	74	54	1204	107	80	1221	77
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	291	43	256	213	39	88	377	2309	205	373	2374	150
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1294	231	1389	818	214	477	425	3302	293	419	3395	214
Grp Volume(v), veh/h	17	0	14	234	0	0	54	647	664	80	638	660
Grp Sat Flow(s),veh/h/ln	1294	0	1620	1509	0	0	425	1777	1818	419	1777	1832
Q Serve(g_s), s	0.0	0.0	0.6	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.6	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.86	0.57		0.32	1.00		0.16	1.00		0.12
Lane Grp Cap(c), veh/h	291	0	298	341	0	0	377	1242	1271	373	1242	1281
V/C Ratio(X)	0.06	0.00	0.05	0.69	0.00	0.00	0.14	0.52	0.52	0.21	0.51	0.51
Avail Cap(c_a), veh/h	490	0	547	571	0	0	377	1242	1271	373	1242	1281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.81	0.81	0.81	0.64	0.64	0.64
Uniform Delay (d), s/veh	30.4	0.0	30.2	35.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	2.5	0.0	0.0	0.6	1.3	1.2	0.8	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	0.5	8.8	0.0	0.0	0.1	0.8	0.8	0.2	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	30.3	37.9	0.0	0.0	0.6	1.3	1.2	0.8	1.0	1.0
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		31			234			1365			1378	
Approach Delay, s/veh		30.4			37.9			1.2			1.0	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.8	22.2	67.8	22.2
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	15.4	2.0	3.1
Green Ext Time (p_c), s	34.8	1.1	29.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.3
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)	133	53	41	43	104	46	41	1102	39	20	1006	182
Future Volume (veh/h)	133	53	41	43	104	46	41	1102	39	20	1006	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	145	58	45	47	113	50	45	1198	42	22	1093	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	222	78	52	107	226	89	359	2289	80	292	1965	355
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	717	352	237	263	1024	402	427	3502	123	449	3007	543
Grp Volume(v), veh/h	248	0	0	210	0	0	45	608	632	22	644	647
Grp Sat Flow(s),veh/h/ln	1307	0	0	1689	0	0	427	1777	1848	449	1777	1773
Q Serve(g_s), s	7.0	0.0	0.0	0.0	0.0	0.0	3.7	16.2	16.2	1.3	0.0	0.0
Cycle Q Clear(g_c), s	16.7	0.0	0.0	9.7	0.0	0.0	3.7	16.2	16.2	17.5	0.0	0.0
Prop In Lane	0.58		0.18	0.22		0.24	1.00		0.07	1.00		0.31
Lane Grp Cap(c), veh/h	352	0	0	422	0	0	359	1161	1208	292	1161	1158
V/C Ratio(X)	0.70	0.00	0.00	0.50	0.00	0.00	0.13	0.52	0.52	0.08	0.55	0.56
Avail Cap(c_a), veh/h	529	0	0	630	0	0	359	1161	1208	292	1161	1158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	34.0	0.0	0.0	31.0	0.0	0.0	6.0	8.2	8.2	2.4	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.9	0.0	0.0	0.7	1.7	1.6	0.4	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	0.0	7.3	0.0	0.0	0.7	9.9	10.1	0.2	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	0.0	0.0	31.9	0.0	0.0	6.8	9.9	9.8	2.8	1.6	1.6
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		248			210			1285			1313	
Approach Delay, s/veh		36.6			31.9			9.8			1.6	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.4	25.6	64.4	25.6
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	18.2	18.7	19.5	11.7
Green Ext Time (p_c), s	17.3	1.2	17.1	1.1

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

Intersection	
Intersection Delay, s/veh	155.4
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	269	297	514	122	280	650
Future Vol, veh/h	269	297	514	122	280	650
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	292	323	559	133	304	707
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	114.6	205.7	145.9
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	81%
Vol Thru, %	0%	0%	48%	19%
Vol Right, %	0%	100%	52%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	280	650	566	636
LT Vol	280	0	0	514
Through Vol	0	0	269	122
RT Vol	0	650	297	0
Lane Flow Rate	304	707	615	691
Geometry Grp	7	7	2	2
Degree of Util (X)	0.686	1.357	1.147	1.378
Departure Headway (Hd)	8.929	7.682	7.616	7.804
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	408	480	480	470
Service Time	6.629	5.382	5.616	5.804
HCM Lane V/C Ratio	0.745	1.473	1.281	1.47
HCM Control Delay	29	196.3	114.6	205.7
HCM Lane LOS	D	F	F	F
HCM 95th-tile Q	5	29.1	19.2	29.8

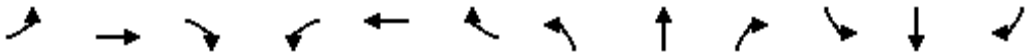
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	16	309	3	14	53	234	801	17	30	453	462
Future Volume (veh/h)	520	16	309	3	14	53	234	801	17	30	453	462
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	565	17	336	3	15	58	254	871	18	33	492	502
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	299	7	139	46	99	333	284	1143	25	76	1005	910
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	907	27	540	18	384	1293	343	1811	39	53	1592	1442
Grp Volume(v), veh/h	918	0	0	76	0	0	368	0	775	525	0	502
Grp Sat Flow(s),veh/h/ln	1474	0	0	1694	0	0	499	0	1695	1645	0	1442
Q Serve(g_s), s	20.0	0.0	0.0	0.0	0.0	0.0	39.1	0.0	28.0	1.7	0.0	17.7
Cycle Q Clear(g_c), s	23.2	0.0	0.0	3.2	0.0	0.0	56.8	0.0	28.0	29.7	0.0	17.7
Prop In Lane	0.62		0.37	0.04		0.76	0.69		0.02	0.06		1.00
Lane Grp Cap(c), veh/h	445	0	0	478	0	0	382	0	1070	1081	0	910
V/C Ratio(X)	2.06	0.00	0.00	0.16	0.00	0.00	0.96	0.00	0.72	0.49	0.00	0.55
Avail Cap(c_a), veh/h	445	0	0	478	0	0	382	0	1070	1081	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	0.0	26.0	0.0	0.0	28.2	0.0	11.3	8.6	0.0	9.4
Incr Delay (d2), s/veh	486.7	0.0	0.0	0.2	0.0	0.0	37.4	0.0	4.3	1.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	0.0	0.0	2.3	0.0	0.0	17.8	0.0	15.6	8.8	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	521.5	0.0	0.0	26.1	0.0	0.0	65.5	0.0	15.6	10.2	0.0	11.8
LnGrp LOS	F	A	A	C	A	A	E	A	B	B	A	B
Approach Vol, veh/h		918			76			1143			1027	
Approach Delay, s/veh		521.5			26.1			31.6			11.0	
Approach LOS		F			C			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	61.7	28.3	61.7	28.3
Change Period (Y+Rc), s	4.9	5.1	4.9	5.1
Max Green Setting (Gmax), s	56.8	23.2	56.8	23.2
Max Q Clear Time (g_c+I1), s	31.7	5.2	58.8	25.2
Green Ext Time (p_c), s	16.5	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	166.9
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	893	149	212	528	367	113	1026	200	310	1006	87
Future Volume (veh/h)	121	893	149	212	528	367	113	1026	200	310	1006	87
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	132	971	162	230	574	399	123	1115	217	337	1093	95
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	136	1141	190	121	750	522	194	980	190	258	1628	141
Arrive On Green	0.37	0.37	0.37	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.49	0.49
Sat Flow, veh/h	578	3048	508	497	2004	1393	472	2969	575	1781	3308	287
Grp Volume(v), veh/h	132	566	567	230	509	464	123	665	667	337	587	601
Grp Sat Flow(s),veh/h/ln	578	1777	1779	497	1777	1620	472	1777	1767	1781	1777	1819
Q Serve(g_s), s	8.7	26.3	26.4	7.3	25.0	25.0	21.7	29.7	29.7	9.0	22.5	22.6
Cycle Q Clear(g_c), s	33.7	26.3	26.4	33.7	25.0	25.0	29.7	29.7	29.7	9.0	22.5	22.6
Prop In Lane	1.00		0.29	1.00		0.86	1.00		0.33	1.00		0.16
Lane Grp Cap(c), veh/h	136	665	666	121	665	606	194	586	583	258	875	895
V/C Ratio(X)	0.97	0.85	0.85	1.91	0.77	0.77	0.63	1.13	1.14	1.31	0.67	0.67
Avail Cap(c_a), veh/h	136	665	666	121	665	606	194	586	583	258	875	895
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	25.8	25.9	55.1	35.6	35.6	44.9	40.1	40.1	23.8	17.3	17.3
Incr Delay (d2), s/veh	67.6	10.2	10.3	435.1	4.8	5.2	12.6	77.6	81.0	162.7	4.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	18.3	18.3	31.1	18.2	16.9	6.5	37.4	38.0	23.4	14.7	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.7	36.1	36.2	490.2	40.4	40.8	57.5	117.7	121.1	186.5	21.4	21.3
LnGrp LOS	F	D	D	F	D	D	E	F	F	F	C	C
Approach Vol, veh/h		1265			1203			1455			1525	
Approach Delay, s/veh		43.9			126.6			114.2			57.9	
Approach LOS		D			F			F			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		50.0		40.0	14.6	35.4		40.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 44		* 34	9.0	* 30		* 34				
Max Q Clear Time (g_c+I1), s		24.6		35.7	11.0	31.7		35.7				
Green Ext Time (p_c), s		8.3		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			84.8									
HCM 6th LOS			F									

Notes

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

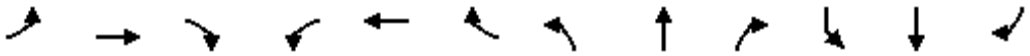
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	1056	163	92	663	57	250	201	126	81	147	40
Future Volume (veh/h)	83	1056	163	92	663	57	250	201	126	81	147	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	90	1148	177	100	721	62	272	218	137	88	160	43
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	333	1557	239	167	1670	144	284	182	114	190	330	81
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	691	3087	474	414	3311	285	581	466	293	354	847	208
Grp Volume(v), veh/h	90	659	666	100	387	396	627	0	0	291	0	0
Grp Sat Flow(s),veh/h/ln	691	1777	1785	414	1777	1819	1339	0	0	1409	0	0
Q Serve(g_s), s	8.5	26.3	26.5	18.9	12.4	12.4	22.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.0	26.3	26.5	45.4	12.4	12.4	35.1	0.0	0.0	13.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.16	0.43		0.22	0.30		0.15
Lane Grp Cap(c), veh/h	333	896	900	167	896	918	580	0	0	602	0	0
V/C Ratio(X)	0.27	0.74	0.74	0.60	0.43	0.43	1.08	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	333	896	900	167	896	918	580	0	0	602	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)	0.18	0.18	0.18	0.78	0.78	0.78	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	17.6	17.6	36.8	14.1	14.1	30.0	0.0	0.0	20.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	11.8	1.2	1.2	61.3	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(95%),veh/ln	2.2	12.4	12.6	5.0	8.2	8.4	32.0	0.0	0.0	8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	18.6	18.6	48.7	15.3	15.3	91.3	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	C	B	B	D	B	B	F	A	A	C	A	A
Approach Vol, veh/h		1415			883			627			291	
Approach Delay, s/veh		18.8			19.1			91.3			23.1	
Approach LOS		B			B			F			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	47.4	15.1	28.5	37.1
Green Ext Time (p_c), s	0.0	1.8	9.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

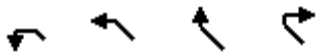
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	712	165	306	473	150	164	638	217	202	714	121
Future Volume (vph)	80	712	165	306	473	150	164	638	217	202	714	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.96		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3440		1770	3411		1770	1863	1583		1816	
Flt Permitted	0.36	1.00		0.15	1.00		0.24	1.00	1.00		0.40	
Satd. Flow (perm)	675	3440		276	3411		442	1863	1583		726	
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)	87	774	179	333	514	163	178	693	236	220	776	132
RTOR Reduction (vph)	0	101	0	0	26	0	0	0	0	0	4	0
Lane Group Flow (vph)	87	852	0	333	651	0	178	693	236	0	1124	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	21.9	21.9		35.9	35.9		63.7	63.7	72.6		63.7	
Effective Green, g (s)	21.9	21.9		35.9	35.9		63.7	63.7	72.6		63.7	
Actuated g/C Ratio	0.18	0.18		0.30	0.30		0.53	0.53	0.60		0.53	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	123	627		193	1020		234	988	957		385	
v/s Ratio Prot		0.25		c0.13	0.19			0.37	0.02			
v/s Ratio Perm	0.13			c0.39			0.40		0.13		c1.55	
v/c Ratio	0.71	1.36		1.73	0.64		0.76	0.70	0.25		2.92	
Uniform Delay, d1	46.0	49.0		38.0	36.4		22.2	21.0	11.0		28.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	29.0	172.0		347.3	3.1		16.6	3.1	0.1		871.1	
Delay (s)	75.0	221.1		385.2	39.5		38.7	24.2	11.1		899.3	
Level of Service	E	F		F	D		D	C	B		F	
Approach Delay (s)		208.8			153.5			23.7			899.3	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM 2000 Control Delay	325.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	158.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	14	6	22	14
Future Volume (vph)	14	6	22	14
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.91		
Flt Protected		0.98		
Satd. Flow (prot)		1672		
Flt Permitted		0.98		
Satd. Flow (perm)		1672		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	7	24	15
RTOR Reduction (vph)	0	59	0	0
Lane Group Flow (vph)	0	2	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.0		
Effective Green, g (s)		4.0		
Actuated g/C Ratio		0.03		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		55		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		56.1		
Progression Factor		1.00		
Incremental Delay, d2		0.3		
Delay (s)		56.4		
Level of Service		E		
Approach Delay (s)		56.4		
Approach LOS		E		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	87	953	333	677	178	693	236	1128	61
v/c Ratio	0.67	1.25	1.71	0.63	0.76	0.70	0.23	2.91	0.34
Control Delay	70.9	159.8	365.4	36.5	47.0	26.6	9.8	881.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	159.8	365.4	36.5	47.0	26.6	9.8	881.4	5.3
Queue Length 50th (ft)	63	~444	~329	223	109	403	74	~1242	0
Queue Length 95th (ft)	#143	#578	#516	288	#250	555	113	#1505	2
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	130	761	195	1080	234	988	1030	388	179
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	1.25	1.71	0.63	0.76	0.70	0.23	2.91	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	12	71	80	69	41	41	1186	27	29	1361	23
Future Volume (veh/h)	66	12	71	80	69	41	41	1186	27	29	1361	23
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	72	13	77	87	75	45	45	1289	29	32	1479	25
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	43	256	145	108	55	324	2483	56	371	2499	42
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1272	234	1387	477	588	296	349	3553	80	417	3576	60
Grp Volume(v), veh/h	72	0	90	207	0	0	45	644	674	32	734	770
Grp Sat Flow(s),veh/h/ln	1272	0	1621	1360	0	0	349	1777	1856	417	1777	1859
Q Serve(g_s), s	0.0	0.0	4.3	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	4.3	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.86	0.42		0.22	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	258	0	299	308	0	0	324	1242	1297	371	1242	1299
V/C Ratio(X)	0.28	0.00	0.30	0.67	0.00	0.00	0.14	0.52	0.52	0.09	0.59	0.59
Avail Cap(c_a), veh/h	453	0	547	543	0	0	324	1242	1297	371	1242	1299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.91	0.91	0.91	0.09	0.09	0.09
Uniform Delay (d), s/veh	32.5	0.0	31.7	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.6	2.6	0.0	0.0	0.8	1.4	1.4	0.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	3.1	8.0	0.0	0.0	0.1	0.9	0.9	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	32.2	38.5	0.0	0.0	0.8	1.4	1.4	0.0	0.2	0.2
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		162			207			1363			1536	
Approach Delay, s/veh		32.6			38.5			1.4			0.2	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.8	22.2	67.8	22.2
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	15.6	2.0	8.4
Green Ext Time (p_c), s	38.2	1.0	29.8	0.7

Intersection Summary	
HCM 6th Ctrl Delay	4.7
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)	133	18	36	53	37	36	12	897	16	30	1184	124
Future Volume (veh/h)	133	18	36	53	37	36	12	897	16	30	1184	124
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	145	20	39	58	40	39	13	975	17	33	1287	135
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	239	28	47	154	105	81	344	2506	44	414	2277	238
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	983	159	270	562	607	465	377	3574	62	568	3247	339
Grp Volume(v), veh/h	204	0	0	137	0	0	13	485	507	33	702	720
Grp Sat Flow(s),veh/h/ln	1412	0	0	1633	0	0	377	1777	1859	568	1777	1809
Q Serve(g_s), s	6.0	0.0	0.0	0.0	0.0	0.0	1.0	10.1	10.1	0.9	0.0	0.0
Cycle Q Clear(g_c), s	12.5	0.0	0.0	6.6	0.0	0.0	1.0	10.1	10.1	11.0	0.0	0.0
Prop In Lane	0.71		0.19	0.42		0.28	1.00		0.03	1.00		0.19
Lane Grp Cap(c), veh/h	313	0	0	340	0	0	344	1246	1304	414	1246	1269
V/C Ratio(X)	0.65	0.00	0.00	0.40	0.00	0.00	0.04	0.39	0.39	0.08	0.56	0.57
Avail Cap(c_a), veh/h	558	0	0	608	0	0	344	1246	1304	414	1246	1269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	35.9	0.0	0.0	33.4	0.0	0.0	4.2	5.5	5.5	0.9	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	0.8	0.0	0.0	0.2	0.9	0.9	0.3	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.9	0.0	0.0	4.9	0.0	0.0	0.1	6.0	6.3	0.1	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	0.0	34.2	0.0	0.0	4.4	6.4	6.4	1.2	1.4	1.4
LnGrp LOS	D	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		204			137			1005			1455	
Approach Delay, s/veh		38.2			34.2			6.4			1.4	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.7	21.3	68.7	21.3
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	12.1	14.5	13.0	8.6
Green Ext Time (p_c), s	13.8	1.0	22.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	236.8
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	307	658	261	399	579
Future Vol, veh/h	166	307	658	261	399	579
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	334	715	284	434	629
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	59	463.3	109.9
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	72%
Vol Thru, %	0%	0%	35%	28%
Vol Right, %	0%	100%	65%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	399	579	473	919
LT Vol	399	0	0	658
Through Vol	0	0	166	261
RT Vol	0	579	307	0
Lane Flow Rate	434	629	514	999
Geometry Grp	7	7	2	2
Degree of Util (X)	0.972	1.201	0.948	1.975
Departure Headway (Hd)	9.514	8.26	8.031	7.264
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	386	447	458	509
Service Time	7.214	5.96	6.031	5.264
HCM Lane V/C Ratio	1.124	1.407	1.122	1.963
HCM Control Delay	70.7	136.9	59	463.3
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	11.1	20.5	11.3	66

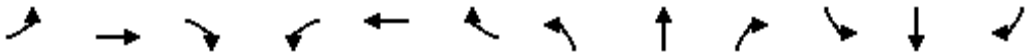
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	21	416	5	15	42	228	710	7	44	598	617
Future Volume (veh/h)	331	21	416	5	15	42	228	710	7	44	598	617
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	360	23	452	5	16	46	248	772	8	48	650	671
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	287	15	288	64	168	412	132	901	9	60	556	771
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	648	41	813	58	473	1164	100	1685	18	32	1040	1442
Grp Volume(v), veh/h	835	0	0	67	0	0	258	0	770	698	0	671
Grp Sat Flow(s),veh/h/ln	1502	0	0	1695	0	0	104	0	1699	1072	0	1442
Q Serve(g_s), s	29.5	0.0	0.0	0.0	0.0	0.0	11.7	0.0	34.7	13.4	0.0	36.4
Cycle Q Clear(g_c), s	31.9	0.0	0.0	2.4	0.0	0.0	48.1	0.0	34.7	48.1	0.0	36.4
Prop In Lane	0.43		0.54	0.07		0.69	0.96		0.01	0.07		1.00
Lane Grp Cap(c), veh/h	590	0	0	644	0	0	134	0	908	616	0	771
V/C Ratio(X)	1.42	0.00	0.00	0.10	0.00	0.00	1.93	0.00	0.85	1.13	0.00	0.87
Avail Cap(c_a), veh/h	590	0	0	644	0	0	134	0	908	616	0	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	0.0	19.5	0.0	0.0	42.6	0.0	17.8	21.1	0.0	18.2
Incr Delay (d2), s/veh	197.0	0.0	0.0	0.1	0.0	0.0	443.6	0.0	9.7	78.9	0.0	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(95%),veh/ln	68.4	0.0	0.0	1.7	0.0	0.0	35.0	0.0	21.1	31.9	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	227.4	0.0	0.0	19.6	0.0	0.0	486.2	0.0	27.5	100.0	0.0	31.1
LnGrp LOS	F	A	A	B	A	A	F	A	C	F	A	C
Approach Vol, veh/h		835			67			1028			1369	
Approach Delay, s/veh		227.4			19.6			142.7			66.2	
Approach LOS		F			B			F			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	53.0	37.0	53.0	37.0
Change Period (Y+Rc), s	4.9	5.1	4.9	5.1
Max Green Setting (Gmax), s	48.1	31.9	48.1	31.9
Max Q Clear Time (g_c+I1), s	50.1	4.4	50.1	33.9
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	129.9
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	368	113	192	715	239	135	775	189	319	1029	237
Future Volume (veh/h)	94	368	113	192	715	239	135	775	189	319	1029	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	400	123	209	777	260	147	842	205	347	1118	258
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	100	886	269	266	863	289	174	1061	258	361	1541	353
Arrive On Green	0.33	0.33	0.33	0.11	0.11	0.11	0.75	0.75	0.75	0.10	0.54	0.54
Sat Flow, veh/h	544	2684	816	879	2615	875	394	2833	690	1781	2871	658
Grp Volume(v), veh/h	102	263	260	209	528	509	147	528	519	347	689	687
Grp Sat Flow(s),veh/h/ln	544	1777	1723	879	1777	1713	394	1777	1746	1781	1777	1752
Q Serve(g_s), s	3.3	10.5	10.7	19.0	26.4	26.4	21.4	16.6	16.6	9.0	26.4	26.9
Cycle Q Clear(g_c), s	29.7	10.5	10.7	29.7	26.4	26.4	33.7	16.6	16.6	9.0	26.4	26.9
Prop In Lane	1.00		0.47	1.00		0.51	1.00		0.39	1.00		0.38
Lane Grp Cap(c), veh/h	100	586	569	266	586	565	174	665	654	361	954	940
V/C Ratio(X)	1.02	0.45	0.46	0.79	0.90	0.90	0.85	0.79	0.79	0.96	0.72	0.73
Avail Cap(c_a), veh/h	100	586	569	266	586	565	174	665	654	361	954	940
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	23.7	23.8	46.5	38.6	38.6	21.3	9.1	9.1	21.8	15.8	15.9
Incr Delay (d2), s/veh	96.2	0.5	0.6	11.2	13.5	13.9	31.7	7.8	7.9	37.3	4.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	7.8	7.7	9.3	20.1	19.6	7.4	7.6	7.6	12.5	16.5	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.9	24.3	24.4	57.7	52.1	52.6	53.0	16.9	17.1	59.1	20.5	20.9
LnGrp LOS	F	C	C	E	D	D	D	B	B	E	C	C
Approach Vol, veh/h		625			1246			1194			1723	
Approach Delay, s/veh		43.3			53.2			21.4			28.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		54.0		36.0	14.6	39.4		36.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 48		* 30	9.0	* 34		* 30				
Max Q Clear Time (g_c+I1), s		28.9		31.7	11.0	35.7		31.7				
Green Ext Time (p_c), s		9.9		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		35.1
HCM 6th LOS		D

Notes

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

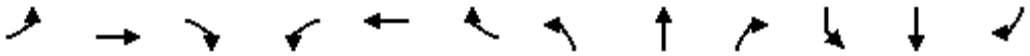
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	596	191	192	934	72	134	141	78	55	232	59
Future Volume (veh/h)	37	596	191	192	934	72	134	141	78	55	232	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	40	648	208	209	1015	78	146	153	85	60	252	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1335	428	405	1687	130	230	231	115	119	466	111
Arrive On Green	1.00	1.00	1.00	0.50	0.50	0.50	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	516	2646	849	645	3344	257	449	592	296	187	1195	284
Grp Volume(v), veh/h	40	435	421	209	539	554	384	0	0	376	0	0
Grp Sat Flow(s),veh/h/ln	516	1777	1718	645	1777	1824	1337	0	0	1666	0	0
Q Serve(g_s), s	3.5	0.0	0.0	21.4	19.4	19.4	7.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.0	0.0	0.0	21.4	19.4	19.4	23.0	0.0	0.0	15.3	0.0	0.0
Prop In Lane	1.00		0.49	1.00		0.14	0.38		0.22	0.16		0.17
Lane Grp Cap(c), veh/h	229	896	866	405	896	920	577	0	0	696	0	0
V/C Ratio(X)	0.17	0.49	0.49	0.52	0.60	0.60	0.67	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	229	896	866	405	896	920	577	0	0	696	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)	0.51	0.51	0.51	0.56	0.56	0.56	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	0.0	16.3	15.9	15.9	23.7	0.0	0.0	21.2	0.0	0.0
Incr Delay (d2), s/veh	0.8	1.0	1.0	2.6	1.7	1.6	6.0	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(95%),veh/ln	0.5	0.4	0.4	5.4	11.2	11.4	12.3	0.0	0.0	10.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.8	1.0	1.0	19.0	17.5	17.5	29.6	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	A	A	A	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h		896			1302			384			376	
Approach Delay, s/veh		1.2			17.8			29.6			24.2	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	23.4	17.3	25.0	25.0
Green Ext Time (p_c), s	10.0	2.2	6.2	1.9

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

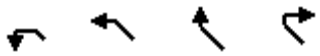
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	471	123	407	811	296	117	751	147	82	333	57
Future Volume (vph)	126	471	123	407	811	296	117	751	147	82	333	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.96		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3429		1770	3397		1770	1863	1583		1817	
Flt Permitted	0.17	1.00		0.18	1.00		0.37	1.00	1.00		0.09	
Satd. Flow (perm)	325	3429		332	3397		696	1863	1583		160	
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)	137	512	134	442	882	322	127	816	160	89	362	62
RTOR Reduction (vph)	0	122	0	0	42	0	0	0	0	0	5	0
Lane Group Flow (vph)	137	524	0	442	1162	0	127	816	160	0	508	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	22.9	22.9		33.9	33.9		35.7	35.7	41.6		35.7	
Effective Green, g (s)	22.9	22.9		33.9	33.9		35.7	35.7	41.6		35.7	
Actuated g/C Ratio	0.25	0.25		0.38	0.38		0.40	0.40	0.46		0.40	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	82	872		219	1279		276	738	731		63	
v/s Ratio Prot		0.15		c0.13	0.34			0.44	0.01			
v/s Ratio Perm	0.42			c0.63			0.18		0.09		c3.18	
v/c Ratio	1.67	0.60		2.02	0.91		0.46	1.11	0.22		8.06	
Uniform Delay, d1	33.5	29.5		25.7	26.6		20.0	27.1	14.5		27.1	
Progression Factor	1.37	1.55		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	343.1	2.6		474.0	11.0		3.1	66.0	0.2		3207.8	
Delay (s)	389.0	48.4		499.7	37.6		23.1	93.1	14.6		3234.9	
Level of Service	F	D		F	D		C	F	B		F	
Approach Delay (s)		108.0			161.7			73.7			3234.9	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	508.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	5.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	131.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	21	17	19	8
Future Volume (vph)	21	17	19	8
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.94		
Flt Protected		0.97		
Satd. Flow (prot)		1707		
Flt Permitted		0.97		
Satd. Flow (perm)		1707		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	18	21	9
RTOR Reduction (vph)	0	68	0	0
Lane Group Flow (vph)	0	3	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.0		
Effective Green, g (s)		4.0		
Actuated g/C Ratio		0.04		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		75		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		41.2		
Progression Factor		1.00		
Incremental Delay, d2		0.2		
Delay (s)		41.4		
Level of Service		D		
Approach Delay (s)		41.4		
Approach LOS		D		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	137	646	442	1204	127	816	160	513	71
v/c Ratio	1.57	0.62	1.98	0.88	0.46	1.11	0.19	7.54	0.30
Control Delay	332.8	35.7	478.1	33.2	28.2	95.0	13.0	2992.4	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	332.8	35.7	478.1	33.2	28.2	95.0	13.0	2992.4	3.2
Queue Length 50th (ft)	~116	142	~363	312	54	~561	48	~551	0
Queue Length 95th (ft)	m#226	m196	#578	#443	113	#783	86	#747	0
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	87	1038	223	1366	276	738	827	68	239
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.57	0.62	1.98	0.88	0.46	1.11	0.19	7.54	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	2	11	126	25	85	50	1108	117	169	1123	71
Future Volume (veh/h)	16	2	11	126	25	85	50	1108	117	169	1123	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2	12	137	27	92	54	1204	127	184	1221	77
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	296	46	276	214	40	108	371	2222	234	362	2325	146
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1273	231	1389	770	200	544	425	3244	341	411	3395	214
Grp Volume(v), veh/h	17	0	14	256	0	0	54	658	673	184	638	660
Grp Sat Flow(s),veh/h/ln	1273	0	1620	1514	0	0	425	1777	1809	411	1777	1832
Q Serve(g_s), s	0.0	0.0	0.6	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.6	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.86	0.54		0.36	1.00		0.19	1.00		0.12
Lane Grp Cap(c), veh/h	296	0	322	362	0	0	371	1217	1239	362	1217	1254
V/C Ratio(X)	0.06	0.00	0.04	0.71	0.00	0.00	0.15	0.54	0.54	0.51	0.52	0.53
Avail Cap(c_a), veh/h	473	0	547	571	0	0	371	1217	1239	362	1217	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.78	0.78	0.78	0.57	0.57	0.57
Uniform Delay (d), s/veh	29.4	0.0	29.2	34.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	2.5	0.0	0.0	0.6	1.4	1.3	2.9	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	0.4	9.4	0.0	0.0	0.1	0.8	0.8	0.5	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	0.0	29.2	37.3	0.0	0.0	0.6	1.4	1.3	2.9	0.9	0.9
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		31			256			1385			1482	
Approach Delay, s/veh		29.3			37.3			1.3			1.2	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	66.5	23.5	66.5	23.5
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	16.7	2.0	3.2
Green Ext Time (p_c), s	37.8	1.2	30.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.4
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)	133	53	41	50	104	46	41	1121	76	20	1010	182
Future Volume (veh/h)	133	53	41	50	104	46	41	1121	76	20	1010	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	145	58	45	54	113	50	45	1218	83	22	1098	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	221	78	52	117	219	86	357	2200	150	273	1961	352
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	710	350	235	301	981	384	425	3376	230	423	3009	541
Grp Volume(v), veh/h	248	0	0	217	0	0	45	640	661	22	647	649
Grp Sat Flow(s),veh/h/ln	1295	0	0	1667	0	0	425	1777	1829	423	1777	1773
Q Serve(g_s), s	6.7	0.0	0.0	0.0	0.0	0.0	3.7	17.7	17.7	1.5	0.0	0.0
Cycle Q Clear(g_c), s	16.9	0.0	0.0	10.2	0.0	0.0	3.7	17.7	17.7	19.3	0.0	0.0
Prop In Lane	0.58		0.18	0.25		0.23	1.00		0.13	1.00		0.31
Lane Grp Cap(c), veh/h	352	0	0	421	0	0	357	1158	1192	273	1158	1155
V/C Ratio(X)	0.70	0.00	0.00	0.52	0.00	0.00	0.13	0.55	0.55	0.08	0.56	0.56
Avail Cap(c_a), veh/h	526	0	0	624	0	0	357	1158	1192	273	1158	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	33.9	0.0	0.0	31.0	0.0	0.0	6.1	8.5	8.5	2.9	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0	1.0	0.0	0.0	0.7	1.9	1.9	0.5	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	0.0	7.6	0.0	0.0	0.7	10.6	10.9	0.2	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	0.0	32.0	0.0	0.0	6.8	10.4	10.4	3.4	1.6	1.6
LnGrp LOS	D	A	A	C	A	A	A	B	B	A	A	A
Approach Vol, veh/h		248			217			1346			1318	
Approach Delay, s/veh		36.5			32.0			10.3			1.6	
Approach LOS		D			C			B			A	

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	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	19.7	18.9	21.3	12.2
Green Ext Time (p_c), s	17.6	1.2	16.5	1.2

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

Intersection	
Intersection Delay, s/veh	162.5
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	273	304	514	141	317	650
Future Vol, veh/h	273	304	514	141	317	650
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	330	559	153	345	707
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	122.4	223.5	145.1
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	78%
Vol Thru, %	0%	0%	47%	22%
Vol Right, %	0%	100%	53%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	650	577	655
LT Vol	317	0	0	514
Through Vol	0	0	273	141
RT Vol	0	650	304	0
Lane Flow Rate	345	707	627	712
Geometry Grp	7	7	2	2
Degree of Util (X)	0.778	1.36	1.169	1.421
Departure Headway (Hd)	9.002	7.754	7.589	7.748
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	407	473	483	477
Service Time	6.702	5.454	5.589	5.748
HCM Lane V/C Ratio	0.848	1.495	1.298	1.493
HCM Control Delay	36.9	197.8	122.4	223.5
HCM Lane LOS	E	F	F	F
HCM 95th-tile Q	6.6	29	20.3	32.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	16	313	3	14	53	253	801	17	30	453	462
Future Volume (veh/h)	520	16	313	3	14	53	253	801	17	30	453	462
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	565	17	340	3	15	58	275	871	18	33	492	502
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	298	7	140	46	99	333	294	1120	24	74	978	910
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	904	27	544	18	384	1293	354	1774	38	50	1549	1442
Grp Volume(v), veh/h	922	0	0	76	0	0	366	0	798	525	0	502
Grp Sat Flow(s),veh/h/ln	1475	0	0	1694	0	0	471	0	1695	1599	0	1442
Q Serve(g_s), s	20.0	0.0	0.0	0.0	0.0	0.0	39.1	0.0	29.5	2.4	0.0	17.7
Cycle Q Clear(g_c), s	23.2	0.0	0.0	3.2	0.0	0.0	56.8	0.0	29.5	31.9	0.0	17.7
Prop In Lane	0.61		0.37	0.04		0.76	0.75		0.02	0.06		1.00
Lane Grp Cap(c), veh/h	445	0	0	478	0	0	368	0	1070	1052	0	910
V/C Ratio(X)	2.07	0.00	0.00	0.16	0.00	0.00	1.00	0.00	0.75	0.50	0.00	0.55
Avail Cap(c_a), veh/h	445	0	0	478	0	0	368	0	1070	1052	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	0.0	26.0	0.0	0.0	29.1	0.0	11.6	8.7	0.0	9.4
Incr Delay (d2), s/veh	490.6	0.0	0.0	0.2	0.0	0.0	45.8	0.0	4.7	1.7	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	0.0	0.0	2.3	0.0	0.0	18.6	0.0	16.4	8.8	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	525.4	0.0	0.0	26.1	0.0	0.0	74.9	0.0	16.3	10.4	0.0	11.8
LnGrp LOS	F	A	A	C	A	A	E	A	B	B	A	B
Approach Vol, veh/h		922			76			1164			1027	
Approach Delay, s/veh		525.4			26.1			34.7			11.1	
Approach LOS		F			C			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	61.7	28.3	61.7	28.3
Change Period (Y+Rc), s	4.9	5.1	4.9	5.1
Max Green Setting (Gmax), s	56.8	23.2	56.8	23.2
Max Q Clear Time (g_c+I1), s	33.9	5.2	58.8	25.2
Green Ext Time (p_c), s	15.4	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	168.8
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	158	0	0	236	49	32
Future Vol, veh/h	158	0	0	236	49	32
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	172	0	0	257	53	35

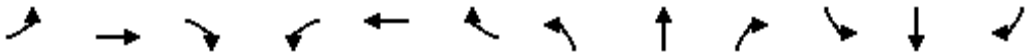
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	257	0	-	0	473	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	344	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1308	-	-	-	550	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1308	-	-	-	478	921
Mov Cap-2 Maneuver	-	-	-	-	478	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	718	-

Approach	EB	WB	SB
HCM Control Delay, s	8.2	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1308	-	-	-	590
HCM Lane V/C Ratio	0.131	-	-	-	0.149
HCM Control Delay (s)	8.2	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.5

HCM 6th Signalized Intersection Summary
1: Alameda & 7th

02/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	893	149	212	528	367	113	1110	200	310	1031	87
Future Volume (veh/h)	121	893	149	212	528	367	113	1110	200	310	1031	87
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	132	971	162	230	574	399	123	1207	217	337	1121	95
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	136	1141	190	121	750	522	187	994	178	258	1632	138
Arrive On Green	0.37	0.37	0.37	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.49	0.49
Sat Flow, veh/h	578	3048	508	497	2004	1393	459	3012	538	1781	3316	281
Grp Volume(v), veh/h	132	566	567	230	509	464	123	709	715	337	600	616
Grp Sat Flow(s),veh/h/ln	578	1777	1779	497	1777	1620	459	1777	1774	1781	1777	1820
Q Serve(g_s), s	8.7	26.3	26.4	7.3	25.0	25.0	20.9	29.7	29.7	9.0	23.3	23.4
Cycle Q Clear(g_c), s	33.7	26.3	26.4	33.7	25.0	25.0	29.7	29.7	29.7	9.0	23.3	23.4
Prop In Lane	1.00		0.29	1.00		0.86	1.00		0.30	1.00		0.15
Lane Grp Cap(c), veh/h	136	665	666	121	665	606	187	586	585	258	875	896
V/C Ratio(X)	0.97	0.85	0.85	1.91	0.77	0.77	0.66	1.21	1.22	1.31	0.69	0.69
Avail Cap(c_a), veh/h	136	665	666	121	665	606	187	586	585	258	875	896
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	25.8	25.9	55.1	35.6	35.6	45.9	40.1	40.1	23.8	17.5	17.5
Incr Delay (d2), s/veh	67.6	10.2	10.3	435.1	4.8	5.2	13.5	106.3	111.9	162.7	4.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	18.3	18.3	31.1	18.2	16.9	6.4	44.5	45.9	23.4	15.1	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.7	36.1	36.2	490.2	40.4	40.8	59.4	146.4	152.0	186.5	21.9	21.8
LnGrp LOS	F	D	D	F	D	D	E	F	F	F	C	C
Approach Vol, veh/h		1265			1203			1547			1553	
Approach Delay, s/veh		43.9			126.6			142.1			57.6	
Approach LOS		D			F			F			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		50.0		40.0	14.6	35.4		40.0				
Change Period (Y+Rc), s		* 5.7		* 6.3	5.6	* 5.7		* 6.3				
Max Green Setting (Gmax), s		* 44		* 34	9.0	* 30		* 34				
Max Q Clear Time (g_c+I1), s		25.4		35.7	11.0	31.7		35.7				
Green Ext Time (p_c), s		8.3		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	92.9	
HCM 6th LOS	F	

Notes

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

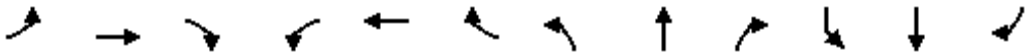
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	1056	163	102	663	57	250	218	159	81	152	40
Future Volume (veh/h)	83	1056	163	102	663	57	250	218	159	81	152	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	90	1148	177	111	721	62	272	237	173	88	165	43
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	428	1557	239	167	1670	144	266	183	133	182	326	78
Arrive On Green	0.50	0.50	0.50	1.00	1.00	1.00	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	691	3087	474	414	3311	285	537	468	342	335	837	199
Grp Volume(v), veh/h	90	659	666	111	387	396	682	0	0	296	0	0
Grp Sat Flow(s),veh/h/ln	691	1777	1785	414	1777	1819	1347	0	0	1371	0	0
Q Serve(g_s), s	6.7	26.3	26.5	18.9	0.0	0.0	21.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	26.3	26.5	45.4	0.0	0.0	35.1	0.0	0.0	13.7	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.16	0.40		0.25	0.30		0.15
Lane Grp Cap(c), veh/h	428	896	900	167	896	918	581	0	0	587	0	0
V/C Ratio(X)	0.21	0.74	0.74	0.67	0.43	0.43	1.17	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	428	896	900	167	896	918	581	0	0	587	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	0.73	0.73	0.73	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	17.6	17.6	15.3	0.0	0.0	29.9	0.0	0.0	20.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.0	1.0	14.3	1.1	1.1	95.1	0.0	0.0	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	12.4	12.6	5.0	0.5	0.5	40.8	0.0	0.0	8.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	18.6	18.6	29.7	1.1	1.1	125.0	0.0	0.0	23.6	0.0	0.0
LnGrp LOS	B	B	B	C	A	A	F	A	A	C	A	A
Approach Vol, veh/h		1415			894			682			296	
Approach Delay, s/veh		18.2			4.6			125.0			23.6	
Approach LOS		B			A			F			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	4.6	* 4.9	4.6	* 4.9
Max Green Setting (Gmax), s	45.4	* 35	45.4	* 35
Max Q Clear Time (g_c+I1), s	47.4	15.7	28.5	37.1
Green Ext Time (p_c), s	0.0	1.9	9.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

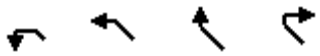
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	745	165	321	483	150	164	655	267	202	719	121
Future Volume (vph)	80	745	165	321	483	150	164	655	267	202	719	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.96		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	3443		1770	3413		1770	1863	1583		1816	
Flt Permitted	0.35	1.00		0.15	1.00		0.24	1.00	1.00		0.37	
Satd. Flow (perm)	656	3443		271	3413		439	1863	1583		680	
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)	87	810	179	349	525	163	178	712	290	220	782	132
RTOR Reduction (vph)	0	99	0	0	25	0	0	0	0	0	4	0
Lane Group Flow (vph)	87	890	0	349	663	0	178	712	290	0	1130	0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	6			4	1		4	
Permitted Phases	2			6			4		4	4		
Actuated Green, G (s)	22.4	22.4		36.4	36.4		63.7	63.7	72.6		63.7	
Effective Green, g (s)	22.4	22.4		36.4	36.4		63.7	63.7	72.6		63.7	
Actuated g/C Ratio	0.19	0.19		0.30	0.30		0.53	0.53	0.60		0.53	
Clearance Time (s)	5.0	5.0		5.1	5.0		5.5	5.5	5.1		5.5	
Vehicle Extension (s)	4.4	4.4		3.0	4.4		5.6	5.6	3.0		5.6	
Lane Grp Cap (vph)	121	640		192	1030		232	984	953		359	
v/s Ratio Prot		0.26		c0.13	0.19			0.38	0.02			
v/s Ratio Perm	0.13			c0.41			0.41		0.16		c1.66	
v/c Ratio	0.72	1.39		1.82	0.64		0.77	0.72	0.30		3.15	
Uniform Delay, d1	46.1	49.0		37.9	36.4		22.5	21.7	11.7		28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	30.6	185.1		387.7	3.1		17.2	3.5	0.2		974.0	
Delay (s)	76.7	234.1		425.6	39.5		39.7	25.2	11.8		1002.4	
Level of Service	E	F		F	D		D	C	B		F	
Approach Delay (s)		221.4			169.5			24.1			1002.4	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM 2000 Control Delay	352.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.65		
Actuated Cycle Length (s)	120.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	161.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NWL2	NWL	NWR	NWR2
Lane Configurations				
Traffic Volume (vph)	14	6	22	14
Future Volume (vph)	14	6	22	14
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		5.9		
Lane Util. Factor		1.00		
Frt		0.91		
Flt Protected		0.98		
Satd. Flow (prot)		1672		
Flt Permitted		0.98		
Satd. Flow (perm)		1672		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	7	24	15
RTOR Reduction (vph)	0	59	0	0
Lane Group Flow (vph)	0	2	0	0
Turn Type	Perm	Prot		
Protected Phases		3		
Permitted Phases	3			
Actuated Green, G (s)		4.0		
Effective Green, g (s)		4.0		
Actuated g/C Ratio		0.03		
Clearance Time (s)		5.9		
Vehicle Extension (s)		3.0		
Lane Grp Cap (vph)		55		
v/s Ratio Prot				
v/s Ratio Perm		0.00		
v/c Ratio		0.04		
Uniform Delay, d1		56.4		
Progression Factor		1.00		
Incremental Delay, d2		0.3		
Delay (s)		56.7		
Level of Service		E		
Approach Delay (s)		56.7		
Approach LOS		E		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	NWL
Lane Group Flow (vph)	87	989	349	688	178	712	290	1134	61
v/c Ratio	0.68	1.28	1.80	0.63	0.77	0.72	0.28	3.13	0.34
Control Delay	72.2	171.5	404.4	36.6	48.5	27.8	10.5	982.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	171.5	404.4	36.6	48.5	27.8	10.5	982.0	5.6
Queue Length 50th (ft)	63	~473	~358	228	110	425	95	~1298	0
Queue Length 95th (ft)	#145	#608	#549	294	#253	585	143	#1560	3
Internal Link Dist (ft)		586		1417		682		534	442
Turn Bay Length (ft)	100		370		190		190		
Base Capacity (vph)	128	772	194	1089	231	984	1026	362	178
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	1.28	1.80	0.63	0.77	0.72	0.28	3.13	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	12	71	97	69	125	41	1186	32	54	1361	23
Future Volume (veh/h)	66	12	71	97	69	125	41	1186	32	54	1361	23
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	72	13	77	105	75	136	45	1289	35	59	1479	25
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	272	58	343	157	102	155	302	2248	61	343	2275	38
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1171	234	1387	418	414	628	349	3534	96	414	3576	60
Grp Volume(v), veh/h	72	0	90	316	0	0	45	648	676	59	734	770
Grp Sat Flow(s),veh/h/ln	1171	0	1621	1460	0	0	349	1777	1853	414	1777	1859
Q Serve(g_s), s	0.0	0.0	4.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.7	0.0	4.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.86	0.33		0.43	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	272	0	401	414	0	0	302	1130	1179	343	1130	1183
V/C Ratio(X)	0.26	0.00	0.22	0.76	0.00	0.00	0.15	0.57	0.57	0.17	0.65	0.65
Avail Cap(c_a), veh/h	378	0	547	553	0	0	302	1130	1179	343	1130	1183
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.90	0.90	0.90	0.09	0.09	0.09
Uniform Delay (d), s/veh	28.4	0.0	27.0	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.3	4.4	0.0	0.0	0.9	1.9	1.8	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	0.0	2.8	11.3	0.0	0.0	0.1	1.1	1.1	0.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	0.0	27.3	37.3	0.0	0.0	0.9	1.9	1.8	0.1	0.3	0.3
LnGrp LOS	C	A	C	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		162			316			1369			1563	
Approach Delay, s/veh		28.0			37.3			1.8			0.3	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	62.1	27.9	62.1	27.9
Change Period (Y+Rc), s	* 4.9	5.6	* 4.9	5.6
Max Green Setting (Gmax), s	* 49	30.4	* 49	30.4
Max Q Clear Time (g_c+I1), s	2.0	20.9	2.0	9.7
Green Ext Time (p_c), s	38.8	1.3	29.9	0.7

Intersection Summary	
HCM 6th Ctrl Delay	5.6
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)	133	18	36	86	37	36	12	902	26	30	1201	124
Future Volume (veh/h)	133	18	36	86	37	36	12	902	26	30	1201	124
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	145	20	39	93	40	39	13	980	28	33	1305	135
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	238	28	47	194	83	63	338	2459	70	404	2266	233
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.70	0.70	0.70	1.00	1.00	1.00
Sat Flow, veh/h	953	160	263	745	468	355	371	3528	101	559	3252	335
Grp Volume(v), veh/h	204	0	0	172	0	0	13	494	514	33	711	729
Grp Sat Flow(s),veh/h/ln	1376	0	0	1568	0	0	371	1777	1852	559	1777	1810
Q Serve(g_s), s	4.0	0.0	0.0	0.0	0.0	0.0	1.0	10.5	10.5	1.0	0.0	0.0
Cycle Q Clear(g_c), s	13.0	0.0	0.0	8.9	0.0	0.0	1.0	10.5	10.5	11.5	0.0	0.0
Prop In Lane	0.71		0.19	0.54		0.23	1.00		0.05	1.00		0.19
Lane Grp Cap(c), veh/h	313	0	0	340	0	0	338	1238	1291	404	1238	1261
V/C Ratio(X)	0.65	0.00	0.00	0.51	0.00	0.00	0.04	0.40	0.40	0.08	0.57	0.58
Avail Cap(c_a), veh/h	552	0	0	594	0	0	338	1238	1291	404	1238	1261
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	35.8	0.0	0.0	34.0	0.0	0.0	4.3	5.7	5.7	1.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0	1.2	0.0	0.0	0.2	1.0	0.9	0.3	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.9	0.0	0.0	6.3	0.0	0.0	0.1	6.3	6.6	0.1	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	0.0	35.2	0.0	0.0	4.5	6.7	6.6	1.2	1.4	1.4
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		204			172			1021			1473	
Approach Delay, s/veh		38.1			35.2			6.6			1.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	68.3	21.7	68.3	21.7
Change Period (Y+Rc), s	5.6	5.7	5.6	5.7
Max Green Setting (Gmax), s	47.4	31.3	47.4	31.3
Max Q Clear Time (g_c+I1), s	12.5	15.0	13.5	10.9
Green Ext Time (p_c), s	14.1	1.0	22.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	241.3
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	183	340	658	266	409	579
Future Vol, veh/h	183	340	658	266	409	579
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	199	370	715	289	445	629
Number of Lanes	1	0	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	84.3	468	112.4
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	71%
Vol Thru, %	0%	0%	35%	29%
Vol Right, %	0%	100%	65%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	409	579	523	924
LT Vol	409	0	0	658
Through Vol	0	0	183	266
RT Vol	0	579	340	0
Lane Flow Rate	445	629	568	1004
Geometry Grp	7	7	2	2
Degree of Util (X)	0.997	1.201	1.048	1.985
Departure Headway (Hd)	9.588	8.332	8.029	7.38
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	382	441	455	502
Service Time	7.288	6.032	6.029	5.38
HCM Lane V/C Ratio	1.165	1.426	1.248	2
HCM Control Delay	77.2	137.2	84.3	468
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	11.8	20.4	14.7	65.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	21	433	5	15	42	233	710	7	44	598	617
Future Volume (veh/h)	331	21	433	5	15	42	233	710	7	44	598	617
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	360	23	471	5	16	46	253	772	8	48	650	671
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	282	14	294	63	168	412	133	900	9	59	550	771
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	634	41	830	58	473	1162	100	1684	18	31	1028	1442
Grp Volume(v), veh/h	854	0	0	67	0	0	259	0	774	698	0	671
Grp Sat Flow(s),veh/h/ln	1504	0	0	1693	0	0	102	0	1699	1059	0	1442
Q Serve(g_s), s	29.5	0.0	0.0	0.0	0.0	0.0	11.7	0.0	35.1	13.0	0.0	36.4
Cycle Q Clear(g_c), s	31.9	0.0	0.0	2.4	0.0	0.0	48.1	0.0	35.1	48.1	0.0	36.4
Prop In Lane	0.42		0.55	0.07		0.69	0.98		0.01	0.07		1.00
Lane Grp Cap(c), veh/h	590	0	0	643	0	0	134	0	908	609	0	771
V/C Ratio(X)	1.45	0.00	0.00	0.10	0.00	0.00	1.93	0.00	0.85	1.15	0.00	0.87
Avail Cap(c_a), veh/h	590	0	0	643	0	0	134	0	908	609	0	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.3	0.0	0.0	19.5	0.0	0.0	42.6	0.0	17.9	21.0	0.0	18.2
Incr Delay (d2), s/veh	210.7	0.0	0.0	0.1	0.0	0.0	445.8	0.0	10.0	83.9	0.0	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(95%),veh/ln	12.2	0.0	0.0	1.7	0.0	0.0	35.2	0.0	21.3	32.9	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	241.0	0.0	0.0	19.6	0.0	0.0	488.4	0.0	27.9	104.9	0.0	31.1
LnGrp LOS	F	A	A	B	A	A	F	A	C	F	A	C
Approach Vol, veh/h		854			67			1033			1369	
Approach Delay, s/veh		241.0			19.6			143.2			68.7	
Approach LOS		F			B			F			E	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	53.0		37.0		53.0		37.0	
Change Period (Y+Rc), s	4.9		5.1		4.9		5.1	
Max Green Setting (Gmax), s	48.1		31.9		48.1		31.9	
Max Q Clear Time (g_c+I1), s	50.1		4.4		50.1		33.9	
Green Ext Time (p_c), s	0.0		0.3		0.0		0.0	

Intersection Summary		
HCM 6th Ctrl Delay	135.2	
HCM 6th LOS	F	

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	0	0	70	212	141
Future Vol, veh/h	47	0	0	70	212	141
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	0	0	76	230	153

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	76	0	-	0	140	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	102	-
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	1523	-	-	-	853	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1523	-	-	-	825	1034
Mov Cap-2 Maneuver	-	-	-	-	825	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	897
HCM Lane V/C Ratio	0.034	-	-	-	0.428
HCM Control Delay (s)	7.4	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.2

Appendix IS-12.2

LADOT Approval Letter

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

1727-1829 Sacramento Street
DOT Case No. CEN20-49548

Date: June 27, 2023

To: Brenda Kahinju, Administrative Clerk
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED MIXED-USE PROJECT LOCATED AT 1727-1829 SACRAMENTO STREET (CPC-2022-7196-GPA-VZC-HD-MCUP-SPR-WDI)**

The Los Angeles Department of Transportation (LADOT) has reviewed the transportation assessment prepared by Gibson Transportation Consulting Inc., dated May 2023, for the proposed mixed-use project located at 1727-1829 Sacramento Street within the Central City North Community Plan Area, the Central Area Planning Commission (APC), and a Transit Oriented Community (TOC) Tier 1. 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 LADOT's Transportation Assessment Guidelines (TAG), as described below.

DISCUSSION AND FINDINGS

A. Project Description

The Project proposes a mixed-use development consisting of 277,700 square feet (sf) of office, 8,000 sf of restaurant, and 5,200 sf of retail uses. The existing 40,479 sf of existing warehouse would be removed as part of the Project. The Project would provide 582 vehicle parking spaces within six above-ground levels, and 98 (63 long-term and 35 short-term) bicycle parking spaces. Vehicular access will be provided via one full-access driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways via commercial entrances along Sacramento Street. The Project proposes the accommodation of all passenger loading and commercial loading on-site within the ground level loading area as illustrated in **Attachment A**. All passenger loading is expected to occur on site in the parking levels. The project is expected to be completed by 2026.

B. Freeway Safety Analysis

Per the Interim Guidance for Freeway Safety Analysis memorandum issued by LADOT on May 1, 2020 to address Caltrans safety concerns on freeways, the study addresses the project's effects on vehicle queuing on freeway off-ramps. Such an evaluation measures the project's potential to lengthen a forecasted off-ramp queue and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline. The evaluation identified the number of project trips expected to be added to nearby freeway off-ramps serving the project site. It was determined that e Project exceeds the City's freeway safety analysis screening threshold of 25 net new peak hour afternoon trips at the I-10 Westbound Off-Ramp to 8th Street.

Subsequently, the study included a freeway ramp analysis which determined that the queue at the off-ramp would not exceed the ramp storage length and the Project would not add 50 feet or more to any queue during any of the analyzed peak hours compared to Future without Project Conditions. Therefore, Project would not be subject to a speed differential analyses, nor cause an adverse safety condition, and no corrective measures are required. Further, although the Project is not expected to have any measurable contribution to the operation of I-10, the Project would nevertheless implement comprehensive TDM strategies to reduce single occupancy vehicle trips to and from the Project Site.

C. 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, which draws upon trip rate estimates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold.

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 summary report is provided as **Attachment B** to this report.

D. Transportation Impacts

On July 30, 2019, pursuant to SB 743 and the recent changes to Section 15064.03 of the State's CEQA Guidelines, the City of Los Angeles adopted VMT as criteria in determining transportation impacts under CEQA. The new LADOT TAG provide instructions on preparing transportation assessments for land use proposals and defines the significant impact thresholds.

The LADOT VMT Calculator tool measures project impact in terms of Household VMT per Capita, and Work VMT per Employee. LADOT identified distinct thresholds for significant VMT impacts for each of the seven 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, the project proposes to incorporate the TDM strategies of reduced parking supply by providing 582 of the Code-required 656 parking spaces, parking cash-out for all employees, promotions and marketing, include bicycle parking per Los Angles Municipal Code (LAMC), and providing pedestrian network improvements within the project and connecting off-site. With the application of these TDM measures, the proposed project is

projected to have a Work VMT per employee of 7.4 and no Household VMT. Therefore, it is concluded that implementation of the Project would result in no significant VMT impact. A copy of the VMT Calculator summary report is provided as **Attachment B**.

E. Access and Circulation

During 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, LADOT 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 conditions at several locations. Access to the project will be provided along Sacramento Street via one full-access driveway. LADOT 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

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 would provide parking for 656 vehicles and 98 bicycles onsite. The applicant should check with the Departments of Building and Safety and City Planning on the number of parking spaces required for this project within a TOC Tier 1.

2. Highway Dedication and Street Widening Requirements

Per the Mobility Element of the General Plan, **Sacramento Street**, a collector, would require a 20-foot half-width roadway within a 33-foot half-width right-of-way. The applicant should check with the Bureau of Engineering's Land Development Group to determine if there are any other applicable highway dedication, street widening and/or sidewalk requirements for this project.

3. Project Access, safety, and Circulation

The conceptual site plan for the project (see **Attachment A**) is acceptable to LADOT. The project will be accessed via one two-way driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways from commercial entrances along Sacramento Street. The Project proposes al passenger loading and commercial loading to be accommodated on-site within the ground level loading area. 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 LADOT'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 LADOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design. The applicant should check with City Planning regarding the project's driveway placement and design.

4. Worksite Traffic Control Requirements
LADOT recommends that a construction work site traffic control plan be submitted to LADOT'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. LADOT also recommends that all construction related truck traffic be restricted to off-peak hours to the extent feasible.

5. TDM Ordinance Requirements
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, LADOT recommends that the applicant be subject to the terms of the proposed TDM Ordinance update which 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 Segal Ismael of my staff at (213) 972-4986.

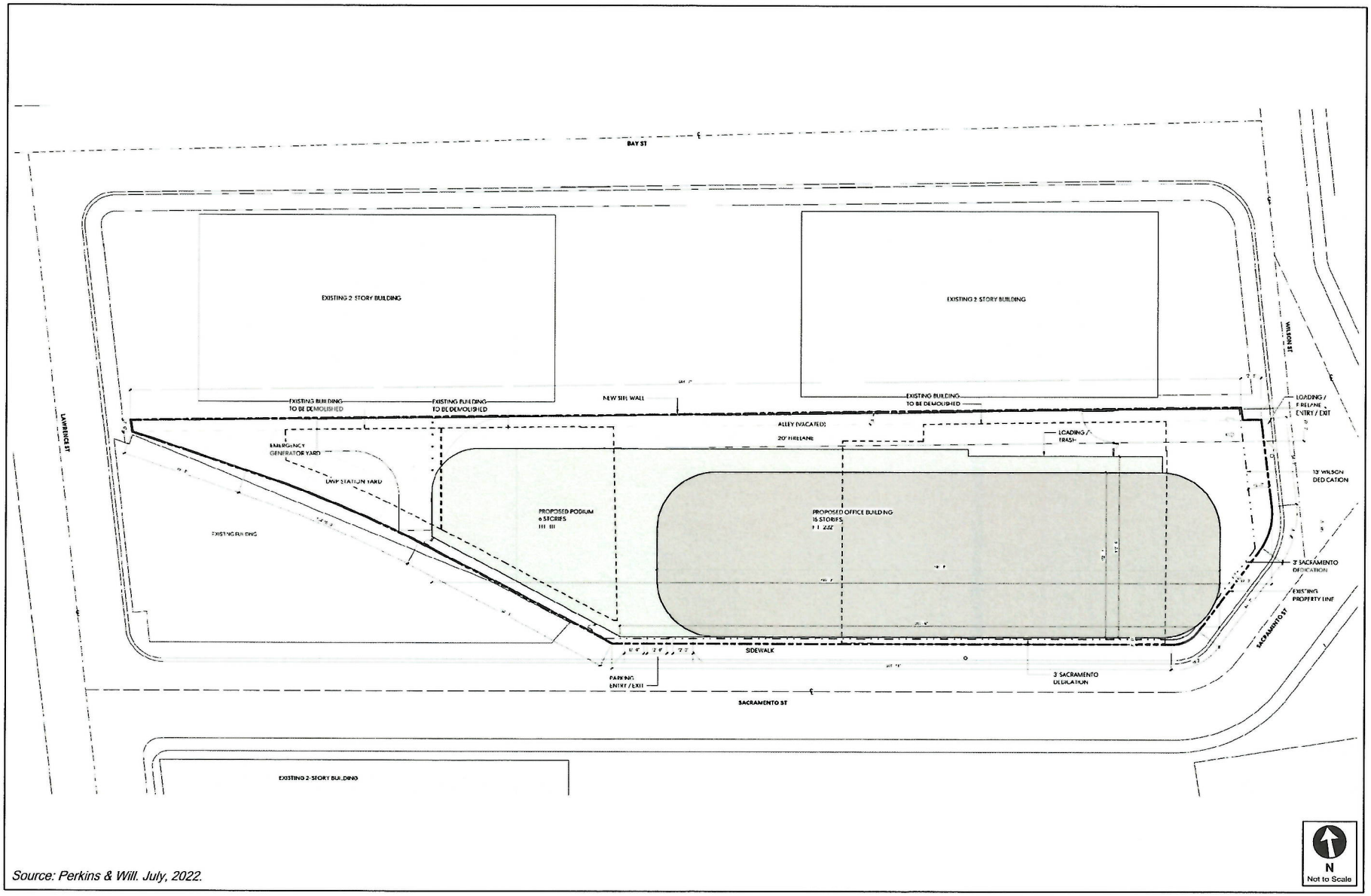
Attachments

J:\Letters\2023\CEN20-49548_1811 E Sacramento St_Mixed-Use_ltr.docx

c: Gerald Gubatan, Senior Planning Advisor, Council District 14
Hokchi Chiu, Central District, BOE
Kaylinn Pell, Central District, DOT
Taimour Tanavoli, Case Management Office, DOT
Lauren Mullarkey-Williams, Gibson Transportation Consulting, Inc.

ATTACHMENT A

Gibson transportation consulting, inc.



Source: Perkins & Will. July, 2022.

PROJECT SITE PLAN

FIGURE 1

ATTACHMENT B

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: 1811 SACRAMENTO ST

Scenario:

Address: 1811 E SACRAMENTO ST, 90021

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
Industrial | Warehousing/Self-Storage	40.479	ksf
Industrial | Warehousing/Self-Storage	40.479	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 | General Retail	5.2	ksf
Retail | General Retail	5.2	ksf
Retail | High-Turnover Sit-Down Restaurant	8	ksf
Office | General Office	277.7	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
76 Daily Vehicle Trips	3,079 Daily Vehicle Trips
579 Daily VMT	23,946 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	3,003 Net Daily Trips
The net increase in daily VMT ≤ 0	23,367 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	13.200 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

1/11/2023

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: 1811 SACRAMENTO ST

Scenario:

Address: 1811 E SACRAMENTO ST, 90021

Proposed Project Land Use Type	Value	Unit
Retail | General Retail		
Retail | High-Turnover Sit-Down Restau		
Office | General Office		

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	656	city code parking provision for the project site
☑ Proposed Prj ☐ Mitigation	582	actual parking provision for the project site
Unbundle Parking	175	monthly parking cost (dollar) for the project site
☐ Proposed Prj ☐ Mitigation		
Parking Cash-Out	100	percent of employees eligible
☑ Proposed Prj ☐ Mitigation		
Price Workplace Parking	6.00	daily parking charge (dollar)
☐ Proposed Prj ☐ Mitigation	100	percent of employees subject to priced parking
Residential Area Parking Permits	200	cost (dollar) of annual permit
☐ Proposed Prj ☐ Mitigation		

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
2,668 Daily Vehicle Trips	2,668 Daily Vehicle Trips
20,724 Daily VMT	20,724 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT per Capita
7.4 Work VMT per Employee	7.4 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

1/11/2023

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

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	5.200	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	*0.000*	*ksf*
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	8.000	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	277.700	ksf
	Medical Office	*0.000*	*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: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

Version 1.3

Analysis Results

Total Employees: 1,153
Total Population: 0

Proposed Project		*With Mitigation*	
2,668	Daily Vehicle Trips	2,668	Daily Vehicle Trips
20,724	Daily VMT	20,724	Daily VMT
0	Household VMT per Capita	0	Household VMT per Capita
7.4	Work VMT per Employee	7.4	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)	656	656
		Actual parking provision (spaces)	582	582
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	Employees eligible (%)	100%	100%
	Price workplace parking	*Daily parking charge ($)*	*$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
		Degree of implementation (low, medium, high)	0	0
	Employer sponsored vanpool or shuttle	*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)	within project and connecting off-site	within project and connecting off-site

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Suburban Center

		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	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	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%	5%	5%	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: Suburban Center

		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 sections 1 - 2
	Pedestrian network improvements	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	

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	*12%*	*12%*	*16%*	*16%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*8%*
MAX. TDM EFFECT	*12%*	*12%*	*16%*	*16%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*

= Minimum (X%, 1-[(1-A)*(1-B)…])
where X%=

PLACE TYPE	urban	75%
	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: January 11, 2023
Project Name: 1811 SACRAMENTO ST
Project Scenario:
Project Address: 1811 E SACRAMENTO ST, 90021

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	7.1	0	0
Home Based Other Production	0	0.0%	0	5.1	0	0
Non-Home Based Other Production	612	-4.1%	587	8.3	5,080	4,872
Home-Based Work Attraction	1,562	-22.1%	1,217	8.3	12,965	10,101
Home-Based Other Attraction	1,306	-47.3%	688	6.9	9,011	4,747
Non-Home Based Other Attraction	612	-4.1%	587	7.2	4,406	4,226

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	-11.8%	0	0	-11.8%	0	0
Home Based Other Production	-11.8%	0	0	-11.8%	0	0
Non-Home Based Other Production	-11.8%	518	4,298	-11.8%	518	4,298
Home-Based Work Attraction	-15.8%	1,025	8,510	-15.8%	1,025	8,510
Home-Based Other Attraction	-11.8%	607	4,188	-11.8%	607	4,188
Non-Home Based Other Attraction	-11.8%	518	3,728	-11.8%	518	3,728

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0
Total Employees: 1,153
APC: Central

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**0**	**0**
Total Home Based Work Attraction VMT	**8,510**	**8,510**
Total Home Based VMT Per Capita	**0.0**	**0.0**
Total Work Based VMT Per Employee	**7.4**	**7.4**

Section 5B
Project Access, Safety, and Circulation Assessment

This section summarizes access, safety, and circulation at and around the Project Site. It includes a quantitative evaluation of the Project's access and circulation operations, including the anticipated LOS at the study intersections and anticipated traffic queues.

PROJECT ACCESS

As previously detailed, vehicular access would be provided via one full-access driveway on Sacramento Street. Emergency vehicle access would be provided via a driveway on Wilson Street. Bicycle and pedestrian access to the Project Site would be provided separately from the vehicular driveways via commercial entrances along Sacramento Street. The Project proposes all passenger loading and commercial loading to be accommodated on-site within the ground level loading area.

OPERATIONAL EVALUATION

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 seven study intersections, six signalized and one unsignalized, were selected for detailed transportation analysis in consultation with LADOT.

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

- Existing with Project Conditions (Year 2022) – 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 2026) – This analysis condition analyzes the potential intersection operating conditions that could be expected if the Project is fully occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2026).

Methodology

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 and all-way stop-control methodology calculates the average delay, in seconds, for each vehicle passing through an intersection. Table 14 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 both signalized and unsignalized intersections.

The queue lengths were estimated using Synchro, which reports the 95th percentile queue length for signalized and unsignalized intersections in vehicles per lane, which can be converted into distance by multiplying the vehicle queue by 25 feet per vehicle. The reported queues are calculated using the HCM signalized intersection methodology.

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

Existing with Project Conditions

Traffic Volumes. The Project-only morning and afternoon peak hour traffic volumes described in Chapter 3 and shown in Figure 14 were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 8. The resulting volumes are illustrated in Figure 15 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

Intersection LOS. Table 15 summarizes the intersection LOS under Existing Conditions and Existing with Project Conditions during the weekday morning and afternoon peak hours for the

study intersections. As shown, each of the seven study intersections would operate at LOS D or better under both Existing Conditions and Existing with Project Conditions.

Future with Project Conditions

All future considerations, 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 Chapter 3 and shown in Figure 14 were added to the Future without Project Conditions (Year 2026) morning and afternoon peak hour traffic volumes shown in Figure 11. The resulting volumes are illustrated in Figure 16 and represent Future with Project Conditions after development of the Project in Year 2026.

Intersection LOS. Table 16 summarizes the results of the Future without Project Conditions and Future with Project Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown, three of the seven study intersections would operate at LOS D or better during both the morning and afternoon peak hours under both Future without Project Conditions (Year 2026) and Future with Project Conditions (Year 2026). The remaining four study intersections are anticipated to operate at LOS F during at least one of the morning or afternoon peak hours under both Future without Project Conditions (Year 2026) and Future with Project Conditions (Year 2026).

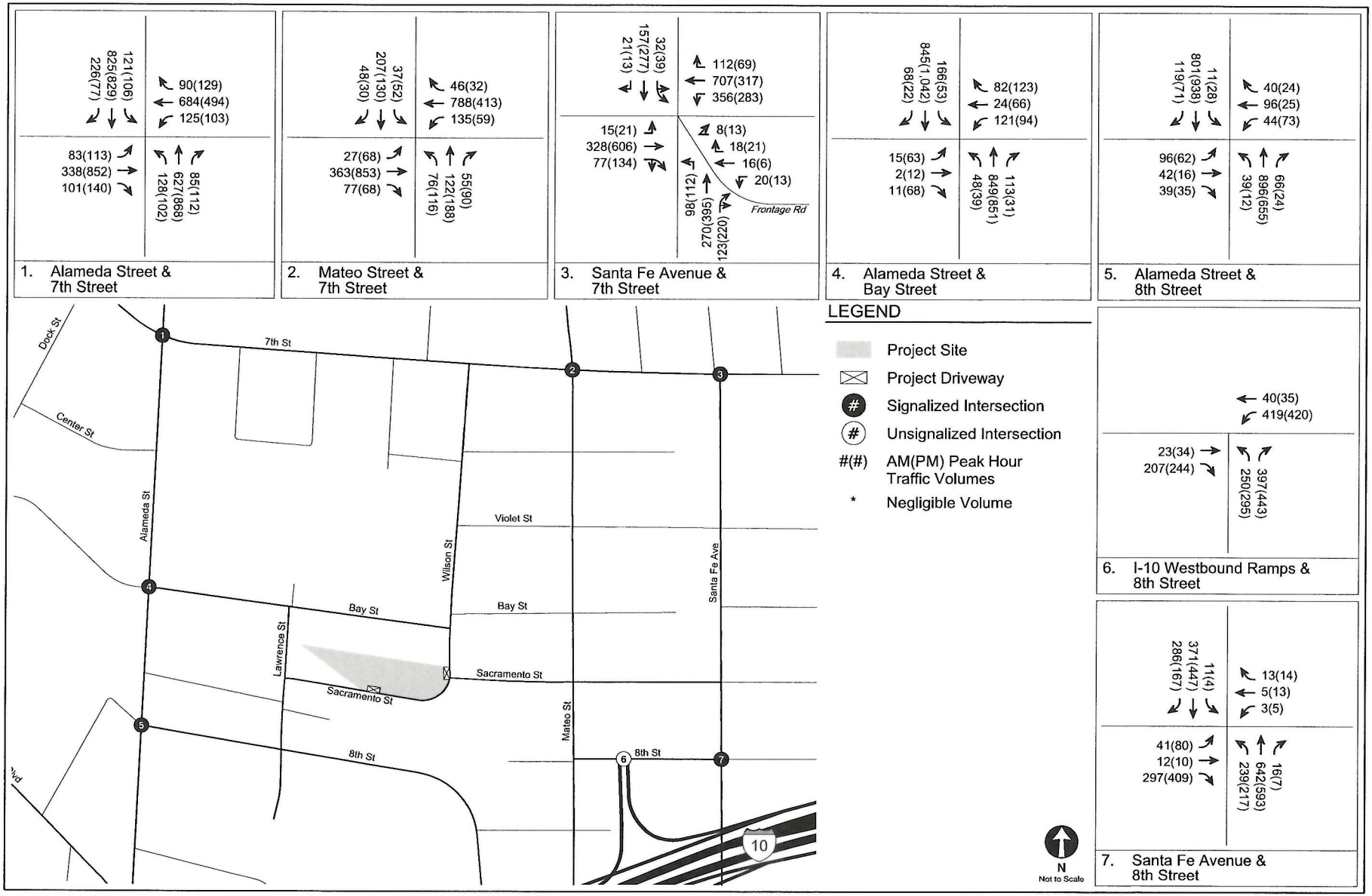
INTERSECTION QUEUING ANALYSIS

In accordance with operational evaluation guidelines detailed in Section 3.3.3 of the TAG, the Project traffic was evaluated to determine whether the Project access would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan) at Project driveways or would cause or substantially extend queuing at nearby signalized intersections. Per the TAG, unacceptable or extended queuing may be defined as follows:

- *Additional queue along through lanes and either of the following conditions are expected:*
    - *The projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or*
    - *The projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.*
- *Spill over from turn pockets into through lanes.*
- *Block cross streets or alleys.*
- *Spill over from drive-throughs into streets.*
- *Contribute to "gridlock" congestion. For the purposes of this section, "gridlock" is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections.*

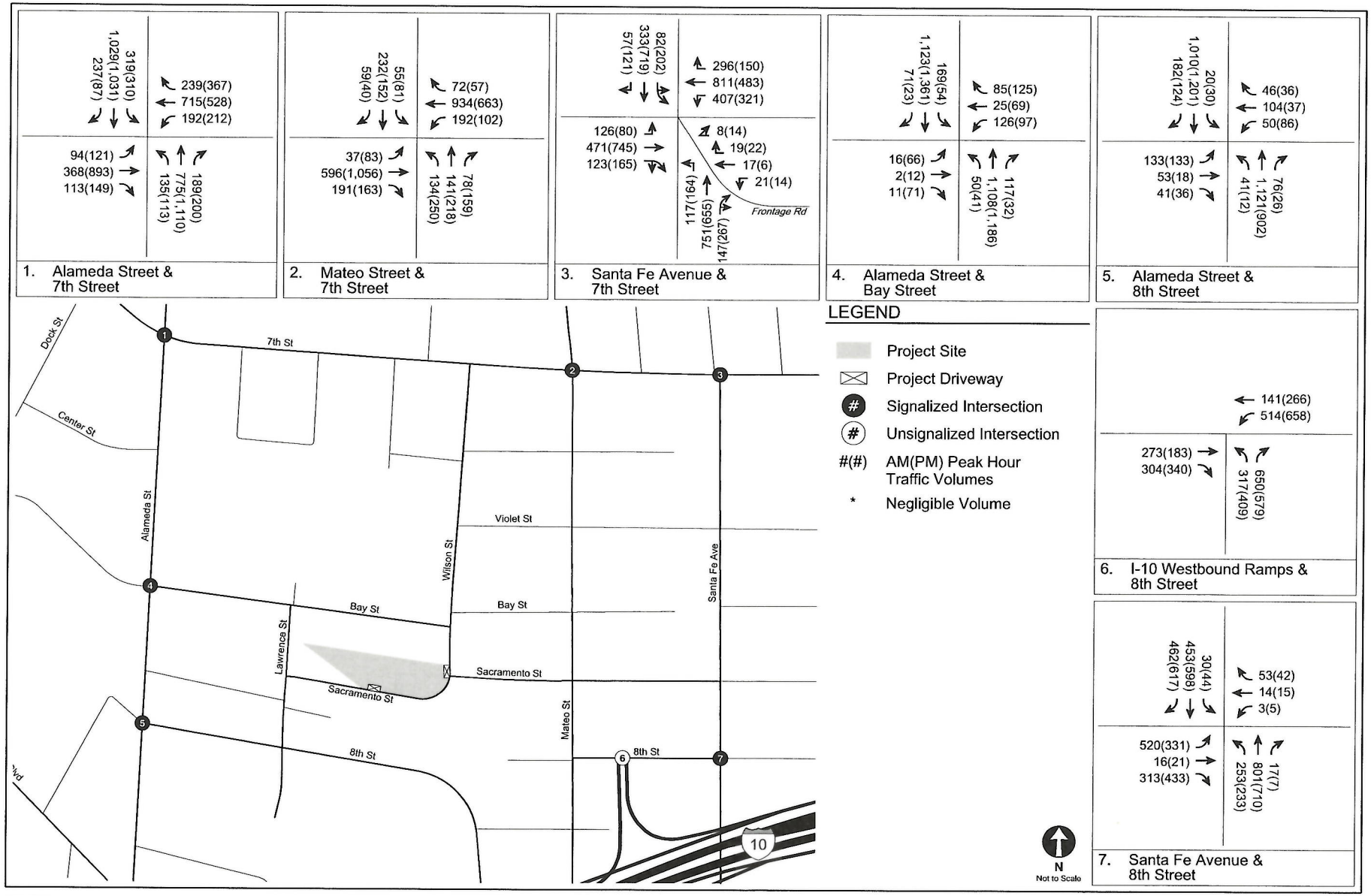
The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length, in vehicles, for each approach lane. The queue lengths were then converted into linear distance by multiplying vehicle lengths by 25 feet. The reported queues are calculated using the HCM signalized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

The queuing analysis under Future Conditions (Year 2026) is provided in Table 17. As detailed, the Project would contribute to extended queuing conditions at three study intersections, where through lane queues extend beyond the available storage capacity prior to the addition of Project traffic. Detailed queuing analysis worksheets are provided in Appendix E.



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

FIGURE 15



FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
PEAK HOUR TRAFFIC VOLUMES

FIGURE 16

TABLE 14
INTERSECTION LEVEL OF SERVICE

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

Notes:

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

[a] Measured in seconds.

TABLE 15
EXISTING CONDITIONS (YEAR 2022)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Alameda Street &	AM	23.2	C	23.5	C
[a]	7th Street	PM	34.4	C	36.4	D
2.	Mateo Street &	AM	13.9	B	14.1	B
[a]	7th Street	PM	14.4	B	15.1	B
3.	Santa Fe Avenue &	AM	23.4	C	24.3	C
[b]	7th Street	PM	36.8	D	39.2	D
4.	Alameda Street &	AM	4.7	A	4.8	A
[a]	Bay Street	PM	5.7	A	6.8	A
5.	Alameda Street &	AM	8.9	A	9.0	A
[a]	8th Street	PM	5.8	A	6.5	A
6.	I-10 WB Ramps &	AM	22.8	C	25.7	D
[c]	8th Street	PM	28.2	D	31.2	D
7.	Santa Fe Avenue &	AM	18.3	B	19.0	B
[a]	8th Street	PM	24.4	C	25.8	C

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection. The resulting average delay represents the measure of effectiveness of the traffic signal.

[b] Intersection analysis based on HCM Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[c] Intersection analysis based on HCM 6th Edition All-Way Stop Control Unsignalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through an intersection.

TABLE 16
FUTURE CONDITIONS (YEAR 2026)
INTERSECTION LEVELS OF SERVICE

No	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Alameda Street & 7th Street	AM PM	34.1 84.8	C F	35.1 92.9	D F
2. [a]	Mateo Street & 7th Street	AM PM	14.6 33.4	B C	15.1 37.2	B D
3. [b]	Santa Fe Avenue & 7th Street	AM PM	469.6 325.9	F F	508.8 352.6	F F
4. [a]	Alameda Street & Bay Street	AM PM	4.3 4.7	A A	4.4 5.6	A A
5. [a]	Alameda Street & 8th Street	AM PM	10.0 7.5	A A	10.2 7.9	B A
6. [c]	I-10 WB Ramps & 8th Street	AM PM	155.4 236.8	F F	162.5 241.3	F F
7. [a]	Santa Fe Avenue & 8th Street	AM PM	166.9 129.9	F F	168.8 135.2	F F

Notes:

Delay is measured in seconds per vehicle. LOS = Level of Service.

[a] Intersection analysis based on HCM 6th Edition Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection. The resulting average delay represents the measure of effectiveness of the traffic signal.

[b] Intersection analysis based on HCM Signalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through the intersection.

[c] Intersection analysis based on HCM 6th Edition All-Way Stop Control Unsignalized methodology, which calculates the average intersection delay, in seconds, for each vehicle passing through an intersection.

TABLE 17
QUEUING ANALYSIS - FUTURE CONDITIONS (YEAR 2026)

No.	Intersection [a]	Future with Project Conditions					Lane	Vehicle Storage Capacity (ft) [d]	Future without Project Conditions (Year 2026)				Future with Project Conditions (Year 2026)				Change in Vehicle Queue Length (ft)	
		Intersection LOS [b]		Approach	Approach LOS [c]				Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour			
		Morning Peak Hour	Afternoon Peak Hour		Morning Peak Hour	Afternoon Peak Hour			Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Vehicle Queue Length (ft) [e]	Exceeds Capacity?	Morning Peak Hour	Afternoon Peak Hour
1.	Alameda Street & 7th Street	D	F	EB	D	D	Left	140	215	YES	233	YES	215	YES	233	YES	0	0
							Through/Right	900	195	NO	458	NO	195	NO	458	NO	0	0
				WB	D	F	Left	160	233	YES	778	YES	233	YES	778	YES	0	0
							Through/Right	1,880	503	NO	455	NO	503	NO	455	NO	0	0
				NB	C	F	Left	220	158	NO	163	NO	185	NO	160	NO	27	-3
							Through/Right	1,160	188	NO	935	NO	190	NO	1,148	NO	2	213
				SB	C	E	Left	280	303	YES	585	YES	313	YES	585	YES	10	0
							Through/Right	1,200	370	NO	373	NO	415	NO	385	NO	45	12
2.	Mateo Street & 7th Street	B	D	EB	-	B	Left	90	13	NO	55	NO	13	NO	43	NO	0	-12
							Through/Right	1,880	-	-	315	NO	-	-	315	NO	-	0
				WB	-	A	Left	90	108	YES	125	YES	135	YES	125	YES	27	0
							Through/Right	670	-	-	210	NO	-	-	13	NO	-	-197
				NB	-	F	Left/Through/Right	780	-	-	800	YES	-	-	1,020	YES	-	220
				SB	-	C	Left/Through/Right	360	-	-	213	NO	-	-	218	NO	-	5
3.	Santa Fe Avenue & 7th Street	F	F	EB	F	F	Left	100	0	NO	0	NO	0	NO	0	NO	0	0
							Through/Right	670	0	NO	0	NO	0	NO	0	NO	0	0
				WB	F	F	Left	1,500	0	NO	0	NO	0	NO	0	NO	0	0
							Through/Right	190	0	NO	0	NO	0	NO	0	NO	0	0
				NB	E	C	Left	760	0	NO	0	NO	0	NO	0	NO	0	0
							Through	190	0	NO	0	NO	0	NO	0	NO	0	0
							Right	610	0	NO	0	NO	0	NO	0	NO	0	0
				SB	F	F	Left/Through/Right	520	0	NO	0	NO	0	NO	0	NO	0	0
4.	Alameda Street & Bay Avenue	A	A	EB	-	-	Left	460	15	NO	63	NO	13	NO	60	NO	-2	-3
				NB	-	-	Left	200	3	NO	3	NO	3	NO	3	NO	0	0
				SB	-	-	Left	290	5	NO	0	NO	13	NO	0	NO	8	0
5.	Alameda Street & Bay Avenue	B	A	NB	-	-	Left	110	18	NO	3	NO	18	NO	3	NO	0	0
				SB	-	-	Left	270	5	NO	3	NO	5	NO	3	NO	0	0
7.	Santa Fe Avenue & 8th Street	F	F	EB	F	F	Left/Through/Right	460	8	NO	10	NO	28	NO	55	NO	20	45
				WB	C	B	Left/Through/Right	820	58	NO	43	NO	58	NO	43	NO	0	0
				NB	C	F	Left/Through	740	445	NO	875	YES	465	NO	880	YES	20	5
							Through/Right	740	390	NO	528	NO	410	NO	533	NO	20	5
				SB	B	E	Left/Through	390	220	NO	798	YES	220	NO	823	YES	0	25
							Through/Right	390	233	NO	495	YES	233	NO	495	YES	0	0

Notes:
LOS: Level of Service
Results per Synchro 11.
[a] Per TAG Section 3.3.3, projects must be evaluated for unacceptable queueing at turn-pockets on an Avenue or Boulevard at project driveway(s) or at nearby signalized intersections
[b] If the projected peak hour intersection LOS is D, E, or F (See *Table 13 - Future Conditions (Year 2026) Intersection Levels of Service*), evaluation of unacceptable queueing at through lanes is also required.
[c] Directional approach LOS included for locations where through lane queue evaluation is required.
[d] Vehicle storage capacity reflects turn pocket lengths (left/right-turn lanes) and distance between the intersection and the nearest cross street or alley (through lanes).
[e] Vehicle queue lengths were converted to feet (ft) by multiplying 25-feet per reported vehicle length.