

Appendix I

Transportation

Appendix I.1

Transportation Assessment

**TRANSPORTATION ASSESSMENT
FOR THE
6TH & ALAMEDA STUDIO PROJECT
LOS ANGELES, CALIFORNIA**

SEPTEMBER 2023

PREPARED FOR
ALAMEDA STUDIO OWNER, LLC

PREPARED BY



**TRANSPORTATION ASSESSMENT
FOR THE
6TH & ALAMEDA STUDIO PROJECT
LOS ANGELES, CALIFORNIA**

September 2023

Prepared for:

ALAMEDA STUDIO OWNER, LLC

Prepared by:

GIBSON TRANSPORTATION CONSULTING, INC.

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

Ref: J2015

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Chapter 1

Introduction

This study presents the transportation assessment for the proposed 6th & Alameda Studio Project (Project) located at 1206 East 6th Street (Project Site) in the *Central City North Community Plan* (Los Angeles Department of City Planning [LADCP], Updated September 2016) area of the City of Los Angeles, California (City). The methodology and base assumptions used in the analysis were established based on direction from the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

The Project proposes to construct an approximately 675,611 square foot (sf) studio development including sound stages, production support, office, mill space, and ancillary facilities, circulation, and support uses. The Project would include the construction of approximately 299,012 sf of studio space, 307,407 sf of studio office space, and 69,192 sf of support space. The office lobby area may include up to 8,000 sf of retail, including up to 4,000 sf of restaurant space, in which case the office sf would be reduced by up to 299,407 sf. The existing 311,000 sf of light industrial uses on site would be removed with development of the Project.

For the purposes of this study, the worst-case option from a trip generation perspective was studied. Thus, the report analyzed the Project with the retail option included.

The Project would provide a total of up to 759 parking spaces within a combination of an above grade parking structure accessed from Mill Street and a surface parking lot accessed primarily from 6th Street. Approximately 415 parking spaces would be provided in the parking garage, and the remainder would be provided in the surface parking lot. The Project is in compliance with the City's Transportation Demand Management (TDM) ordinance and includes specific TDM measures, including Los Angeles Municipal Code (LAMC) required short-term and long-term bicycle parking spaces throughout the Project Site.

Vehicular access would be provided via four driveways along 6th Street and Mill Street. The two primary driveways are located along 6th Street, with both the west driveway (Driveway 1) and the east driveway (Driveway 2) providing right-in/right-out access only. A third full access driveway along Mill Street (Driveway 3) would also be provided, primarily for access to the parking garage and VIP drop-off area. Driveway 4 is located south of Driveway 3 along Mill Street and would provide full access for passenger and delivery vehicles only. The Project would provide internal drive aisles that would accommodate passenger vehicle and truck circulation.

In addition to the Project driveways, an alley would be provided south of the Project with entrances on Alameda Street and Mill Street. The purpose of the alley would be to provide emergency access and would not connect to the Project's internal circulation for parking and loading access.

Two passenger loading areas, one on 6th Street and one on Mill Street, would be provided.

The Project is anticipated to be completed in Year 2026. The conceptual Project site plan is shown in Figure 1.

PROJECT LOCATION

As illustrated in Figure 2, the Project Site, contained within Assessor Parcel Numbers 5164010003, 5164010004, and 5164020005, is located in downtown Los Angeles. The Project Site is generally bounded by 6th Street to the north, Mill Street to the east, industrial and commercial uses to the south, and Alameda Street to the west. The surrounding land uses include industrial, warehouse, and commercial uses.

Regional Access

The Project is located approximately 0.75 miles north of the Santa Monica Freeway (I-10), approximately 0.85 miles west of the Hollywood Freeway (US 101), and approximately 0.85 miles west of the Santa Ana Freeway (I-5). The Project Site is primarily served by arterial streets including Alameda Street, 6th Street, 7th Street, and Mateo Street.

Transit Access

The Project Site is located within 0.25 miles of a Major Transit Stop, which is defined in *Transit Oriented Communities Program Guidelines* (LADCP, Revised February 26, 2018) and updated in *Metro NextGen; Rapid Bus Definitions* (LADCP, March 25, 2021) as rail stations or intersections of two or more bus routes with service intervals of 15 minutes or less during the morning and afternoon commuter peak periods. The Project site is located within 0.25 miles of the bus stop at Central Street & 6th Street, which is served by the Los Angeles County Metropolitan Transit Authority (Metro) Lines 16, 18, 53, 60, 62, and 720.

Additionally, the Project Site is located approximately 0.85 miles south of the Metro Little Tokyo/Arts District Station, which serves the A and E Lines. The A Line travels between Azusa and Long Beach and the E Line travels between Santa Monica and East Los Angeles.

Future transit options may also soon be available within the study area and are detailed in Chapter 2.

Bicycle Access

In the immediate vicinity of the Project Site, existing Class II bicycle lanes are provided on 6th Street.

STUDY SCOPE

The scope of analysis for this study was developed in consultation with LADOT and is consistent with *Transportation Assessment Guidelines* (LADOT, August 2022) (TAG) and in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 and following).

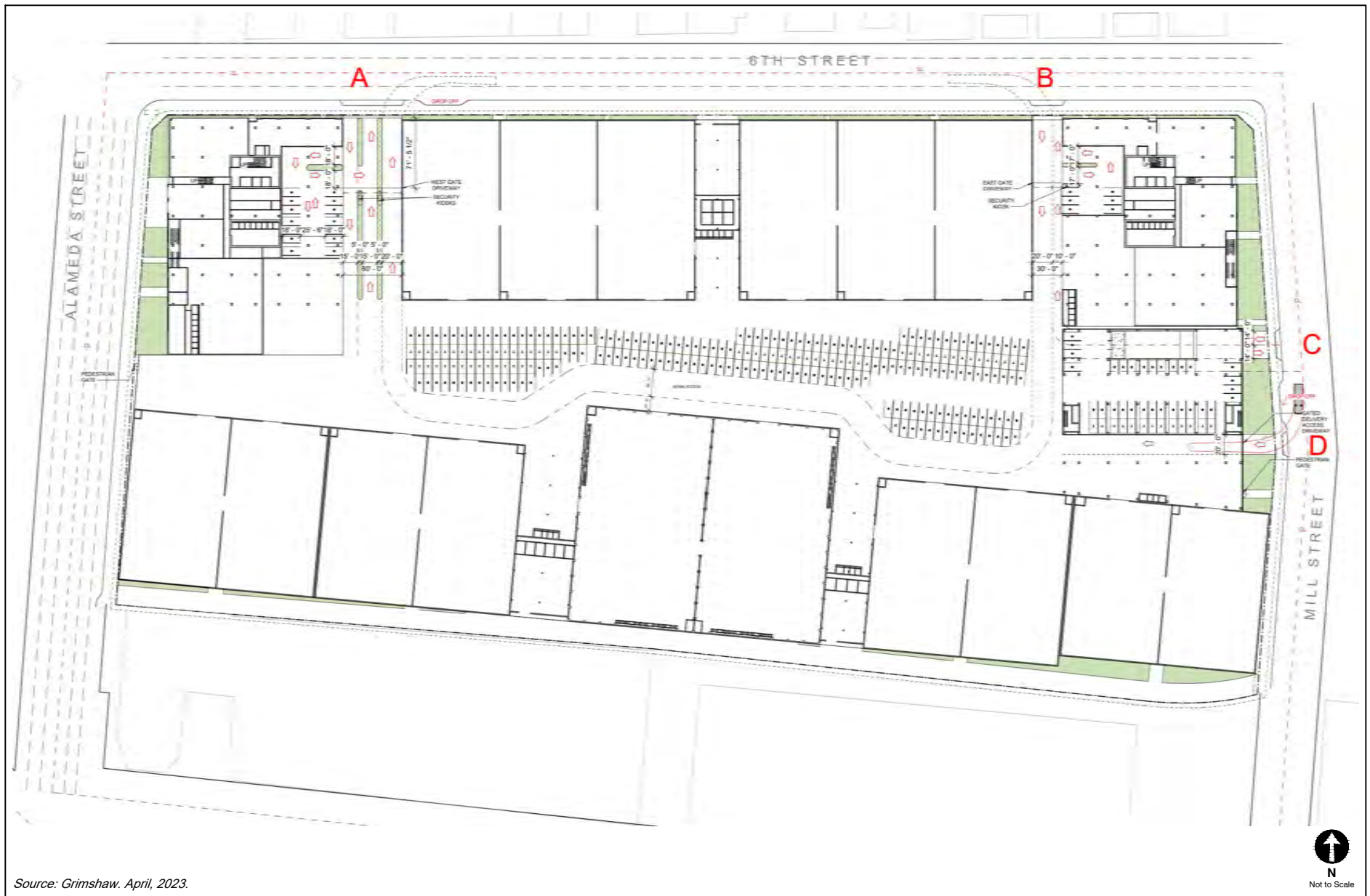
The base assumptions and technical methodologies (i.e., vehicle miles traveled [VMT], trip generation, study locations, analysis methodology, etc.) were identified and agreed to in a



Memorandum of Understanding (MOU), which was reviewed and approved by LADOT on September 6, 2023 and is provided in Appendix A.

ORGANIZATION OF REPORT

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



Source: Grimshaw. April, 2023.

PROJECT SITE PLAN

FIGURE
1



PROJECT SITE LOCATION

FIGURE
2

Chapter 2

Project Context

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

The Existing Conditions analysis includes an assessment of the existing transportation infrastructure and conditions of the Study Area including freeway and street systems and public transit service, as well as pedestrian and bicycle circulation, at the time of the issuance of the Notice of Preparation. An inventory of lane configurations, signal phasing, parking restrictions, etc., for the analyzed intersections was also collected. The traffic count worksheets are provided in Appendix B.

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, the Project's anticipated buildout year.

STUDY AREA

The Project's transportation analysis Study Area, shown in Figure 3, includes a geographic area that is generally bounded by 6th Street to the north, Mill Street to the east, a service alley to the south, and Alameda Street to the west. This Study Area was established in consultation with LADOT based on the following factors identified in the TAG:

1. Primary driveway(s) for the Project
2. Intersections at either end of the block on which the Project is located or up to 600 feet from the primary Project driveway(s)
3. Unsignalized intersections adjacent to the Project Site that are integral to the Project's site access and circulation plan

-
4. Signalized intersections in proximity to the Project Site where 100 or more Project trips would be added

As listed in Table 1, a total of six Study Area intersections, including four signalized and two unsignalized, were identified for detailed analysis during the MOU process and are illustrated in Figure 3. 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, and collector and local streets that provide regional, sub-regional, or local access and circulation within the Study Area. These transportation facilities generally provide two to six travel lanes and usually allow parking on 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 in an effort to provide an enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the Mobility Plan, street classifications are defined as follows:

- 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:
 - o 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.
- o 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 operating speeds 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:
 - o Continuous Local Streets connect to other streets at both ends
 - o Non-continuous Local Streets lead to a dead-end

Primary regional access to the Project Site is provided by US 101, I-5, and I-10. The arterials providing access to the Project Site include Alameda Street, 6th Street, 7th Street, and Mateo Street. The following is a brief description of the roadways in the Study Area, including their classifications under the Mobility Plan:

Freeways

- US 101 – US 101 generally runs in the north-south direction and is located less than 1.0 miles east of the Project Site. In the vicinity of the Project Site, US 101 provides three travel lanes in each direction. Access to and from US 101 is available via interchanges at Alameda Street, Vignes Street, Commercial Street, 4th Street, 7th Street, Whittier Boulevard.

- I-5 – I-5 generally runs in the north-south direction and is located less than 1.0 miles east of the Project Site. In the vicinity of the Project Site, I-5 provides five travel lanes in each direction. Access to and from I-5 is available via interchanges at 4th Street, 7th Street, and Boyle Avenue.
- I-10 – I-10 generally runs in the east-west direction and is located approximately 1.0 miles south of the Project Site. In the vicinity of the Project Site, I-10 provides three to five travel lanes in each direction. Access to and from I-10 is available via interchanges at 8th Street, Porter Street, Mateo Street, Santa Fe Street, Olympic Boulevard and Alameda Street.

Roadways

- Alameda Street – Alameda Street is a designated Avenue I. It travels in the north-south direction and is located adjacent to the western boundary of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections and a two-way left-turn median. On-street parking is generally prohibited within the Study Area.
- Mill Street – Mill Street is a designated Collector Street. It travels in the north-south direction and is located adjacent to the eastern boundary of the Project Site. It provides two travel lanes, one in each direction. Unmetered parking is generally available on the west side of the street between 6th Street and Industrial Street, and on the east side of the street between approximately 100 feet north of Conway Place and Industrial Street.
- Mateo Street – Mateo Street is a designated Avenue III. It travels in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. Unmetered parking is generally available on both sides of the within the Study Area. Class II bicycle lanes are provided on both sides of the street north of 6th Street.
- 6th Street – 6th Street is a designated Avenue II. It travels in the east-west direction and is located adjacent to the northern boundary of the Project Site. It provides four travel lanes, two in each direction. Restricted unmetered parking is generally available on the north side of the street between Alameda Street and Mill Street within the Study Area. Class II bicycle lanes are provided on both sides of the street adjacent to the Project Site. Class IV protected bicycle lanes are provided on 6th Street west of Alameda Street and east of Mateo Street
- 7th Street – 7th Street is a designated Avenue II. It travels in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections. Unmetered parking is generally available on the south side of the street east of Mateo Street and on the north side of the street between Channing Street and Lawrence Street with passenger loading restrictions from 6:30 AM to 9:00 AM and 1:30 PM to 4:00 PM.

As required in the TAG, an inventory was conducted of facilities serving pedestrians, bicyclists, and transit riders. The existing mobility facilities at each of the analyzed Study Area intersections are detailed in Figure 5 and the existing Mobility Plan designations and pedestrian destinations within the Study Area are shown in Figure 6.

Existing Pedestrian Facilities

The signalized intersections surrounding the Project Site provide pedestrian access in the vicinity of the Project Site. The signalized intersections provide pedestrian phasing, crosswalk striping, and Americans with Disabilities Act (ADA) accessible ramps at most crosswalks. Additional pedestrian facilities, not immediately adjacent to the Project Site, are located within the Study Area and are further 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 with no striping delineation, e.g., bike lanes, for bicycle travel. Bicycle routes and bicycle-friendly streets are preferably placed on Collector and lower volume Arterial Streets. Bicycle routes with shared lane markings, or “sharrows”, remind bicyclists to ride farther from parked cars to prevent collisions, increase awareness of motorists that bicycles may be in the travel lane, and shows bicyclists the correct direction of travel.

The 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).

As shown in Figure 7, within the Study Area, Class II bicycle facilities are currently provided on Mateo Street north of 6th Street and on 6th Street between Alameda Street and Mateo Street adjacent to the Project Site. Class IV protected bicycle lanes are provided on 6th Street west of Alameda Street and east of Mateo Street.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate transportation-related collisions that result in severe injury or death. Vision Zero has identified the High Injury Network (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. The Project Site is located along 6th Street, which is identified as part of the HIN. The following additional streets in the Project Study Area, as shown in Figure 7, have also been identified as part of the HIN:

- 7th Street west of Mateo Street
- Alameda Street north of 6th Street

Existing Transit System

Figure 8 illustrates the existing transit service and transit stops within the Study Area, which is served by bus lines operated by Metro. Table 2 summarizes the Metro transit lines operating in the Study Area, the type of service (peak vs. off-peak, express vs. local), and the frequency of service, based on schedules provided by Metro in June 2023. The average frequency of transit service during the peak hour was derived from schedule information for the stop nearest the Project Site.

As previously discussed, the Project Site is located within 0.25 miles of a Major Transit Stop.

Existing Traffic Volumes

Intersection turning movement counts for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods were collected in December 2022 while schools were in session and weather conditions were clear. These counts were grown by 1%, per LADOT, to represent traffic conditions in 2023. The Existing Conditions (Year 2023) intersection peak hour traffic volumes are illustrated in Figure 9. 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.”

As described in detail below, this analysis includes increases to traffic from future projects and from regional growth projections. The ambient growth factor discussed below likely includes some traffic increases resulting from the Related Projects. Therefore, through some inherent double-counting

of vehicles, the traffic analysis provides a highly conservative estimate of Future without Project traffic volumes.

The Future without Project traffic volumes, therefore, include ambient growth, which reflects increases in traffic due to regional growth and development outside the Study Area, as well as traffic generated by ongoing or entitled projects near or within the Study Area.

Ambient Traffic Growth

Traffic levels are expected to increase over time as a result of regional growth and development in and around the Study Area. Based on discussions with LADOT during the MOU process, a conservative ambient growth rate of 1% per year compounded annually was applied to the Existing Conditions traffic volumes to reflect Year 2026 (the estimated buildout year of the Project) conditions. The total adjustment applied over the three-year period was 3.03%. This growth factor accounts for increases in traffic due to potential projects plus projects not yet proposed and projects located outside the Study Area.

Related Projects

In accordance with 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.

The list of Related Projects is based on information provided by LADCP and LADOT, as well as recent traffic studies prepared for projects in the area. The Related Projects are detailed in Table 3 and their approximate locations shown in Figure 10.

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, is appropriately assumed to substantially overestimate the actual traffic volume growth in the Study Area that would likely occur prior to Project buildout. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

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

Trip Generation. Trip generation estimates for the Related Projects were provided by LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers [ITE], 2020). The Related Projects trip generation estimates summarized in Table 3 are conservative in that they do not in every case account for either the existing uses to be removed or the likely use of other travel modes (transit, walk, etc.) Further, such analysis is conservative because, in many cases, it does not account for the internal capture trips within a multi-use development, nor the interaction of trips between multiple Related Projects within the Study Area, in which one Related Project serves as the origin for a trip destined for another Related Project.

Trip Distribution. The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These include the type and density of the proposed land uses, the geographic distribution of the population from which the employees/residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors are considered, along with logical travel routes through the street system, when developing a reasonable pattern of trip distribution.

Trip Assignment. The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. Figure 11 shows the peak hour traffic volumes associated with these Related Projects at the Study Area intersections.

Future without Project Traffic Volumes

The Future without Project Condition traffic volumes were estimated by adding the Related Project volumes to the Existing Conditions traffic volumes with the aforementioned annual ambient growth factor through the projected buildout year of 2026. As discussed above, this is a conservative approach as the traffic generated from many of the Related Projects may already be reflected in the ambient growth rate. The Future without Project Condition (Year 2026) traffic volumes at the five Study Area intersections are shown in Figure 12.

Future Roadway Improvements

The analysis of Future Conditions accounted for roadway improvements that are or would be funded and are reasonably expected to be implemented prior to the buildout of the Project in Year 2026. Any roadway improvement that would result in changes to the physical configuration in the Study Area were incorporated into the analysis. Other proposed traffic / trip reduction strategies such as TDM programs for individual buildings and developments were omitted from the Future Conditions analyses. The following projects were evaluated for their potential effects on the future roadway configurations.

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 Line and/or D Line 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.

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. The Final Environmental Impact Statement/Environmental Impact Report for this first phase is scheduled for certification by the end of Year 2024. 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 Year 2023.

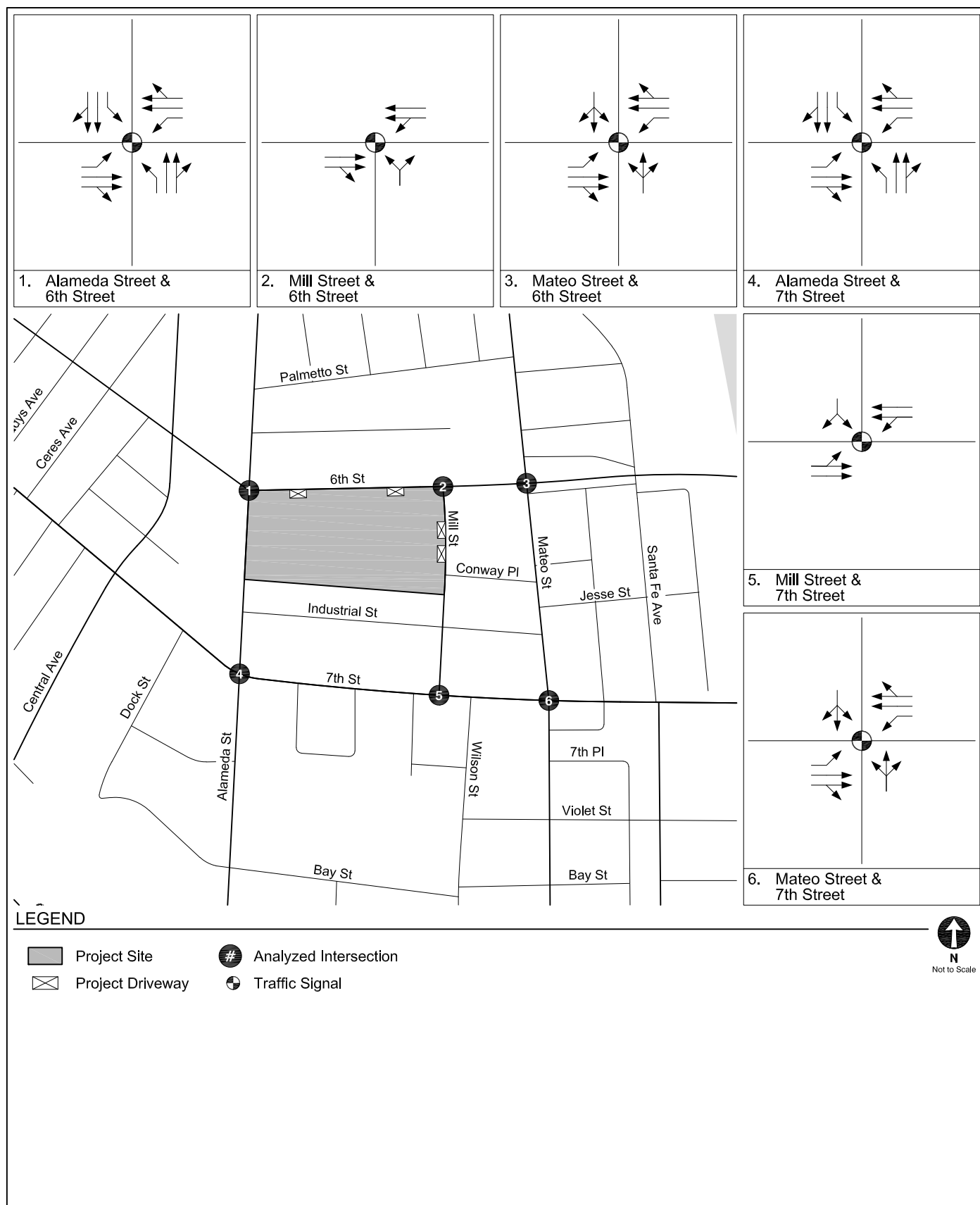
Mobility Plan. In the Mobility Plan, the City identifies key corridors as components of various “mobility-enhanced networks.” Each network is intended to focus on improving a particular aspect of urban mobility, including transit, neighborhood connectivity, bicycles, pedestrians, and vehicles. The specific improvements that may be implemented in those networks have not yet been identified, and there is no schedule for implementation; therefore, no changes to vehicular lane configurations were made or incorporated into the analysis as a result of the Mobility Plan. However, the following mobility-enhanced networks included corridors within the Study Area and depicted in Figure 13 for informational purposes:

- **Transit Enhanced Network (TEN):** The TEN aims to improve existing and future bus services through reliable and frequent transit service in order to increase transit ridership, reduce single-occupancy vehicle trips, and integrate transit infrastructure investments within the surrounding street system. The TEN has designated 6th Street and Central Avenue within the Study Area as part of the network.
- **Neighborhood Enhanced Network (NEN):** The NEN reflects the synthesis of the bicycle and pedestrian networks and serves as a system of Local Streets that are slow moving and safe enough to connect neighborhoods through active transportation. The NEN has designated Mateo Street and Santa Fe Avenue within the Study Area as part of the network.
- **BEN / BLN:** Within the Study Area, the Mobility Plan designates 6th Street as part of the BEN. 7th Street and Mateo Street north of 7th Street 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. Alameda Street south of 6th Street, 7th Street west of Mill Street, Mateo Street north of 7th Street, and 6th Street west of Alameda Street and east of Mill Street are identified as part of the PED.



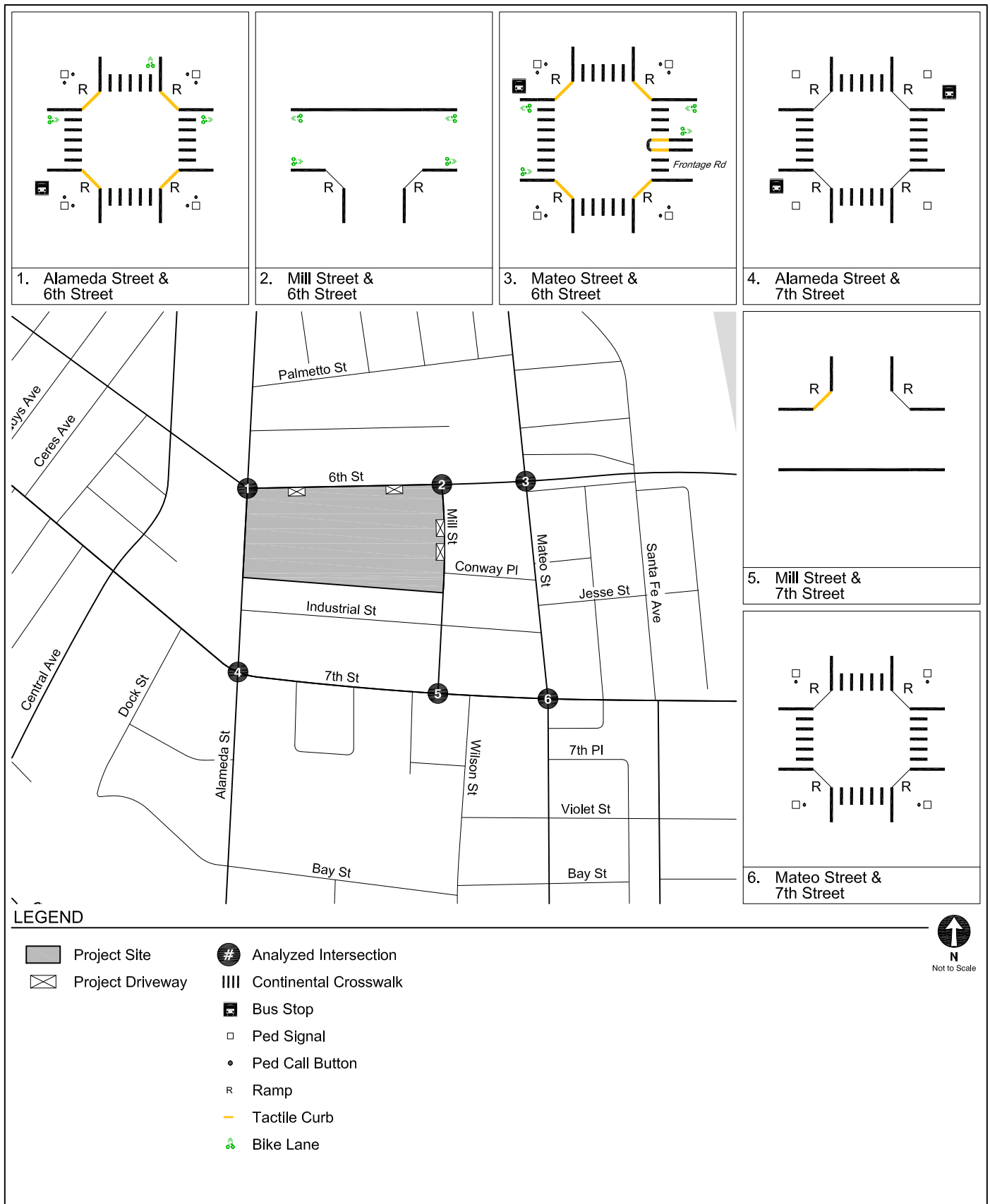
STUDY AREA AND ANALYZED INTERSECTIONS

FIGURE
3



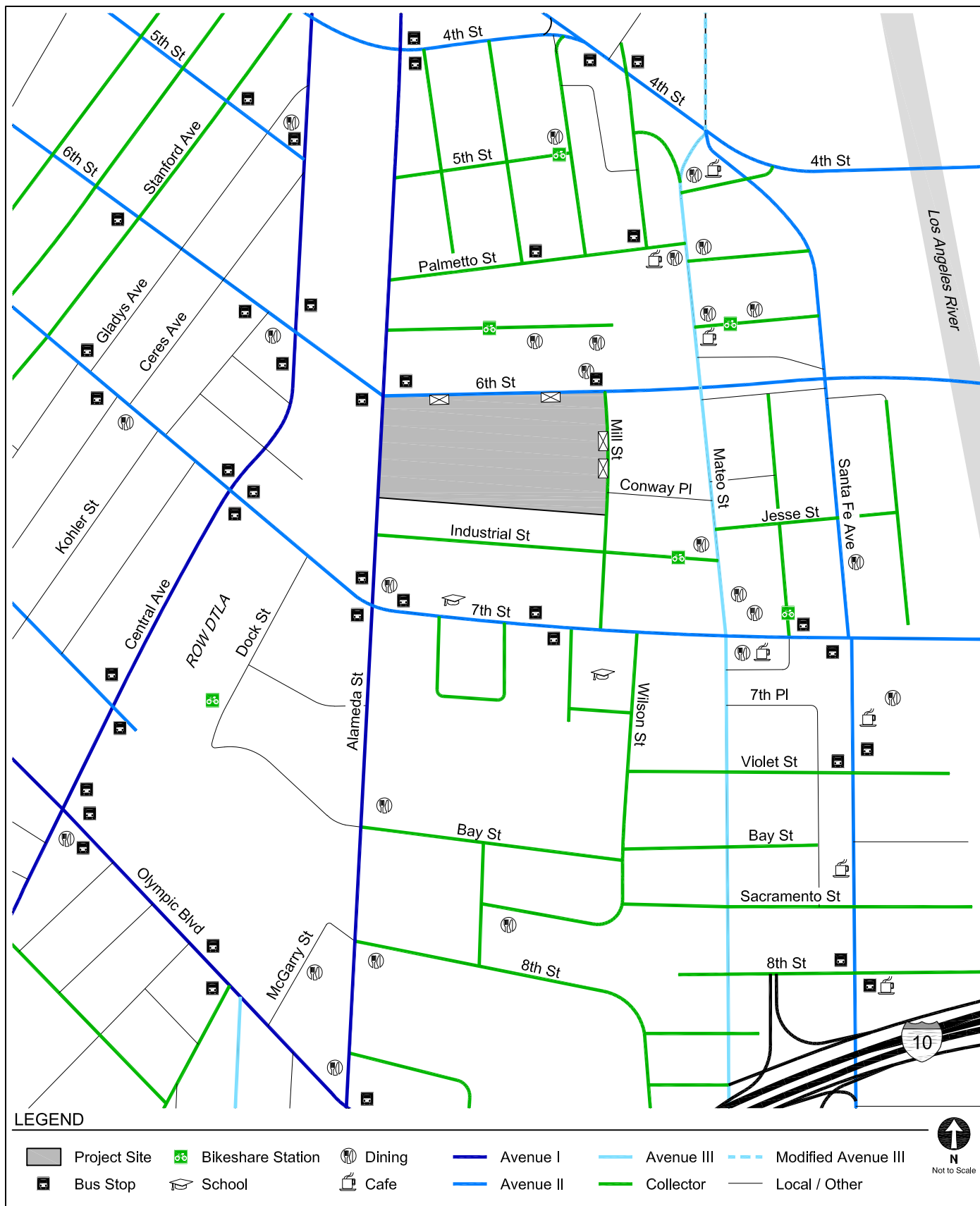
INTERSECTION LANE CONFIGURATIONS

FIGURE
4



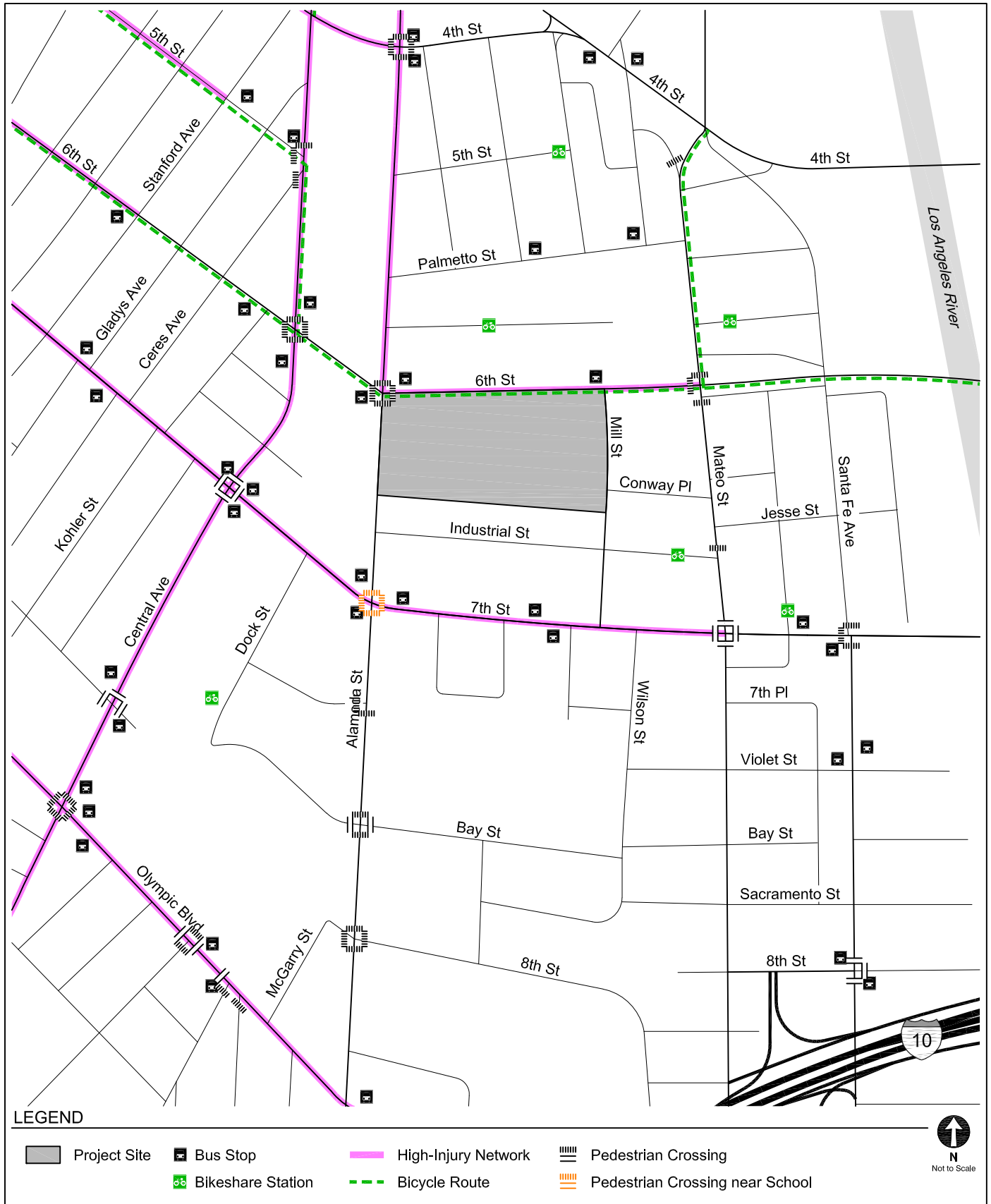
EXISTING INTERSECTION MOBILITY FACILITIES

FIGURE
5



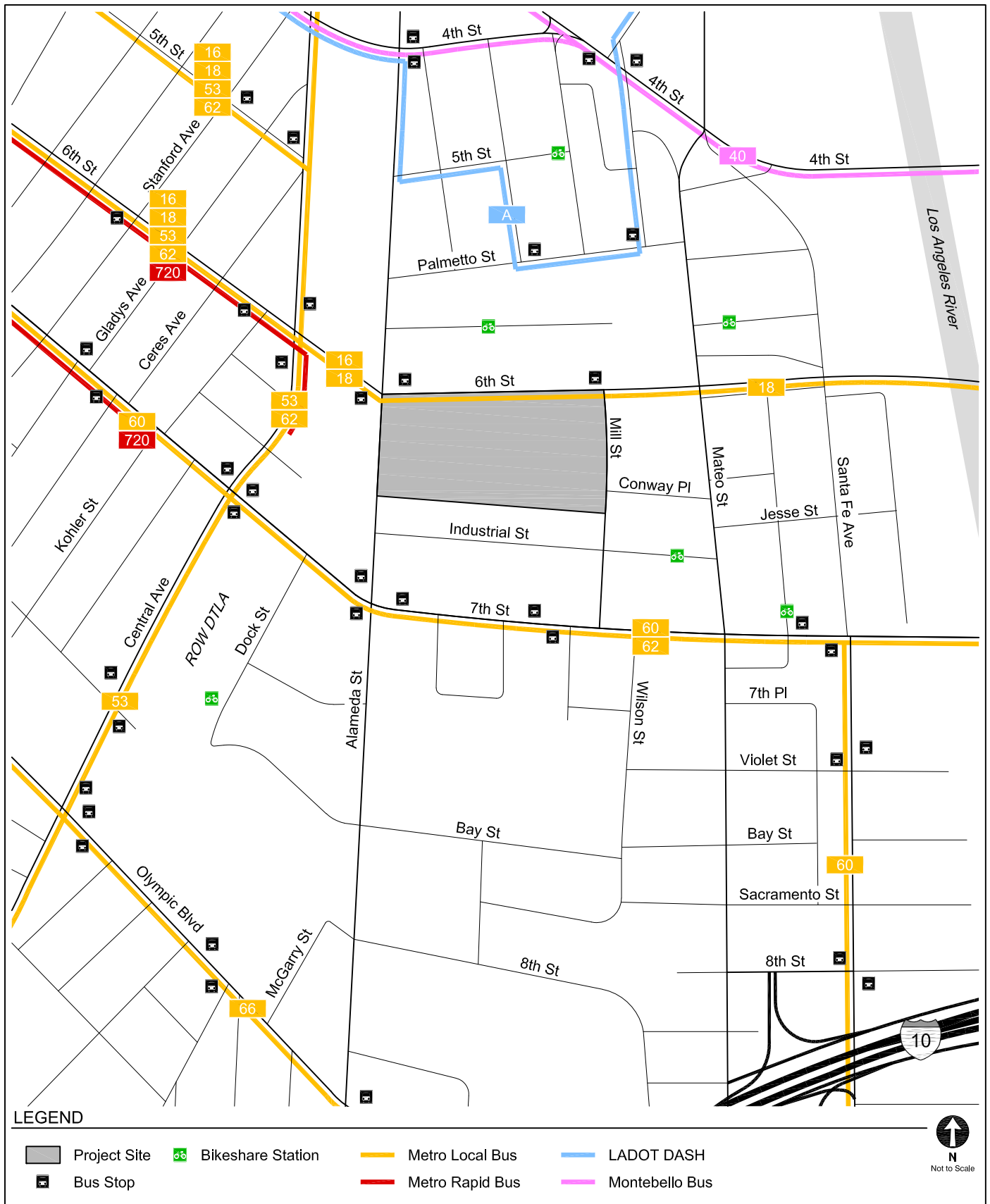
MOBILITY PLAN TRANSPORTATION DESIGNATIONS AND PEDESTRIAN DESTINATIONS

FIGURE
6



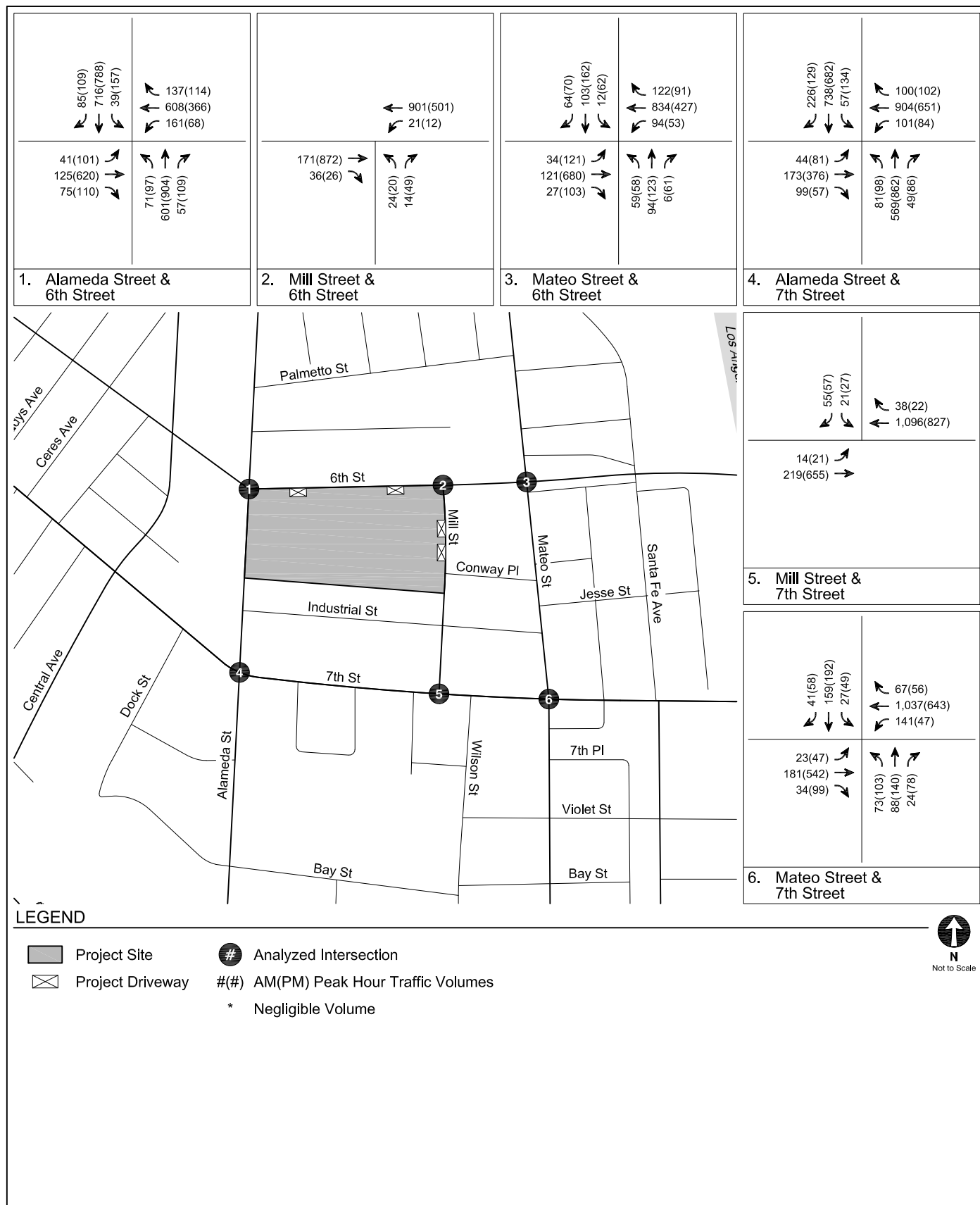
EXISTING TRANSPORTATION FACILITIES

FIGURE
7



EXISTING TRANSIT SERVICE

FIGURE
8



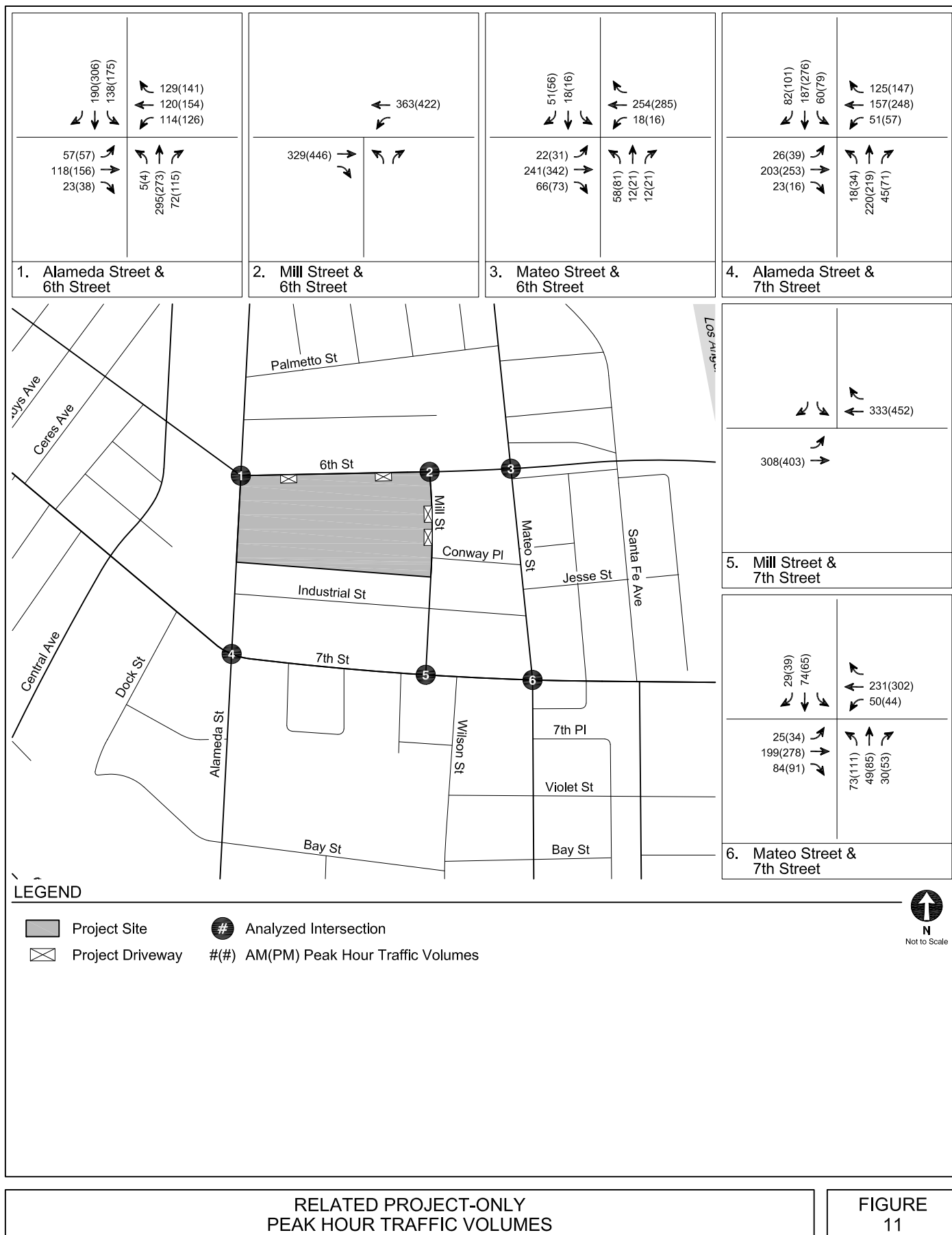
EXISTING CONDITIONS (YEAR 2023)
PEAK HOUR TRAFFIC VOLUMES

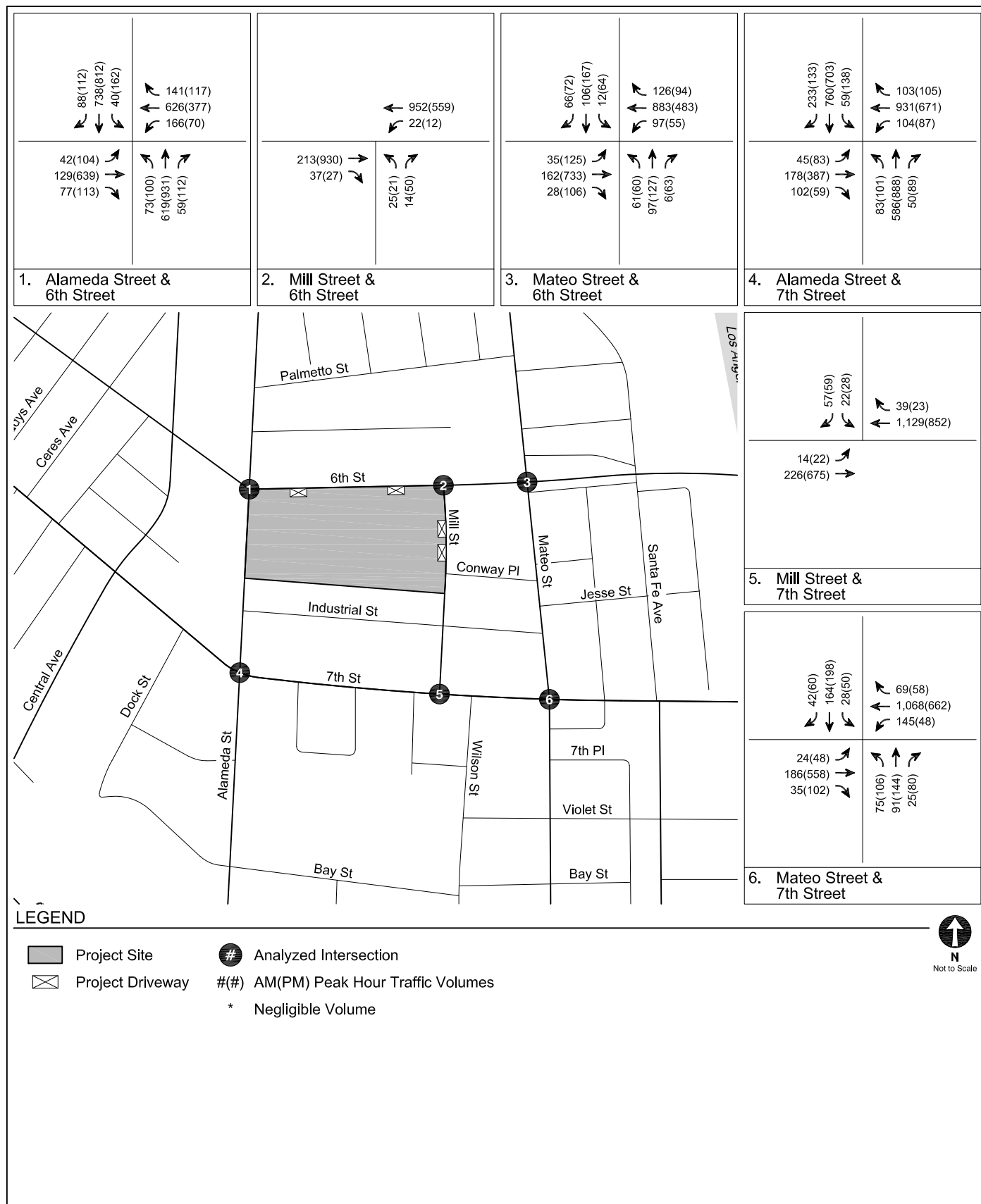
FIGURE
9



LOCATIONS OF RELATED PROJECTS

FIGURE
10





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

FIGURE
12



ROADWAY MODAL PRIORITIES

FIGURE
13

TABLE 1
STUDY INTERSECTIONS

No.	N/S Steet	E/W Street
1.	Alameda Street	6th Street
2. [a]	Mill Street	6th Street
3.	Mateo Street	6th Street
4.	Alameda Street	7th Street
5. [a]	Mill Street	7th Street
6.	Mateo Street	7th Street

Notes:

[a] Intersection is unsignalized.

**TABLE 2
EXISTING TRANSIT SERVICE**

Provider, Route, and Service Area	Service Type	Hours of Operation	Average Headway (minutes)			
			AM Peak Period		PM Peak Period	
Metro			NB/EB	SB/WB	NB/EB	SB/WB
16 Downtown LA - West Hollywood via West 3rd St	Local	24-Hour	6	6	6	6
18 Wilshire Center - Downtown Los Angeles - Montebello via 6th St and Whittier Blvd	Local	24-Hour	7	6	6	7
53 Downtown Los Angeles - CSU Domingues Hills via Central Ave	Local	4:00 AM - 12:00 AM	11	11	11	10
60 Downtown Los Angeles - Artesia Station via Long Beach Blvd	Local	24-Hour	6	6	6	6
62 Downtown Los Angeles - Hawaiian Gardens via Telegraph Rd	Local	4:00 AM - 12:00 AM	60	24	30	60
66 Wilshire Center - Downtown Los Angeles - Montebello via 8th St and Whittier Blvd	Local	24-Hour	9	10	11	9
720 Santa Monica - Downtown Los Angeles via Wilshire Blvd	Rapid	24-Hour	6	5	8	6
LADOT DASH			NB/EB	SB/WB	NB/EB	SB/WB
A Downtown DASH	Local	6:00 AM - 9:00 PM	7	7	7	7
Montebello Bus Lines			NB/EB	SB/WB	NB/EB	SB/WB
40 Downtown Los Angeles - Montebello - Whittier	Local	5:30 AM - 9:30 PM	23	18	20	20

Notes

Metro: Los Angeles County Metropolitan Transportation Authority

AM Peak from 6-9 AM

PM Peak from 3-7 PM

[a] Average headways based on Metro schedule effective in June 2023.

**TABLE 3
RELATED PROJECTS**

No.	CPC Case No.	Project	Address	Description	Trip Generation [a]						
					Daily	Morning Peak Hour			Afternoon Peak Hour		
						In	Out	Total	In	Out	Total
1.	CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR	Camden Arts Mixed-Use	1525 E Industrial St	336,304 sf mixed-use, 344 live/work units, 7,458 sf of leasing/amenity area, 24,774 sf of creative office usses, 4,042 sf of restaurant space	1,729	37	59	96	69	44	113
2.	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)
3.	CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI	668 S Alameda St Mixed-Use	668 S Alameda St	475 live/work units, 27,063 sf retail and studio space, 16,280 sf restaurant, 700 sf gallery space	4,004	120	184	304	215	153	368
4.	CPC-2016-3399-GPA-VZC-HD-MCUP-ZAI-SPR	Palmetto	527 S Colyton St	346 apartment units, 12,396 sf retail and restaurant, 12,396 sf of leasabe arts and productive space, 512 sf resident production.	2,095	36	116	152	121	74	195
5.	CPC-2016-2683-GPA-VZC-HD-CU-CUB-DB-SPR	Mixed Use (Revised)	1800 E 7th St	122 residential units, 9,500 sf commercial uses, and 5,885 sf of amenity space	816	26	45	71	45	37	82
6.	CPC-2016-3726-GPAJ-VZC-HD-MCUP-ZAA-DB-SPR	1100 5th Mixed-Use	1100 E 5th St	220 live/work units with 11% set aside for very low income, 46,548 sf of commercial uses, and 22,725 sf open space and recreational amenities such as a resident gallery	2,556	78	107	185	130	80	210
7.	CPC-2016-3689-GPA-VZC-HD-MCUP-DB-SPR	676 Mateo Mixed-Use	676 S Mateo St	185 live/work units and 23,380 sf commercial space OR, 159 live/work units and 45,873 sf commercial space	1,991	64	81	145	100	68	168
8.	CPC-2016-3853-GPA-VZC-HD-ZAD-SPR	520 Mateo	520 S Mateo St	475 live/work units, 10,000 sf of restaurant space, 10,000 sf of retail space, and 105,000 sf office	4,995	157	220	373	274	223	491
9.	ENV-2016-4475-EIR	Arts District Center (Mixed-Use)	1129 & 1101 E. 5th St, 445-457 S. Colyton St, 450-456 S. Seaton St	129 live/work condominium units, a 113-room hotel, and 81,326 square feet of commercial space to be used for art galleries, retail, restaurant, and artist collaborative space. Of the 129 live/work units, 15 units (11%) would be set aside for Very Low Income households	4,713	133	140	273	157	72	229
10.	CPC-2016-3655-GPA-ZC-HD-CUB-ZAA-SPR	400 S Alameda Street	400 S Alameda St	66 hotel rooms, 3,800 sf restaurant, 840 sf specialty retail, 890 sf screening room	512	20	18	38	23	14	37
11.	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
12.	ENV-2020-6829-EAF; CPC-2020-6828-GPA-ZC-HD-SPR-MCUP	Office	655 S Mesquit St	188,954 sf office, 4,325 sf retail	1,867	185	31	216	37	181	218

**TABLE 3 (CONTINUED)
RELATED PROJECTS**

No.	CPC Case No.	Project	Address	Description	Trip Generation [a]						
					Daily	Morning Peak Hour			Afternoon Peak Hour		
						In	Out	Total	In	Out	Total
13.	CPC-2017-469-GPA-VZC-HD-MCUP-SPR	4th & Hewitt	405 S Hewitt St	311,682 sf office, 8,149 sf restaurant space, and 7,800 sf museum	3,493	365	76	441	100	324	424
14.	CPC-2017-849-GPAJ-VZCJ-HD-SPR	656 S Stanford Ave	656 S Stanford Ave	82 apartment units	545	8	33	41	33	18	51
15.	ENV-2017-249-EIR; CPC-2017-247-GPAJ-VZCJ-HD-VCU-MCUP-CUX-	670 Mesquit	670 S Mesquit St	236 hotel rooms, 208 apartment units, 136,152 sf retail, grocery, 89,577 sf restaurant, 93,617 sf studio/event/gallery and potential museum space, and 62,148 sf gym	26,489	1,513	451	1,964	698	1,316	2,014
16.	ZA-2021-9890-ZV	Mixed Use	719 E 5th St	Re-establish hotel uses with 42 guest rooms	1,033	15	58	73	59	37	96
17.	CPC-2017-420-GPAJ-VZCJ-HD-SPR	Residential	713 E 5th St	51 apartment units	208	15	10	25	9	8	17
18.	CPC-2016-4554-GPA-VZC-HD-DB-SPR	1000 S Mateo Street	1000 S Mateo St	106 live/work units, 119,845 sf commercial space	2,238	153	83	236	90	131	221
19.	CPC-2021-4259-CU-CUB-SPR	Studio	2000 E 8th St	832,750 sf studio with production support and office	3,511	216	100	316	147	255	402
20.	ENV-2021-4071-EIR	Fourth & Central	400 S Central Ave	68 hotel rooms, 411,113 square feet (sf) of office, and 101,088 sf of commercial retail and restaurant	15,110	640	501	1,141	598	693	1,291
21.	CPC-2021-2231-GPA-VZC-HD-VCU-ZV-SPR	Violet St Creative Office Campus Project	2045 E Violet St	435,100 sf creative office with possible future expansion phase of 211,201 sf office	5,055	409	81	490	173	501	674
OTHER AREA-WIDE PROJECTS											
CPC Case No.		Project	Description		Extents						
CPC-2017-432-CPU		DTLA 2040 Community Plan	Combined updates to the existing land use policies and land use diagrams in the Central City and Central City North Community Plans, resulting in future growth through horizon year 2040		Central City Community Plan areas and bounded north by Sunset Boulevard/Cesar Chavez Avenue, south by Santa Monica Freeway (I-10), west by Harbor Freeway (I-110), and east by Alameda Street, and the Central City North Community Plan areas bounded north by Stadium Way, Lilac Terrace, and North Broadway, south by City of Vernon, on the west by Alameda Street, and east by the Los Angeles River.						

Notes

- [a] Source: Related project information based on available information provided by LADOT and Department of City Planning in June 2023, as well as recent studies in the area, at the time of the Initial Study. Related projects include developments within one-half mile radius of the Project site and was reviewed by the Department of City Planning in June 2023.
- [b] Trip generation estimated using rates from Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021, and/or the LADOT Transportation Assessment Guidelines.

Chapter 3

Project Traffic

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

PROJECT TRIP GENERATION

The number of trips expected to be generated by the Project was estimated using a combination of rates from published sources and empirical data. For the purposes of this assessment, the trip generation rates from *Trip Generation, 11th Edition* for general office, retail, and restaurant uses were utilized to estimate the trip generation for those respective components of the Project. These rates are based on surveys of similar land uses at sites around the country and are provided as both daily rates and morning and afternoon peak hour rates. They relate the number of vehicle trips traveling to and from the Project Site to the size of development of each land use. The rates for production support and sound stage uses were based on empirical trip generation studies at studios in Los Angeles.

The studio and production support trip rates are based on local data; thus, no reductions for transit usage were applied. In consultation with LADOT, the following trip generation reductions for the other land uses to account for public transit usage/walking arrivals, internal capture, and pass-by trips were considered.

- Internal Capture: A 10% internal capture reduction 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/Walk-In: The Project Site is located within 0.25 miles from various Metro 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 and industrial developments.

- Pass-By Trips: Consistent with Attachment H of the TAG, a pass-by adjustment ranging from 20% to 50% was applied to the commercial retail and restaurant trip generation estimates 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, 11th Edition* for general light industrial uses. Based on a review of the current operations of the existing uses, no additional trip reductions to account for transit/walk-in trips were applied.

After accounting for the adjustments above and the removal of the existing uses, the Project is estimated to generate 348 net new morning peak hour trips (272 inbound, 76 outbound) and 521 net new afternoon peak hour trips (146 inbound, 375 outbound), as summarized in Table 4.

PROJECT TRIP DISTRIBUTION

The geographic distribution of trips generated by the Project is dependent on the location of residential and commercial centers to and from which employees and visitors of the Project would be drawn, characteristics of the street system serving the Project Site, the location of the Project driveway(s), and existing traffic conditions.

Based on these considerations, traffic entering and exiting the Project Site was assigned to the surrounding street system. The intersection-level trip distribution pattern for Project traffic at the Study Area intersections is shown in Figure 14A for the Studio and Office related uses and Figure 14B for the retail and restaurant uses.

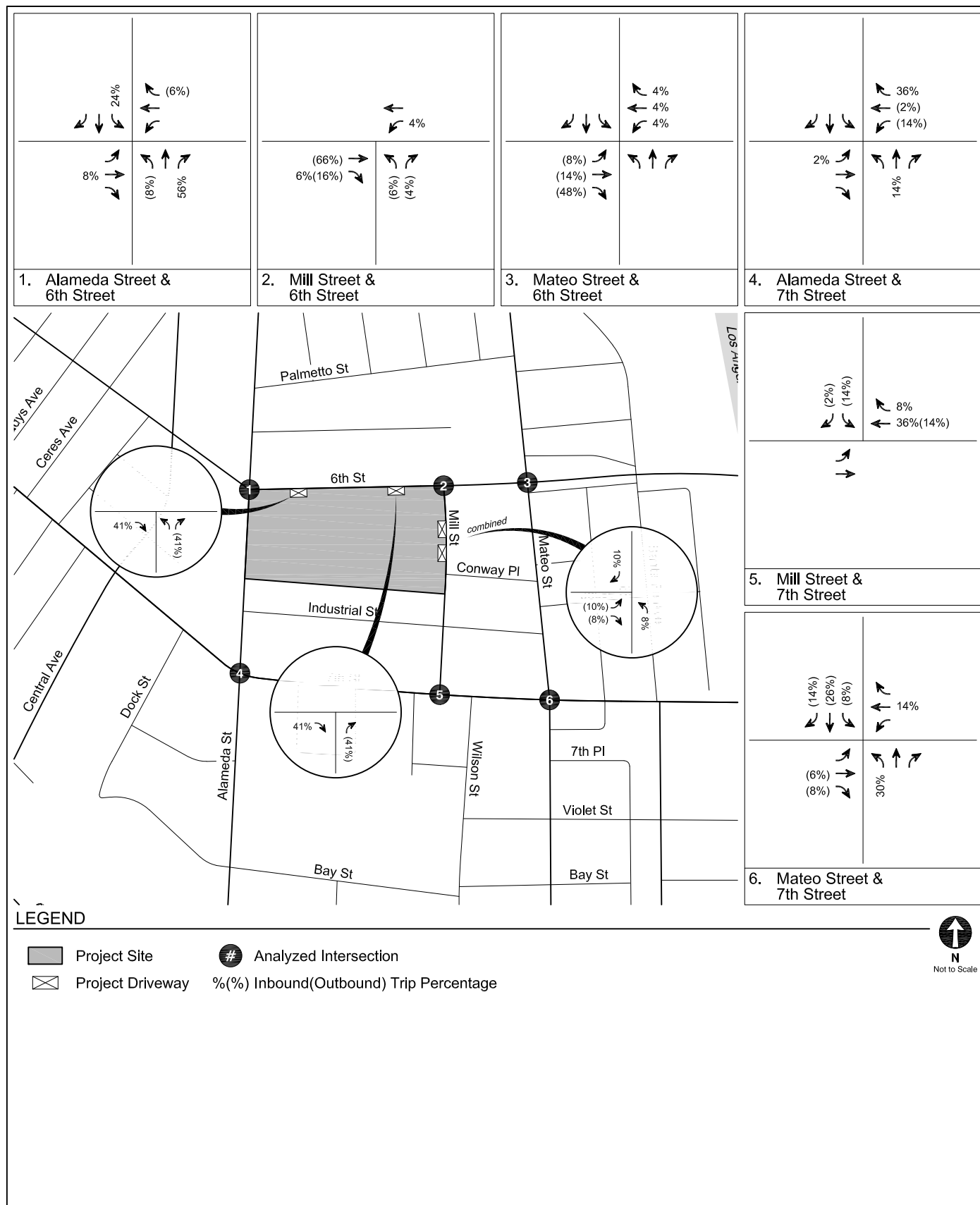
Generally, the regional pattern for the Project is as follows:

- 25% to/from the north
- 30% to/from the east

-
- 15% to/from the south
 - 30% to/from the west

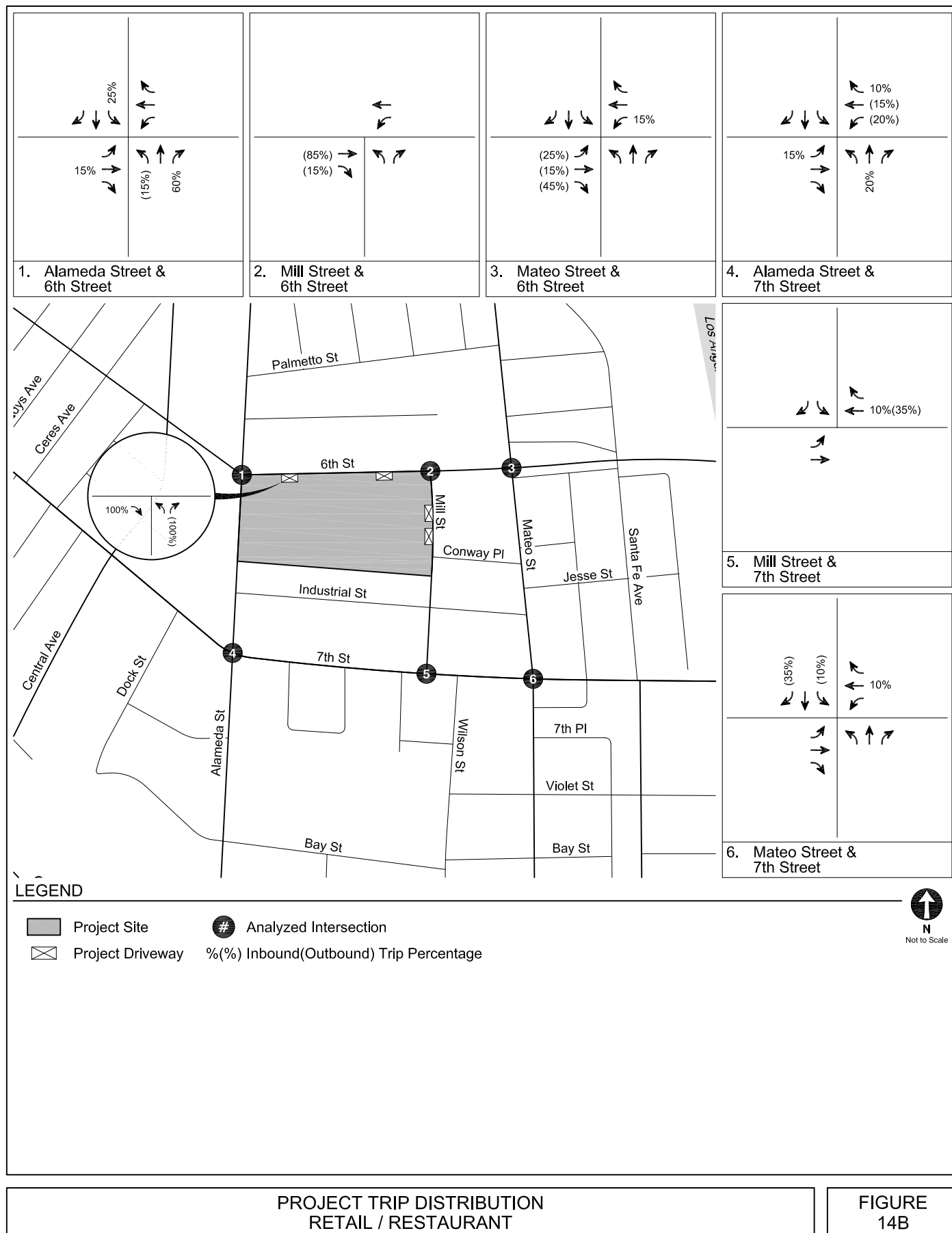
PROJECT TRIP ASSIGNMENT

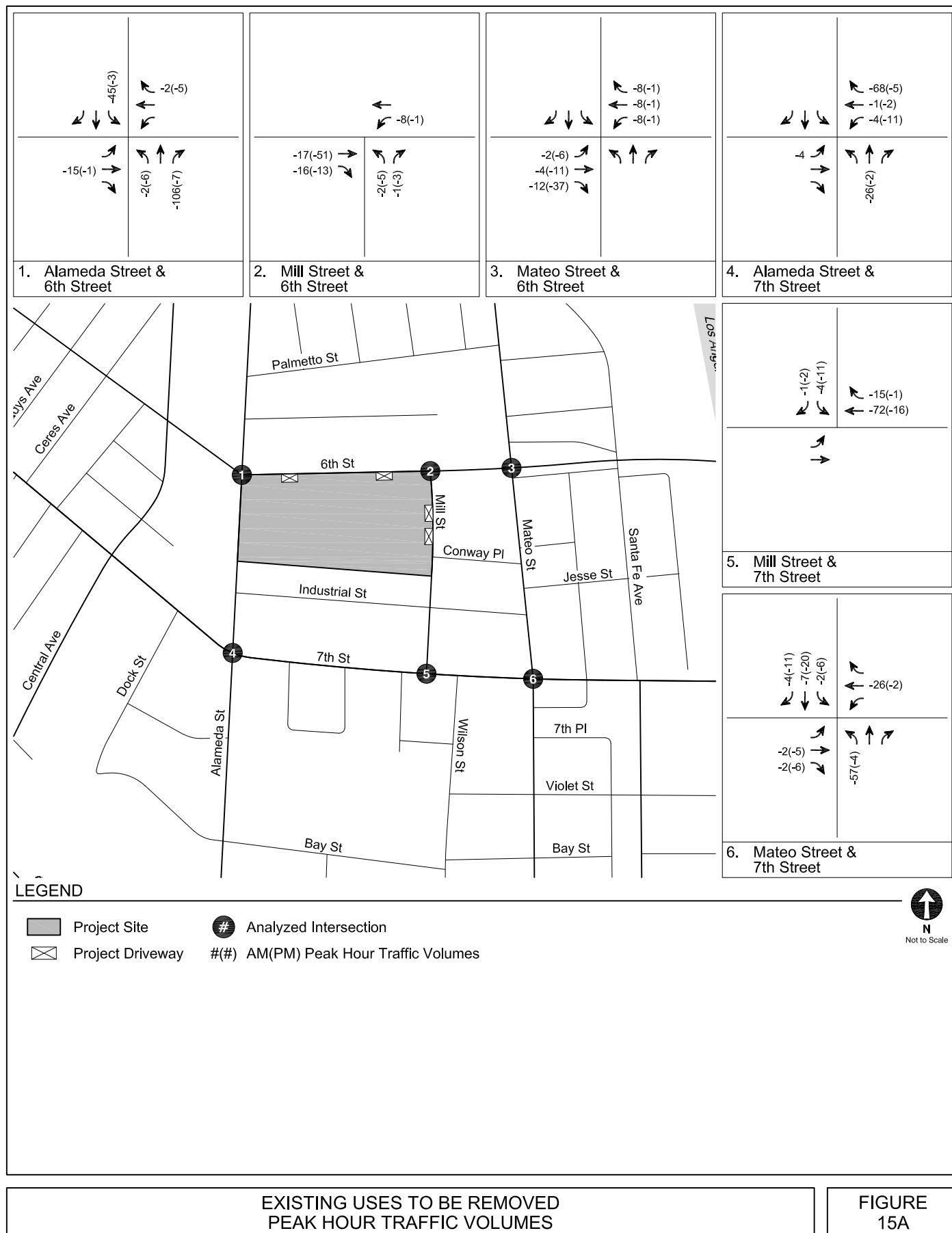
The Project trip generation estimates summarized in Table 4 and the trip distribution patterns shown in Figures 14A and 14B were used to assign the Project-generated traffic through the Study Area intersections. Figures 15A and 15B, respectively, illustrate the traffic volumes of the existing uses to be removed from the Project Site and the total Project-only traffic volumes at the Study Area intersections during typical weekday morning and afternoon peak hours.



PROJECT TRIP DISTRIBUTION
STUDIO

FIGURE
14A





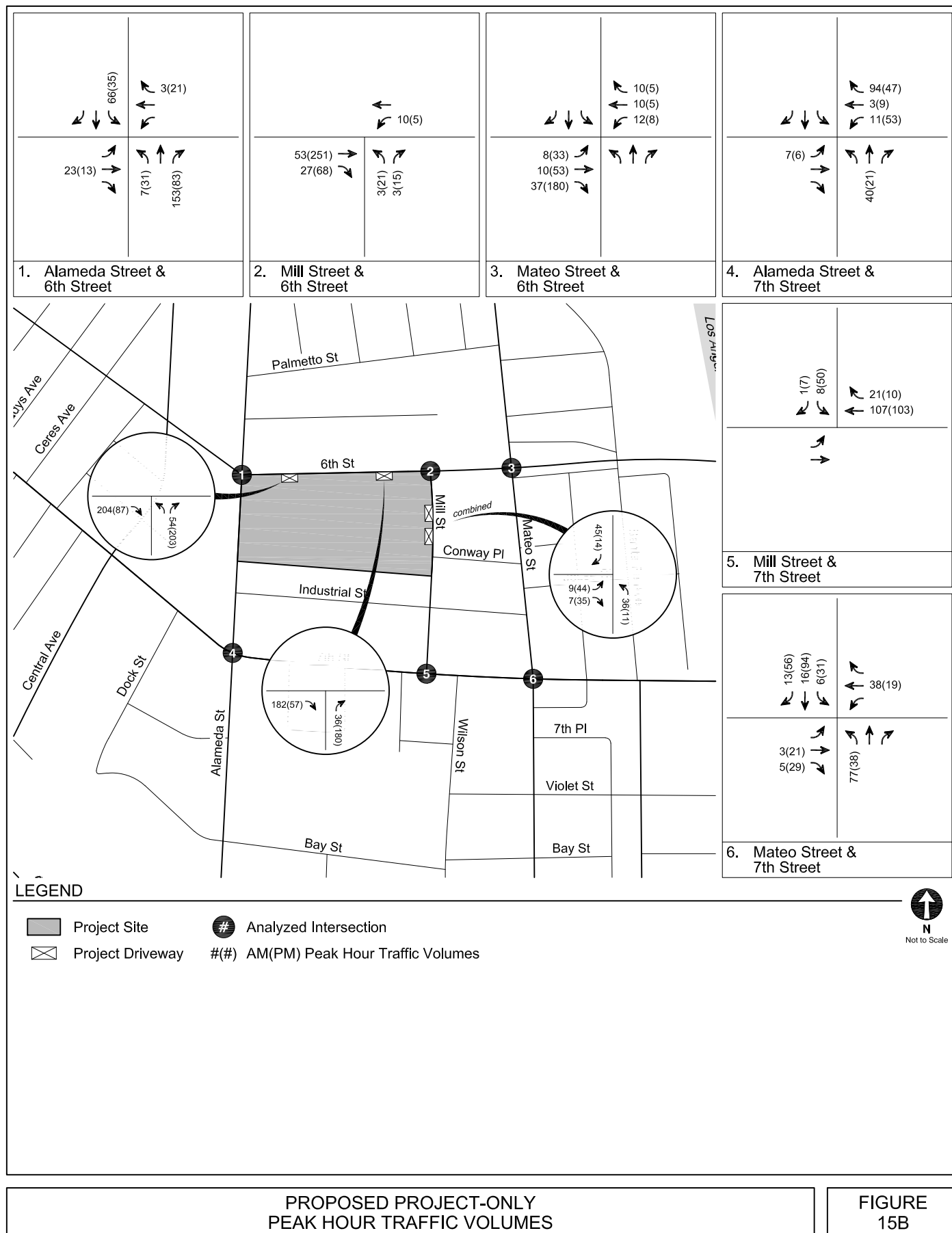


**TABLE 4
PROJECT TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES [a]									
Land Use	ITE Land Use	Rate	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Sound Stage	[b]	per ksf	[b]	63%	37%	0.20	40%	60%	0.43
Production Support	[b]	per ksf	[b]	65%	35%	0.61	45%	55%	0.57
General Light Industrial	110	per ksf	[c]	88%	12%	[c]	14%	86%	[c]
General Office	710	per ksf	10.84	88%	12%	1.52	17%	83%	1.44
Retail	822	per ksf	54.45	60%	40%	2.36	50%	50%	6.59
High-Turnover (Sit-Down) Restaurant	932	per ksf	107.2	55%	45%	9.57	61%	39%	9.05

TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<u>New Studio Construction [d]</u>									
Sound Stage	[b]	299.012 ksf	1,767	38	22	60	52	77	129
Production Support	[b]	69.192 ksf	286	27	15	42	18	21	39
Studio Office	710	299.407 ksf	3,246	400	55	455	73	358	431
Transit/Walk-In Reduction [e] 5%			(162)	(20)	(3)	(23)	(4)	(18)	(22)
Retail	822	4.000 ksf	218	5	4	9	13	13	26
Internal Capture [f] 10%			(22)	(1)	0	(1)	(1)	(1)	(2)
Transit/Walk-In Reduction [e] 5%			(10)	0	0	0	(1)	(1)	(2)
Passby Reduction [g] 50%			(93)	(2)	(2)	(4)	(6)	(6)	(12)
High-Turnover (Sit-Down) Restaurant	932	4.000 ksf	429	21	17	38	22	14	36
Internal Capture [f] 10%			(43)	(2)	(2)	(4)	(2)	(1)	(3)
Transit/Walk-In Reduction [e] 5%			(19)	(1)	(1)	(2)	(1)	(1)	(2)
Passby Reduction [g] 20%			(73)	(4)	(3)	(7)	(4)	(2)	(6)
TOTAL - PROPOSED PROJECT TRIPS			5,525	461	102	563	159	453	612
<u>Existing Uses to Removed</u>									
General Light Industrial	110	311.0 ksf	1,237	189	26	215	13	78	91
TOTAL - NET NEW PROJECT TRIPS			4,288	272	76	348	146	375	521

Notes:

ksf = 1,000 square feet.

[a] Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021, unless as noted.

[b] Rate based on empirical rate from *Transportation Study for the NBC Universal Evolution Plan Environmental Impact Report*, Gibson Transportation Consulting, Inc. and Raju Associates, Inc., March 2010.

[c] The trip generation estimates for the existing uses were calculated based on the following best-fit curve equations for general light industrial uses (ITE Land Use Code 110):

$$\text{Daily: } T = 3.76(X) + 50.47$$

$$\text{AM: } T = 0.68(X) + 3.81$$

$$\text{PM: } \ln(T) = 0.72 \ln(X) + 0.38$$

[d] Amenities and supporting uses for the Project (i.e., commissary, circulation areas, mechanical rooms, gym/spa/salon) were assumed to be ancillary to the studio, production, and office uses, and therefore, were not considered for trip generation purposes.

[e] The Project Site is located within walking distance of a Metro bus stop, therefore a 5% transit reduction is applied to account for transit usage and walking visitor arrivals from the adjacent commercial developments.

[f] Internal capture reductions account for person trips made between distinct land uses within a mixed-use development (i.e. between employees and commercial uses) without using an off-site road system.

[g] Pass-by reductions 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 and the proposed improvements to address potential conflicts, as well as the results of a Project VMT analysis that satisfies State requirements under *State of California Senate Bill 743* (Steinberg, 2013) (SB 743).

METHODOLOGY

SB 743, made effective in January 2014, required the Governor's Office of Planning and Research (OPR) to change the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analyses shifted from driver 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 to be used for analyzing a project's transportation impacts in accordance with SB 743.

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

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



The thresholds were reviewed and analyzed, as detailed in the following Sections 4A-4D. In addition, a safety analysis of California Department of Transportation (Caltrans) freeway off-ramp facilities for the Project is provided in Section 4E.

Section 4A: Threshold T-1

Conflicting with Plans, Programs, Ordinances, or Policies Analysis

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

The purpose of Threshold T-1 is to assess whether a project would conflict with an adopted program, policy, plan, or ordinance that protects the environment. In general, transportation policies or standards adopted to protect the environment are those that support multimodal transportation options and a reduction in VMT. A project would not result in an impact merely based on whether or not it would implement a particular program, plan, policy, or ordinance. Many of these programs must be implemented by the City over time, and over a broad area, and the intention of Threshold T-1 is to ensure that proposed development projects and plans do not preclude the City from implementing adopted programs, plans and policies. 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 consistent for purposes of the Threshold T-1 analysis.

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 streamlines the review by highlighting the most relevant plans, policies, and programs for assessing potential impacts to the City's transportation system. The Plans, Policies, and Programs Consistency Worksheet was completed for the Project and is provided in Appendix C.

As summarized below and in Appendix C, the Project is consistent with the City documents listed in Table 2.1-1 and the Plans, Policies, and Programs Consistency Worksheet of the TAG;

therefore, the Project would not result in a significant impact under Threshold T-1. Detailed discussion on the Project's consistency with the applicable plans, programs, ordinances, or policies 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 Mobility Plan is provided in Table 5. As detailed in Chapter 2, the Mobility Plan identifies key corridors within the Study Area as components of various “mobility-enhanced networks.” Though no specific improvements have been identified adjacent to the Project Site or within the Study Area and, thus, 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 driveways along 6th Street and Mill Street. 6th Street is designated as an Avenue II and Mill Street is designated as a Collector in the Mobility Plan. Dedications along both streets would be required to meet their respective mobility plan designations, as detailed in Appendix C. Further, Alameda Street is a designated Avenue I in the

Mobility Plan and currently meets the Mobility Plan ROW standards, and no dedications are required of the Project.

The four Project driveways would replace the existing 16 driveways along the frontages of the Project Site. Driveway 1 and Driveway 2 on 6th Street would prohibit left-turn ingress/egress in order to improve safety along a HIN- designated street. Driveway 3 would provide full access from Mill Street and would primarily be used for garage and VIP access. Driveway 4 would also be full access and used for passenger vehicles and truck deliveries from Mill Street. The driveways would be improved and designed in accordance with the standards set forth in *Manual of Policies and Procedures* (LADOT, updated 2020). Appropriate access and safety measures would be placed to limit potential queue spillover into the public ROW that could interrupt pedestrian, bicycle, and vehicular flow. In addition, the driveways anticipated to provide truck access would be designed to adequately accommodate truck turning maneuvers without encroachment into the public ROW.

Separate pedestrian and bicycle access to the Project Site would be provided via entrances along Alameda Street, 6th Street, and Mill Street. In addition, the Project would also be designed in compliance with ADA standards to provide accessibility for all patrons of the Project.

As further detailed in Section 5E, the Project would provide off-street parking to satisfy the Project parking demand. Secured bicycle parking facilities within the Project Site would also be provided. These measures would promote active transportation modes such as biking and walking, thereby 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 affecting existing bicycle infrastructure, and the Project is reducing the number of vehicular driveways on 6th Street from eight to two.

Thus, the Project would not conflict 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) (*Plan for a Healthy Los Angeles*) contains 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 6. The Project prioritizes safety and access for all individuals utilizing the Project Site by complying with all ADA requirements and providing direct connections to pedestrian amenities with separate pedestrian and vehicle accesses and active street frontages. Further, the Project supports healthy lifestyles and encourages alternative modes of transport by locating jobs near transit (Metro bus lines), providing bicycle amenities, and enhancing the pedestrian environment with shade trees and landscaping. The Project is also estimated to generate lower VMT per capita for employees than the areawide average, as demonstrated in Section 4B, which reduces GHG emissions.

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

Land Use Element of the General Plan

The City General Plan's Land Use Element contains 35 Community Plans that establish specific goals and strategies for the various neighborhoods across Los Angeles. This Project falls within the boundaries of the *Central City North Community Plan*. The City is in the process of updating *Central City North Community Plan* as part of the recently approved *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 7. The Project would provide employment opportunities in an area characterized by industrial and warehouse uses that are located in close proximity to various transit options, including Metro bus lines. The Project's proximity to transit provides alternative modes of transportation for employees and visitors to travel to and from the

Project Site and maximizes the development opportunities of the transit system. Thus, the Project promotes and encourages development consistent with the goals and objectives of *Central City North Community Plan*.

Draft Downtown Los Angeles Community Plan. *Draft Downtown Los Angeles Community Plan* was approved by City Council on May 3, 2023. However, the draft is still being finalized by the City Attorney before it can be formally 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 8. 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 studio uses to accommodate future growth in the 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 proposes a studio development and supports infill developments located in proximity to transit. The Project would reinforce downtown Los Angeles as a job center and would be located near various residential and commercial uses. The Project would provide bicycle and pedestrian amenities that promote a transit-, bicycle-, and pedestrian-friendly environment, such as wider sidewalks, street trees, open space, a reduced number of driveway conflicts with existing

pedestrian and bicycle space, and landscaping that improve walkability and connectivity for pedestrian access between transit stops and nearby destinations. The Project would also provide bicycle parking to encourage bicycling for employees and visitors to the Project Site. Pedestrian and bicycle access would be separate from vehicular access, including dedicated access on Alameda Street, further prioritizing pedestrian and bicycle safety and comfort. The Project would also be located in proximity to existing and forthcoming transit service, which would create linkages between neighborhoods. The Mobility Plan ROW standards would be met along all Project frontages, including 6th Street, Mill Street, and Alameda Street, and the Project would not preclude the City from implementing future improvements. Further, the Project would implement TDM strategies to encourage 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.

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 Project would provide short-term and long-term spaces to satisfy the LAMC requirements for on-site bicycle parking supply.

LAMC Section 12.26J (TDM Ordinance)

LAMC Section 12.26J, the TDM Ordinance (1993) establishes TDM requirements for non-residential projects, in addition to non-residential components of mixed-use projects in excess of 25,000 sf. The total non-residential component of the Project exceeds 25,000 sf. Therefore, the Project would be subject to the requirements of LAMC Section 12.26J.

Key requirements of the TDM Ordinance as applied to the Project include providing carpool/vanpool loading areas, walkways between buildings, and public sidewalks. The Project

provides pedestrian connectivity both within and surrounding the Project Site with walkways between buildings on all Sites. As described in Section 4B, the Project would also incorporate the following TDM measures for visitors and employees:

- Reduced Parking Supply
- Bicycle parking per LAMC, including short-term and long-term parking facilities

Vision Zero Corridor Plans

Vision Zero implements projects that are designed to increase safety on the most vulnerable City streets. The City has identified a number of streets as part of the HIN where City projects will be targeted. As previously detailed, the Project Site is located along 6th Street, which is identified as part of the HIN. The Project proposes to eliminate six of the existing eight driveways along 6th street and reconfigure two driveways (Driveway 1 and Driveway 2) for vehicular access on 6th Street. In consultation with LADOT, these driveways were restricted to right-turn ingress/egress only in order to reduce conflict points between vehicles, pedestrians, and bicyclists. Additionally, the Project would install a passenger loading area on 6th Street, which would be designed to LADOT's standards. While vehicles utilizing the loading area may need to cross the bicycle lane on 6th Street, the Project would result in less overall conflict points with the bicycle lane.

Currently, no Vision Zero Safety improvements are planned along 6th Street. Nonetheless, the Project improvements to the pedestrian environment would not preclude any Vision Zero safety improvements along 6th Street by the City. Thus, the Project would not conflict with Vision Zero.

Streetscape Plans

None of the City's established Streetscape Plans would affect the Project Site. Nevertheless, the Project would not preclude the City from future streetscape improvements.

Citywide Design Guidelines

The Pedestrian-First Design approach of the *Citywide Design Guidelines* (LADCP 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 pedestrian travel, legible wayfinding, and enhanced connectivity. Pedestrian-First Design promotes healthy living, increases economic activity at the street level, enables social interaction, creates equitable and accessible public spaces, and improves public safety.”

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 9.

The Project design includes accessible sidewalks, pedestrian amenities, and well-designed vehicular access driveways in accordance with the City’s design guidelines. The Project would provide street trees uniformly within the sidewalk to provide overhead shade, as well as a more comfortable environment for pedestrians. Further, the Project would provide separate pedestrian entrances to ensure safe pedestrian access separate from vehicular activity. Thus, the Project would be consistent with the Pedestrian-First Design goal of *Citywide Design Guidelines*.

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 the potential exists for 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. Table 3 identifies Related Projects within a 0.50-mile radius of the Project Site, as required by the TAG and approved in the MOU.

Each of the Related Projects considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed, including a check for their consistency with applicable policies, prior to approval by the City. Collectively, the Project and the Related Projects add high-density development in a major commercial area with high-quality transit options and high levels of pedestrian activity. Thus, the Project and the Related Projects would not preclude the City's ability to serve transportation needs as defined by the City's transportation policy framework. Therefore, the Project, together with the Related Projects identified in Table 3, would neither create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

TABLE 5
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
Chapter 1 - Safety First	
<u>Policy 1.1 Roadway User Vulnerability</u> Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.	Consistent. With the development of the Project 6th Street and Mill Street along the Project frontage would be improved to provide adequate pedestrian safety and to satisfy the right-of-way and roadway standards to meet the goals and long-term needs of the Mobility Plan. 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 number of driveways located along bicycle lane on 6th Street would be reduced from eight to two. No other driveways would be located along a street with an existing bicycle facility.
<u>Policy 1.6 Multi-Modal Detour Facilities</u> Design detour facilities to provide safe passage for all modes of travel.	Consistent. Construction activities would be maintained on-site to the extent feasible. Any impediments to the public right-of-way would be addressed with implementation of a Construction Management Plan.
Chapter 2 - World Class Infrastructure	
<u>Policy 2.3 Pedestrian Infrastructure</u> 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 pedestrian pathways between the various buildings on the Project Site for employees and guests. To enhance the pedestrian environment, the Project would maintain or improve sidewalks along the Project frontages to meet Mobility Plan standards, as well as removal 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. The Project may also include ground floor retail and restaurant space, which would further enhance the pedestrian experience.
<u>Policy 2.4 Neighborhood Enhanced Network</u> Provide a slow speed network of locally serving streets.	Consistent. No streets adjacent to the Project are identified as part of the Mobility Plan's Neighborhood Enhanced Network. The Project is proposing pedestrian improvements along the Project frontage to meet the long-term mobility needs identified in the Mobility Plan.
<u>Policy 2.5 Transit Network</u> Improve the performance and reliability of existing and future bus service.	Consistent. 6th Street adjacent to the Project Site is identified as part of the Mobility Plan's Transit Enhanced Network. The Project would encourage more transit usage by developing a studio/office project with convenient access to bus transit services.
<u>Policy 2.6 Bicycle Networks</u> Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. (includes scooters, skateboards, rollerblades, etc.)	Consistent. The Project does not propose modifying, removing, or otherwise affecting existing bicycle infrastructure and the number of driveways located along the bicycle lane on 6th Street would be reduced from eight to two. No other driveways would be located along a street with an existing bicycle facility. Bicycle parking would also be provided on-site in accordance with LAMC requirements.
<u>Policy 2.7 Vehicle Network</u> Provide vehicular access to the regional freeway system.	Consistent. Vehicular access to the Project Site would be provided via 6th Street and Mill Street, which both provide regional access to and from the freeway system.
<u>Policy 2.9 Multiple Networks</u> Consider the role of each mode enhanced network when designing a street that included multiple modes.	Consistent. Central Avenue and Alameda Street adjacent to the Project Site are part of multiple networks designated by the Mobility Plan. The Project would provide and accommodate for 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.
<u>Policy 2.10 Loading Areas</u> Facilitate the provision of adequate on and off-street loading areas.	Consistent. All proposed delivery drop-off/loading zones would be provided on-site, including loading for large trucks. The loading zones would be managed to facilitate safe loading operations and to limit vehicle queue spillovers into the travel lanes.

Notes:

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

TABLE 5 (CONT.)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
Chapter 3 - Access for All Angelenos	
<u>Policy 3.1 Access for All</u> 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 for trucks. The Project also would provide infrastructure (short- and long-term bicycle parking, easy bicycle accessibility to the Project Site) to encourage walking and bicycling. Additionally, the Project is located adjacent to numerous Metro bus stops which provides access for a variety of travel modes for employees and visitors to the Project Site.
<u>Policy 3.2 People with Disabilities</u> 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.
<u>Policy 3.5 Multi-Modal Features</u> 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 and bicycle parking facilities. These features would support multi-modal connectivity and access for transit riders.
<u>Policy 3.8 Bicycle Parking</u> 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	
<u>Policy 4.5 Improved Communication</u> 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.
<u>Policy 4.8 Transportation Demand Management Strategies</u> Encourage greater utilization of Transportation Demand Management (TDM) strategies to reduce dependence on single-occupancy vehicles.	Consistent. The Project incorporates several design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site. The following project design features would be incorporated: - Bike parking per LAMC requirements, including short-term and long-term parking facilities and bicycle amenities. - Reduced parking supply per AB 2097

Notes:

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

TABLE 5 (CONT.)
PROJECT CONSISTENCY WITH MOBILITY PLAN 2035

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
<u>Policy 4.13 Parking and Land Use Management</u> 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. No on-street parking would be provided adjacent to the Project on Alameda Street or 6th Street.
<u>Policy 4.14 Wayfinding</u> 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.
Chapter 5 - Clean Environments & Healthy Communities	
<u>Policy 5.1 Sustainable Transportation</u> Encourage the development of a sustainable transportation system that promotes environmental and public health.	Consistent. As part of the Project, secured bicycle parking facilities and pedestrian connections within the Project Site and connecting to off-site pedestrian facilities would be provided. This would promote active transportation modes such as biking and walking. Additionally, the Project is located adjacent to several Metro bus stops, providing employees and visitors to the Project with public transportation alternatives.
<u>Policy 5.2 Vehicle Miles Traveled (VMT)</u> Support ways to reduce vehicle miles traveled (VMT) per capita.	Consistent. The Project is estimated to generate lower VMT per employee than the average for the area, as demonstrated in Section 4B. Additionally, the Project incorporates several TDM measures to reduce the number of single occupancy vehicle trips to the Project Site.
<u>Policy 5.4 Clean Fuels and Vehicles</u> 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 6
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	
<u>Policy 1.5 Plan for Health</u> 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 prioritizes safety and access for all individuals utilizing the site by complying with all ADA requirements and providing direct connections to pedestrian amenities at adjacent intersections. Further, the Project supports healthy lifestyles by locating jobs near transit (Metro Local Bus Lines), providing bicycle parking, and enhancing the pedestrian environment by providing landscape elements for a more comfortable environment for pedestrians along 6th Street and Mill Street. Further, the Project supports healthy lifestyles by locating jobs near transit, providing bicycle parking, and enhancing the pedestrian environment with improved pedestrian pathways.
Chapter 5 - An Environment Where Life Thrives	
<u>Policy 5.7 Land Use Planning for Public Health and GHG Emission Reduction</u> 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 incorporates several design features, which include TDM measures to reduce the number of single occupancy vehicle trips to the Project Site. The following project design features would be incorporated: - Bike parking per LAMC requirements, including short-term and long-term parking facilities and bicycle amenities. - Reduced parking supply per AB 2097 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 7
PROJECT CONSISTENCY WITH CENTRAL CITY NORTH COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
<u>GOAL 10</u> Develop a public transit system that improves mobility with convenient alternatives to automobile travel. <u>OBJECTIVE 10-1</u> 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. <u>Policies</u> 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. 6th Street adjacent to the Project Site is identified as part of the Mobility Plan's Transit Enhanced Network. The Project would encourage more transit usage by developing a studio/office project with convenient access to bus transit services. Further, the Project would enhance the pedestrian environment with landscaping and a reduction of driveways on 6th Street, which will improve connectivity to transit for employees, visitors, and neighbors (including seniors, disabled persons, etc.). The Project may also include ground floor retail and restaurant space, which would further enhance the pedestrian experience.
<u>GOAL 11</u> A well maintained, safe, efficient freeway and street network. <u>OBJECTIVE 11-1</u> That signalized intersections are integrated with the City's ATSAC system by the year 2010. <u>Policies</u> 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.

TABLE 7 (CONTINUED)
PROJECT CONSISTENCY WITH CENTRAL CITY NORTH COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
<u>GOAL 12</u> Encourage alternative modes of transportation to the use of single occupant vehicles (SOV) in order to reduce vehicular trips. <u>OBJECTIVE 12-1</u> To pursue transportation management strategies that can maximize vehicle occupancy, minimize average trip length, and reduce the number of vehicle trips. <u>Policies</u> 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. The Project would also include 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. The Project may also include ground floor retail and restaurant space, which would further enhance the pedestrian experience.
<u>GOAL 13</u> A system of safe, efficient and attractive bicycle and pedestrian facilities. <u>OBJECTIVE 13-1</u> To promote an adequate system of bikeways for commuter, school, and recreational use. <u>Policies</u> 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 bicycle parking facilities and is located along Class II bicycle lanes on 6th Street, which provides access from across the 6th Street Viaduct into the Arts District. The lanes improve connectivity between the residential, commercial, industrial, recreational, and institutional uses nearby.

TABLE 7 (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 would ensure sidewalk and pedestrian access is maintained along the Project frontages including Alameda Street, 6th Street, and Mill Street.
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. Access to the parking would be provided via four driveways along 6th Street and Mill Street. With completion of the Project, the total number of driveways serving the Project Site would be reduced from 16 driveways to four, which will reduce conflict points along arterial streets. 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, 2000.

TABLE 8
PROJECT CONSISTENCY WITH DOWNTOWN 2040 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 large studio development located within 0.5 miles of numerous Metro bus stops and the proposed Arts District / 6th Street Station, which provides access for a variety of travel modes for employees and visitors to the Project Site. The Project aims to enhance the existing site by actively engaging with streets and public space.
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 a studio within a dense neighborhood within 0.50 miles of several Metro bus stops and the proposed Arts District/6th Street Station, providing employees, and visitors to the Project with public transportation alternatives.
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 landscaping and lighting along Project frontages and is designed to be street facing from Alameda Street, 6th Street, and Mill Street, which each provide pedestrian entrances. Additionally, the Project is located within 0.50 miles several Metro bus stops and the proposed Arts District/6th Street Station, providing employees, and visitors to the Project with public transportation alternatives.
Policy LU 11.4: Encourage building design that connects and orients people toward destinations and activity centers.	Consistent. The Project includes open space, landscaping, and comfortable pedestrian walkways to active 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, Summer 2022).

TABLE 8 (CONTINUED)
PROJECT CONSISTENCY WITH DOWNTOWN 2040 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 studio located within a dense neighborhood with several existing commercial, residential, industrial, and retail establishments. The Project does not propose excess parking as compared to the LAMC requirements. Additionally, it encourages alternative transportation by providing secured bicycle parking facilities. This would promote active transportation modes such as biking and walking. Additionally, the Project is located within 0.50 miles several Metro bus stops and the proposed Arts District/6th Street Station, 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 a five story parking structure and ground level parking. Limited above grade parking would be provided along Mill Street, however, the parking would not front the entire block, limiting the exposure 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 wider sidewalks, street trees, publicly accessible open space, seating, open air markets, outdoor art installations, plazas, block-to-block pedestrian walkways, and lush landscaping. The Project may also include ground floor retail and restaurant space, which would further enhance the pedestrian experience. Overall, the Project would be designed to actively engage with streets and public space.
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 various design features to promote open space and improve the pedestrain network, which include landscaping elements that provide shade and wider sidewalks along Project frontages to meet their designated width in the Mobility Plan.

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, Summer 2022).

TABLE 8 (CONTINUED)
PROJECT CONSISTENCY WITH DOWNTOWN 2040 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 landscaping and lighting along Project frontages and is designed to be street facing from Alameda Street, 6th Street, and Mill Street, which each provide pedestrian entrances. In addition, the Project may also include ground floor retail and restaurant space, which would further enhance 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 such as biking with a bicycle parking facilities. Additionally, the Project is located within 0.50 miles of several Metro bus stops and the proposed Arts District / 6th Street station.
Policy MC 3.4: Enhance the pedestrian experience between major destinations and transit stations through improved streetscapes and wayfinding programs.	Consistent. The Project incorporates landscaping and lighting along Project frontages and is designed to be street facing from Alameda Street, 6th Street, and Mill Street, which each provide pedestrian entrances. In addition, the Project would provide publicly accessible open space, seating, and block-to-block pedestrian walkways. The Project may also include ground floor retail and restaurant space, which would further enhance the pedestrian experience.

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, Summer 2022).

TABLE 8 (CONTINUED)
PROJECT CONSISTENCY WITH DOWNTOWN 2040 COMMUNITY PLAN

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
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 office uses within the studio development and would provide bicycle infrastructure, services, and amenities to encourage bicycling for residents, employees, and visitors to the Project Site.
Policy MC 7.3: Encourage projects to include designated spaces for rideshare vehicles and pick-up / drop-off zones.	Consistent. The Project will provide passenger loading opportunities within the Project Site as well as two proposed new loading areas on 6th Street and Mill Street.

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, Summer 2022).

TABLE 9
PROJECT CONSISTENCY WITH CITYWIDE DESIGN GUIDELINES

Objective, Policy, Program, or Plan [a]	Analysis of Project Consistency
<i>Pedestrian-First Design</i>	
<u>Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all</u> Design projects to be safe and accesible and contribute to a better public right-of-way for people of all ages, genders, and abilities, especially the most vulnerable - children, seniors, and people with disabilities. <u>Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience</u> Design to avoid pedestrian and vehiular conflicts and to create an inviting and comfortable public right-of-way. A pleasant and welcoming public realm reinforces walkability and improves the quality of life for users. <u>Guideline 3: Design projects to actively engage with streets and public space and maintain human scale</u> New projects should be designed to contribute to a vibrant and attractive public realm that promotes a sense of civic pride. Better connections within the built environment contribute to a livable and accessible city and a healthier public realm.	Consistent. The Project design includes accessible sidewalks, pedestrian amenities, and well-designed vehicular access driveways in accordance with the City's design considerations. The Project would provide street trees within the sidewalk to provide for a more comfortable pedestrian environment. Further, the orientation of the Project pedestrian entrances ensures that the Project actively engages with the street activity and its surrounding uses. The Project may also include ground floor retail and restaurant space, which would further enhance the pedestrian experience.

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

As the Lead Agency for this Project, the City uses the analytical methods established by LADOT to determine impacts. Section 2.2.3 of the TAG states that a residential project would result in a potential VMT impact if it would generate household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which a project is located. Similarly, a commercial project would result in a potential VMT impact if it would generate work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC area in which the project is located.

The VMT analysis presented below was conducted in accordance with the TAG, which satisfies State requirements under SB 743.

VMT METHODOLOGY

The following reviews the methodology for calculating vehicle trips and VMT using *City of Los Angeles VMT Calculator Version 1.4* (LADOT and LADCP, June 2023) (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. The daily household VMT per capita and work VMT per employee 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 residential destination originating from a workplace 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). As noted in Section 2.2.2 of the TAG, small-scale retail/restaurant components less than 50,000 sf of larger mixed-use development projects are not considered for the purposes of identifying significant work VMT per employee impacts, as those trips are assumed to be local serving and would have a negligible effect on VMT.

Table 2.2-1 of the TAG provides the following daily household VMT per capita and daily work VMT per employee impact thresholds 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

The Project Site is located in the Central APC area.

Other types of one-way trips included in the VMT Calculator include Non-Home-Based Other Production (trips to a non-residential destination originating from a non-residential use at the

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

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.

Travel Behavior Zone (TBZ)

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

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

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

The VMT Calculator determines a project's TBZ based on the latitude and longitude of a project address. The Project Site is located in 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 estimates trip lengths based on information from the City's Travel Demand Forecasting (TDF) Model. The TDF Model considers the traffic analysis zones within 0.125 miles of where the project is located to determine the average trip length and trip type, which factor into the calculation of the project's VMT.

Population and Employment Assumptions

The VMT thresholds identified in the TAG are based on household VMT per capita and work VMT per employee. Thus, the VMT Calculator contains population assumptions developed based on

Census data for the City and employment assumptions derived from multiple data sources, including *2012 Developer Fee Justification Study* (Los Angeles Unified School District, 2012), the San Diego Association of Governments' Activity Based Model, *Trip Generation Manual, 9th Edition* (ITE, 2012), the United States Department of Energy, and other modeling resources. A summary of population and employment assumptions for various land uses is provided in Table 1 of *City of Los Angeles VMT Calculator Documentation*.

TDM Measures

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

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

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

PROJECT VMT ANALYSIS

The VMT Calculator was used to evaluate Project VMT for comparison to the VMT impact criteria. The VMT Calculator utilized as the primary input the Project's land uses and their respective sizes, including 299,012 sf of studio space, 299,407 sf of studio office space, 69,192 sf of support space, 4,000 sf of retail space, and 4,000 sf of restaurant space.

The Project proposes no residential units. Therefore, the Project would not generate any household VMT per capita and would not result in a significant household VMT impact.

Studio-Related Land Uses

The VMT Calculator was developed to estimate project-specific daily work VMT per employee for developments within City limits. Based on a review of relevant empirical and historical data, and in consultation with LADOT, it was determined that the daily trip generation characteristics and patterns of the Project's employee-based creative office and studio-related land uses were similar in scope and behavior to the characteristics of the general office land use in *Trip Generation Manual, 11th Edition*. As such, a custom land use input was developed to evaluate the VMT generated by the Project's studio-related land uses (including the sound stage and production support uses), which are not land use categories recognized within the VMT Calculator. The 299,407 sf of studio office space was considered general office for the purposes of the VMT analysis and, thus, was not considered in the custom land use input.

The daily trip generation estimates, as detailed in Table 4, and employee projections (4.0 employees per 1,000 sf of sound stage use and 2.0 employees per 1,000 sf of production support use) for the Project's studio-related uses are based on empirical rates from other studios in the City. The trip characteristics and patterns of studio-related uses are similar in scope and behavior to the general office land use. Therefore, the custom land use input for the studio-related uses utilized the trip purpose assumptions for the general office land use, as provided in Appendix E of the *VMT Calculator Documentation*.

Project VMT

The Project includes 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 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. 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.
- **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.

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 10. The VMT Calculator estimates that the Project would generate 13,939 total daily work VMT. Thus, the Project would generate an average work VMT per employee of 5.5, which does not exceed the significance thresholds for the Central APC (7.6 work VMT per employee). Therefore, VMT impacts are determined to be less than significant and no mitigation measures would be required.

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

CUMULATIVE ANALYSIS

Pursuant to the TAG, cumulative effects of development projects are determined based on the consistency with the air quality and GHG reduction goals of *Connect SoCal – The 2020–2045 Regional Transportation Plan / Sustainable Communities Strategy* (Southern California Association of Governments [SCAG], Adopted September 3, 2020) (RTP/SCS) in terms of development location, density, and intensity. The RTP/SCS presents a long-term vision for the

region's transportation system through Year 2045 and balances the region's future mobility and housing needs with economic, environmental, and public health goals.

As detailed in the TAG, for projects that do not demonstrate an 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. The Project would not result in a significant VMT impact, as described above.

Moreover, as detailed above, the Project is designed to further reduce single occupancy trips to the Project Site because it encourages alternative transportation by providing bicycle parking facilities and amenities and because it locates employment in proximity to local transit. The Project would also include an integrated mix of uses, including studio-related uses, retail, and restaurant uses.

Thus, the Project encourages the use of a variety of transportation options in place of single-occupant vehicle use and is consistent with the RTP/SCS goal of maximizing mobility and accessibility in the region. The Project would also contribute to the productivity and use of the regional transportation system by providing employment near transit and would encourage active multi-modal transportation by providing new bicycle parking and facilities, consistent with RTP/SCS goals. Therefore, the Project would not result in a cumulative VMT impact under Threshold T-2.1, and no further evaluation or mitigation measures would be required.

TABLE 10
VMT ANALYSIS SUMMARY

Project Information	
Land Use [a]	Size
Office General Office	299,407
Custom Use Stage and Support	368,204 sf
Retail General Retail	4,000 sf
Retail High - Turnover Sit-Down Restaurant	4,000 sf
Project Analysis [b]	
Project Area Planning Commission	Central
Travel Behavior Zone [c]	Suburban Center
Maximum Allowable VMT Reduction	20%
VMT Analysis [d]	Proposed Project
Daily Vehicle Trips	3,815
Daily VMT	27,985
Daily Work VMT	13,939
Work VMT per Employee [e]	5.5
Impact Threshold	7.6
Significant Impact	NO

Notes:

[a] In order to evaluate the VMT generated by the Project's studio-related land uses, which are not recognized within the VMT Calculator, an employee equivalency calculation was conducted based on a comparison of the daily trip generation estimates. As shown in Table 11A, the Project's proposed sound stage-related uses are equivalent to 179 employees per 100,000 sf and the Project's production support-related uses are equivalent to 125 employees per 100,000 sf.

[b] Project Analysis based on the *City of Los Angeles VMT Calculator Version 1.4* (June 2023).

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

[d] The following Project design features were accounted for in the VMT evaluation:

- Reduced parking supply
- Include bike parking per LAMC, including short-term and long-term parking facilities

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

Section 4C: Threshold T-2.2

Substantially Inducing Additional Automobile Travel Analysis

Threshold T-2.2 applies to transportation projects. The TAG explains that transportation projects that increase vehicular capacity can lead to additional travel on the roadway network, which can include induced vehicle travel due to factors such as increased speeds and induced growth. The TAG also provides screening criteria and states that:

“[i]f the answer is no to the following question, further analysis will not be required for Threshold T-2.2, and a no impact determination can be made for that threshold:

“T-2.2: Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?”

The Project does not include additional through traffic lanes on existing or new highways, general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges. Accordingly, neither the Project nor any improvements associated with it are considered a transportation project. Therefore, Threshold T-2.2 does not apply to the Project and no further evaluation is required.

Section 4D: Threshold T-3

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

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from a project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections.

Further evaluation is required for projects that that require a discretionary action and (1) propose new driveways or introduce new vehicle access to the property from public ROW or (2) propose any voluntary or required modifications to the public ROW (i.e., street dedications, reconfigurations of curb line, etc.) The Project proposes modifications to the public ROW and, therefore, requires further evaluation based on these screening criteria. The threshold for determining impacts is whether the Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

PROJECT SITE ACCESS AND CIRCULATION OVERVIEW

As described in Chapter 1, primary vehicular access to the Project Site would be provided via four driveways along 6th Street and Mill Street. All driveways would be designed according to LADOT standards and would be subject to review by the City Bureau of Engineering.

The Project would improve existing curb cuts to current City standards to provide vehicular access on the north and east sides of the Project Site. Existing driveways on the west side of the site would be removed. The Project would remove 12 of the existing 16 driveways and reconfigure four of the existing vehicular driveways, reducing the potential for mobility conflicts when

compared to current conditions. All Project driveways and internal drive aisles would be improved and/or configured to limit vehicle queues and interruptions to the public ROW and bicycle/pedestrian-vehicle conflicts. In addition, a pedestrian entrance on Alameda and two passenger loading areas, one on 6th Street and one on Mill Street, would be provided. Furthermore, the Project would provide the required dedications in compliance with the ROW standards identified in the Mobility Plan.

PROJECT ACCESS REVIEW

A review of Project access points, internal circulation, and parking access was performed to determine if the Project would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts. In accordance with the TAG, this analysis considered the following factors: (a) the relative amount of pedestrian activity at Project access points; (b) design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists; (c) the type of bicycle facilities the Project driveway(s) crosses and the relative level of utilization; (d) the physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts; (e) the Project location, or Project-related changes to the public ROW, relative to proximity to the HIN or a Safe Routes to School (SRTS) program area; (f) any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard. These factors are addressed below.

Pedestrian Activity

Existing pedestrian activity during the peak hours adjacent to the Project Site and in the Study Area is detailed in Appendix B. Adjacent to the Project Site, Alameda Street is identified as part of the PED.

With the Project, traffic volumes and passenger vehicle activity at the Project Site and on the surrounding street network would increase, and semi-truck activity would be reduced. As such, the Project would improve the existing driveways to current City standards and incorporate

pedestrian safety measures to improve visibility and reduce potential pedestrian-vehicular conflicts. Pedestrian signals, continental crosswalk striping, and ADA-compliant curb ramps are provided at the intersection of Alameda Street & 6th Street, which provides access to Driveway 1 and Driveway 2 and the pedestrian entrances on Alameda Street, 6th Street, and Mill Street. The pedestrian signals, striping, and ramps provide controlled pedestrian crossings at this Project access point and, thus, reduce potential pedestrian-vehicular conflicts.

The Project would include landscaping and street trees along the entire Project perimeter to create a walkable and attractive pedestrian environment. The Project would also provide the required dedications to ensure the adjacent streets meet their required width as designated in the Mobility Plan. In addition, separated pedestrian access would be provided at Alameda Street, as well as along the frontage on 6th Street and Mill Street. The four Project driveways would be designed and placed to provide adequate sight distance and pedestrian refuge areas to limit potential vehicular-bicycle or vehicular-pedestrian conflicts. Based on the site plan review and design assumptions, the Project does not present geometric design hazards related to mobility or pedestrian accessibility.

Driveway Design Features

The Project Site is currently occupied by warehouse uses, with driveways that provide direct access to the truck loading bays from Alameda Street, 6th Street, and Mill Street. Thus, to accommodate the larger truck turning maneuvers, the existing driveway curb cuts are significantly wider than typical driveway standards. With the development of the Project, the total number of driveways would be reduced from 16 to four and each of the four would be designed to meet current City standards for typical two-way operations. As a result, the Project frontages along 6th Street and Mill Street would be improved to reduce interruptions to vehicle, bicycle, and pedestrian flow and safety and the frontage along Alameda Street would eliminate conflict points with vehicles.

Adjacent to the northern frontage of the Project Site, 6th Street provides two eastbound and two westbound travel lanes, with a Class II bicycle lane on both sides of the street. The street has been identified as part of the HIN based on the latest data from LADOT. To reduce potential

hazard to safety, both Driveway 1 and Driveway 2 would be designed for right-turn ingress and egress only.

Adjacent to the western frontage of the Project Site, Mill Street provides one northbound and one southbound travel lane. Driveway 3 would provide secondary access to the Project, primarily for garage access and VIP guests. The driveway would operate as full access, accommodating both right-turn and left-turn ingress and egress maneuvers. Driveway 4, located south of Driveway 3, would be full access and used for passenger vehicles and delivery trucks.

None of the driveways propose any hardscape features, walls, or landscaping that would obstruct sight distance or visibility of approaching vehicles, pedestrians, or bicycles.

Bicycle Facilities

Currently, there are Class II bicycle lanes on 6th Street adjacent to the Project Site. Two of the driveways would cross this facility, as detailed in Figure 7. However, the Project is reducing the total number of intersections crossing this bicycle lane from eight to two, resulting in less conflict between vehicles and bicycles. Existing bicycle activity in the Project area is further detailed in Appendix B. Aside from 6th Street, no other streets adjacent to the Project Site is designated as part of the BEN or BLN in the Mobility Plan. However, the Project would not preclude the City from future implementation of bicycle infrastructure. The Project driveways provide adequate sight distance to limit potential vehicular-bicycle conflicts. Therefore, the Project driveways are not projected to pose a safety hazard to bicyclists.

Physical Conditions

The topography of the Project Site is level and all driveways are designed to intersect the sidewalk and street at right angles to the extent possible, with adequate building setback to allow pedestrians and bicyclists to observe vehicles within the driveways. In addition, all pedestrian/bicycle access points would be located separate from vehicle driveways to limit potential pedestrian/bicycle-vehicle conflicts.

The Project would provide landscaped elements and street trees for shade along the Project perimeter and within the Project Site to create a walkable and attractive pedestrian environment. Pedestrian sidewalks would be improved to meet City standards and to provide continuous pedestrian connections along the Project frontage.

Project Location

Adjacent to the Project Site, 6th Street is identified as part of the HIN. The Project Site is not considered part of any identified SRTS. Additionally, the SRTS map does not identify any infrastructure improvement projects within the Study Area. The Project would provide the required dedications along 6th Street and Mill Street to meet the standards identified in the Mobility Plan.

As previously detailed, the Project would require the reconfiguration of four existing driveways along 6th Street and Mill Street. However, the Project is removing 12 existing driveways along the Project frontages. The driveways would be designed in accordance with City design guidelines. The Project would be consistent with the designated driveway and roadway width requirements as indicated in the Mobility Plan, and the Project would not preclude future roadway improvements proposed in the Mobility Plan.

Incompatible Uses

The Project would replace existing warehouse uses on the Project Site. The Project design incorporates and expands on the surrounding areas to provide a more attractive, well-defined, and accessible interaction between the Project and surrounding uses. None of the Project design elements that are tangential to the adjacent uses are considered incompatible. There are no unusual or new obstacles that would be considered hazardous to motorized vehicles, non-motorized vehicles, or pedestrians.

Summary

Based on the site plan review and design assumptions, the Project does not present any geometric design hazards related to mobility or pedestrian accessibility.

CUMULATIVE ANALYSIS

In addition to potential Project-specific impacts, the TAG requires that the Project be reviewed in combination with Related Projects with access points along the same block as the proposed project to determine if there may be a cumulatively significant impact. Related Project #2, located at 1340 E. 6th Street, is located on the same street as the Project. However, Related Project #2 is an existing building that would be converted from manufacturing to apartments. As part of the conversion, the existing non-compliant driveway along Mill Street would be updated to meet LADOT standards for driveways. Thus, potential conflict points between vehicles and pedestrians, bikes, or other vehicles would be reduced, making a safer environment for all road users. Therefore, the Project would not result in cumulative impacts that would substantially increase hazards due to geometric design features, including safety, operational, or capacity impacts.

Section 4E

Freeway Safety Analysis

The TAG identifies the City requirements for a CEQA safety analysis of Caltrans freeway off-ramp facilities as part of a transportation assessment (the Freeway Guidance).

ANALYSIS METHODOLOGY

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

Based on the Freeway Guidance, a transportation assessment for 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 impact at such a ramp if each of the following three criteria were met:

1. Under a scenario analyzing future conditions upon project buildout, with project traffic included, the off-ramp queue would extend to the mainline freeway lanes¹.
2. A project would contribute at least two vehicle lengths (50 feet, assuming 25 feet per vehicle) to the queue.
3. The average speed of mainline freeway traffic adjacent to the off-ramp during the analyzed peak hour(s) is greater than 30 mph.

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

¹ If an auxiliary lane is provided on the freeway, then half the length of the auxiliary lane is added to the ramp storage length.

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

ANALYSIS RESULTS

Based on the Project's trip generation estimates and the traffic distribution pattern detailed in Chapter 3 and in Table 5 of the MOU provided in Appendix A, the Project would add 25 or more peak hour trips to the following off-ramps during the morning and afternoon peak hours:

- I-10 Eastbound Off-Ramp to Porter Street
- I-10 Westbound Off-Ramp to Mateo Street / Enterprise Street
- I-10 Westbound Off-Ramp to 8th Street

As these intersections fall outside the Study Area, additional historical counts from 2015 were utilized for two of the three intersections. For the third intersection, traffic volumes were extrapolated from a 2022 traffic count at the nearby intersection of Mateo Street & 8th Street and from Caltrans off-ramp count data from 2015. These additional counts are included in Appendix B.

In accordance with the applicable methodology, the 95th percentile ramp queue was calculated using the *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016) (HCM) methodology. Conditions were analyzed for the anticipated Project buildout year of 2026, which includes growth and traffic from Related Projects, both with and without Project traffic. The summary of queue lengths and off-ramp storage length, along with the analysis worksheets, are provided in Appendix E.

As shown in Appendix E, under Future with Project Conditions, the queues at off-ramps would not exceed the ramp storage length during any of the analyzed peak hours and would, therefore, not be subject to a speed differential analyses.

The queues at the off-ramps would not extend onto the freeway mainline and the Project would not cause a significant safety constraint. Thus, no corrective measures are required.

Chapter 5

Non-CEQA Transportation Analysis

Section 3 of the TAG provides guidance for preparing additional transportation analyses that are not required to determine the CEQA impacts of the Project because VMT is the legally applicable methodology for analyzing traffic, circulation, and transportation impacts. This chapter summarizes the non-CEQA transportation analysis of the Project. It includes sections related to the Project traffic, proposed access provisions, safety, and circulation operations of the Project, and the adjacent pedestrian, bicycle, and transit facilities. This chapter also evaluates the Project's operational conditions, parking supply and requirements, and effects due to Project construction.

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
- Construction Analysis

The four non-CEQA transportation analyses were reviewed in detail in Sections 5A-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

Adjacent to the Project Site, 10-foot wide sidewalks are provided along 6th Street and Mill Street and eight-foot wide sidewalks are provided along Alameda Street. Continental crosswalks, pedestrian signals, and curb ramps for ADA accessibility at all corners are provided at the intersection of Alameda Street & 6th Street. Curb ramps for ADA accessibility are also provided along the southern leg of the intersection of Mill Street & 6th Street. Figure 6 identifies commercial and institutional facilities within walking distance (0.25 miles) of the Project Site that could attract pedestrian activity.

In the immediate vicinity of the Project Site, existing Class II bicycle lanes are provided on 6th Street. The Project would maintain the existing lanes adjacent to the Project Site. While Driveway 1 and Driveway 2 would be points of conflict between vehicles and bicycles, the Project would reduce the number of driveways from 16 to four, improving access for bicycles and pedestrians.

Transit

The Metro Route 16 and Route 18 bus stops are located immediately adjacent to the Project Site on 6th Street at Alameda Street. Additional Metro service within the study area is provided in Table 2 and shown in Figure 8. The Project would be located within 0.50 miles of a Major Transit Stop and the proposed Arts District / 6th Street Station.

INTENSIFICATION OF USE

The Project would result in additional pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, the Project would enhance the pedestrian environment by providing a more comfortable pedestrian experience by widening and maintaining accessible sidewalks along the Project frontage and would encourage alternative transportation modes by providing bicycle parking and amenities for employees and visitors. In addition, the Project is located within a 0.25-mile walking distance of numerous Metro bus stops.

Although the Project (and other Related Projects) will cumulatively add transit ridership, the Study Area is served by multiple bus lines operated by Metro. Based on a 5% transit credit on the peak hour trips provided in Table 3 and an assumption of 5% transit usage for the studio uses, transit usage for the Project accounts for approximately 30 vehicle trips during the morning peak hour and 34 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 47 person-transit trips during the morning peak hour and 53 person-transit trips during the afternoon peak hour.

CONCLUSION

The Project would result in some intensification of pedestrian, bicycle, and transit activity in the vicinity of the Project Site. However, 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. Furthermore, it is recognized that LADOT and Metro will continue to



maintain and expand regional transit service in order to accommodate pedestrian, bicycle, and transit demand in the region.

Section 5B

Project Access, Safety, and Circulation Assessment

This section summarizes the site access, safety, and circulation of the Project Site. It includes a quantitative evaluation of the Project's access and circulation operations, as well as the anticipated LOS at the Study Area intersections and anticipated traffic queues.

PROJECT ACCESS

Vehicle Access and Internal Circulation

As described in Chapter 1, vehicular access would be provided via four driveways along 6th Street and Mill Street. The two primary driveways are located along 6th Street, with both the west driveway (Driveway 1) and the east driveway (Driveway 2) providing right-in/right-out access only. A third full access driveway along Mill Street would also be provided, primarily for VIP access (Driveway 3). The fourth driveway is located south of Driveway 3 along Mill Street and would provide ingress-only access for passenger and delivery vehicles only (Driveway 4). The Project would provide internal drive aisles that would accommodate passenger vehicle and truck circulation.

Two passenger loading areas would be provided, one on 6th Street and one on Mill Street.

The driveways would be designed to LADOT standards under the review of City staff. Access control equipment would be designed and operated to limit delay at the driveways and queue spillover into the public ROW. The circulation aisle widths of the parking areas should be designed to allow adequate and safe circulation of vehicles and trucks without significant conflicts. The vehicular access points are adequate to serve the demand of the Project Site and no significant internal congestion is anticipated that would affect traffic flow on adjacent public streets. The detailed queue evaluation worksheets for the proposed Project driveways are provided in Appendix E.

Pedestrians and Bicycles

Pedestrian access to the Project Site would be provided via separate pedestrian entrances along Alameda Street, 6th Street, and Mill Street, which would connect to internal walkways throughout the Project Site.

Employees and visitors arriving by bicycle would have the same access opportunities as pedestrian visitors.

In the immediate vicinity of the Project Site, existing Class II bicycle lanes are provided on 6th Street. While Driveway 1 and Driveway 2 would be points of conflict between vehicles and bicycles, the Project would reduce the number of driveways from 16 to four, improving access for bicycles and pedestrians. Therefore, the driveways would not pose a safety hazard to bicyclists. The Project driveways would be designed and placed to provide adequate sight distance and pedestrian refuge areas to limit potential vehicular-bicycle or vehicular-pedestrian conflicts. In order to facilitate bicycle use, short-term and long-term bicycle parking spaces would be provided, as detailed in Section 5E.

OPERATIONAL EVALUATION

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

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

- Existing with Project Conditions: This analysis condition estimates the potential intersection operating conditions that could be expected if the Project were built under existing conditions.
- Future with Project Conditions (Year 2026): This analysis condition estimates the potential intersection operating conditions that could be expected if the Project were occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2026).

Methodology

In accordance with the TAG, the intersection delay and queue analyses for the operational evaluation were conducted using HCM methodology, which was implemented using Synchro software and signal timing worksheets from the City to analyze intersection operating conditions. The HCM signalized methodology calculates the average delay, in seconds, for each vehicle passing through the intersections, while the HCM unsignalized two-way stop-control methodology calculates the control delay, in seconds, for individual approaches of an intersection. Table 11 presents a description of the LOS categories, which range from excellent, nearly free-flow traffic at LOS A, to stop-and-go conditions at LOS F, for signalized and unsignalized intersections. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length for signalized and unsignalized intersections. The reported queues are calculated using the HCM signalized and unsignalized intersection methodology.

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

Existing with Project Conditions

Traffic Volumes. The morning and afternoon peak hour traffic volumes generated by the Project, as described in Chapter 3 and shown in Figures 15A-B, were added to the Existing Conditions morning and afternoon peak hour traffic volumes shown in Figure 9. The resulting volumes are illustrated in Figure 16 and represent Existing with Project Conditions (Year 2023), assuming Project operation under Existing Conditions.

Intersection LOS. Table 12 summarizes the weekday morning and afternoon peak hour LOS results for the Study Area intersections under Existing Conditions (Year 2023) and Existing with Project Conditions (Year 2023). As shown in Table 12, all six of the Study Area intersections operate at LOS C or better during both the morning and afternoon peak hours under Existing Conditions (Year 2023) and four of the six intersections would operate at LOS C or better under Existing with Project Conditions (Year 2023). The remaining two intersections, which operate at LOS E or F, are both Two-Way Stop-Controlled (TWSC) intersections. HCM unsignalized methodology calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, typically on the

lower volume minor street, and does not account for traffic gaps created by adjacent traffic signals that allow turn movements to proceed from the minor street.

Future with Project Conditions

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

Traffic Volumes. The morning and afternoon peak hour traffic volumes generated by the Project described in Chapter 3 and shown in Figures 15A-B were added to the Future without Project Conditions (Year 2026) morning and afternoon peak hour traffic volumes shown in Figure 12. The resulting volumes are illustrated in Figure 17 and represent Future with Project Conditions (Year 2026) after development of the Project.

Intersection LOS. Table 13 summarizes the results of the Future without Project Conditions (Year 2026) and Future with Project Conditions (Year 2026) during the weekday morning and afternoon peak hours for the Study Area intersections. As shown in Table 13, all six of the Study Area intersections operate at LOS C or better during both the morning and afternoon peak hours under Future without Project Conditions (Year 2026) and four of the six intersections would operate at LOS C or better under Future with Project Conditions (Year 2026). The remaining two intersections, which operate at LOS E or F, are both TWSC intersections. HCM unsignalized methodology calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, typically on the lower volume minor street, and does not account for traffic gaps created by adjacent traffic signals that allow turn movements to proceed from the minor street.

INTERSECTION QUEUING ANALYSIS

The queue lengths were estimated using Synchro software, which reports the 95th percentile queue length for signalized intersections at each approach lane. 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 reported queues are calculated using the HCM methodology.

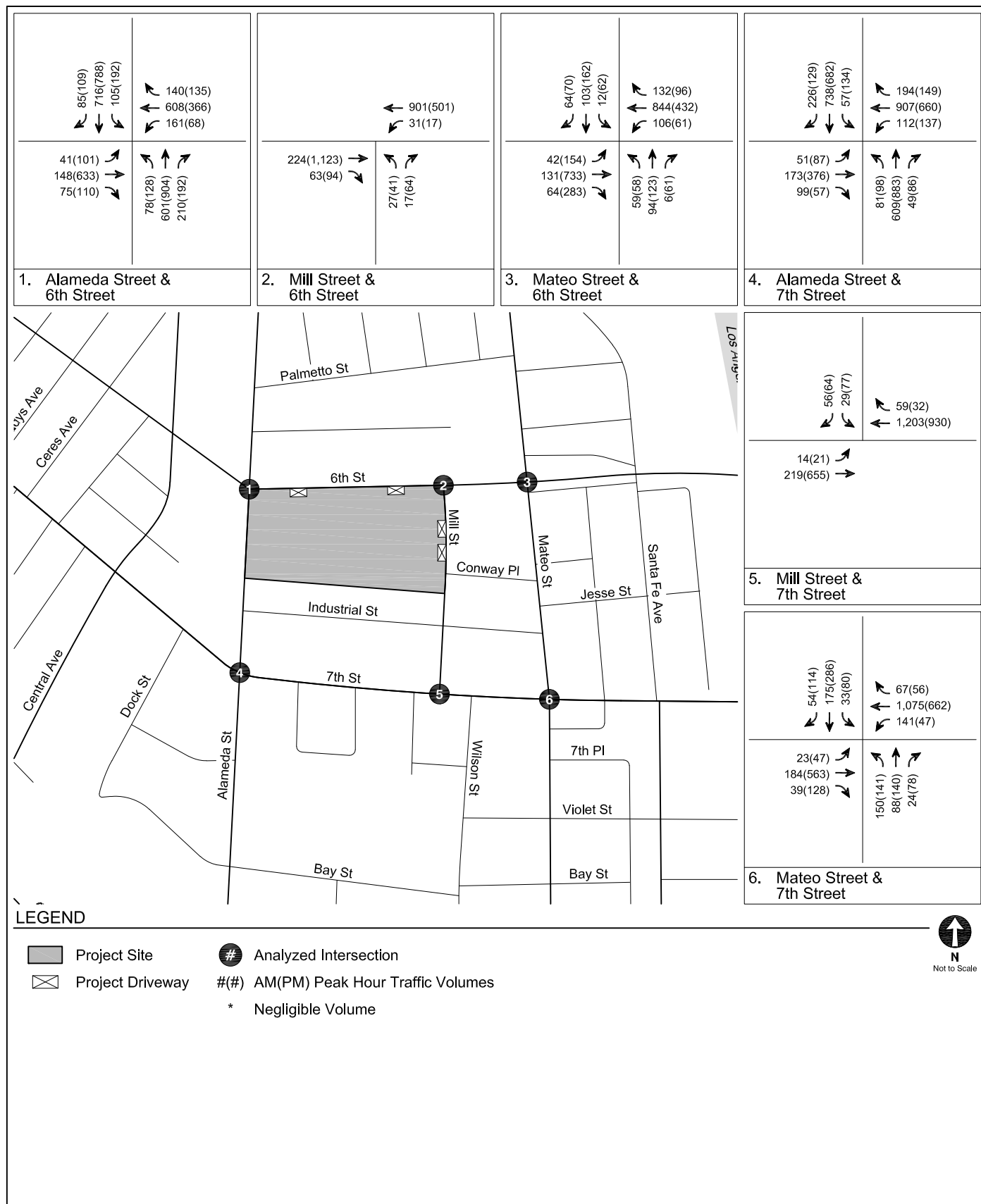
As detailed in Table 14, the Project would substantially extend queuing at two of the six Study Area intersections, Alameda Street & 7th Street and Mateo Street & 7th Street.

RECOMMENDED ACTIONS

It is anticipated that the Project will add to the cumulative traffic within the Study Area, as detailed above. As discussed in Section 4B, the Project will implement various TDM strategies to reduce both single occupancy trips to the Project Site and Project traffic throughout the Study Area during the most congested time periods of the day. The Project will develop and implement a TDM program, including Project design features such as reduced parking supply and the provision of bicycle parking per the LAMC, to promote non-automobile travel, reduce the use of single-occupant vehicle trips, etc.

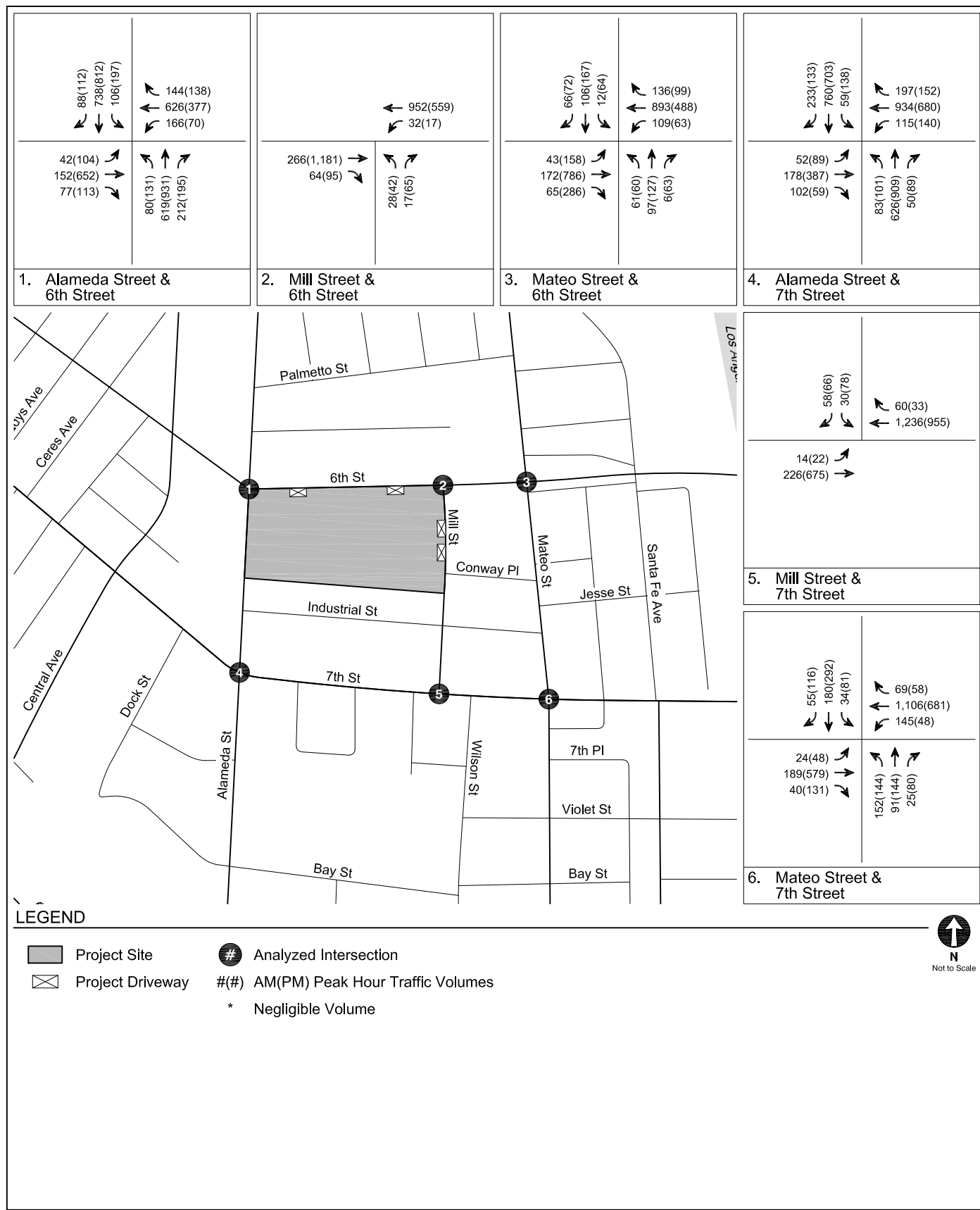
The Project would also comply with the current requirements of the TDM Ordinance, as discussed in Sections 4A. The TDM Ordinance is currently being updated and is expected to be completed prior to the anticipated occupancy of the Project. If adopted, the Project would be subject to the terms of the proposed TDM Ordinance and would likely be required to comply with additional trip-reduction strategies. As such, the Project's TDM Program would further reduce vehicle trips to/from the Project Site and throughout the Study Area.

Beyond the identified TDM strategies, the Project would also manage site access and circulation operations to minimize potential queues onto the adjacent public ROW. Additionally, the Project will work in conjunction with LADOT to develop a local improvement program to manage site access and circulation operations as well as provide road safety enhancements for pedestrian, bicycle, and transit users in the Project vicinity.



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

FIGURE
16



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

FIGURE
17

TABLE 11
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 12
EXISTING WITH PROJECT CONDITIONS (YEAR 2023)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Alameda Street & 6th Street	AM	26.2	C	25.5	C
[a]		PM	24.7	C	26.6	C
2.	Mill Street & 6th Street	AM	14.0	B	15.6	C
[b]		PM	20.0	C	55.6	F
3.	Mateo Street & 6th Street	AM	19.6	B	19.7	B
[a]		PM	19.6	B	21.4	C
4.	Alameda Street & 7th Street	AM	21.4	C	23.6	C
[a]		PM	28.5	C	30.1	C
5.	Mill Street & 7th Street	AM	24.2	C	35.0	D
[b]		PM	23.5	C	84.0	F
6.	Mateo Street & 7th Street	AM	13.0	B	16.4	B
[a]		PM	16.9	B	29.7	C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

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

[b] Unsignalized intersection analysis based on the HCM Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

TABLE 13
FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1.	Alameda Street &	AM	26.4	C	25.7	C
[a]	6th Street	PM	25.4	C	27.8	C
2.	Mill Street &	AM	15.2	C	17.2	C
[b]	6th Street	PM	22.8	C	75.8	F
3.	Mateo Street &	AM	20.0	B	20.2	C
[a]	6th Street	PM	20.1	C	22.2	C
4.	Alameda Street &	AM	22.0	C	25.2	C
[a]	7th Street	PM	29.4	C	31.1	C
5.	Mill Street &	AM	26.0	D	38.8	E
[b]	7th Street	PM	25.2	D	100.5	F
6.	Mateo Street &	AM	13.3	B	16.8	B
[a]	7th Street	PM	17.3	B	32.8	C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

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

[b] Unsignalized intersection analysis based on the HCM Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

TABLE 14
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?				
1.	Alameda Street & 6th Street	C	C	EB	B	D	Left Through/Right	80 435 95	40 68 133	NO NO YES	128 345 103	YES NO YES	45 83 150	NO NO YES	130 355 105	YES NO YES	5 15 17	2 10 2		
				NB	C	B	Through/Right Left	1,100 175	278 60	NO NO	270 48	NO NO	308 60	NO NO	283 63	NO NO	30 0	13 15		
				SB	D	C	Through/Right Left	655 320	285 40	NO NO	280 183	NO NO	333 128	NO NO	308 288	NO NO	48 88	28 105		
							Through/Right	250	420	YES	308	YES	385	YES	308	YES	-35	0		
2.	Mill Street & 6th Street			C	F	WB	-	-	Left/Through	450	3	NO	3	NO	3	NO	3	NO	0	0
						NB	-	-	Left/Through/Right	500	10	NO	28	NO	13	NO	115	NO	3	87
3.	Mateo Street & 6th Street	C	C	EB	B	C	Left Through/Right	155 465 305	33 53 60	NO NO NO	105 273 50	NO NO NO	43 68 70	NO NO NO	145 378 70	NO NO NO	10 15 10	40 105 20		
				NB	C	C	Through/Right	3,850 665	340 130	NO NO	183 210	NO NO	348 130	NO NO	188 210	NO NO	8 0	5 0		
				SB	C	C	Left/Through/Right	270	148	NO	253	NO	148	NO	253	NO	0	0		
4.	Alameda Street & 7th Street			C	C	EB	C	C	Left Through/Right	140 890 155	50 100 38	NO NO NO	100 175 100	NO NO NO	60 98 35	NO NO NO	123 175 165	NO NO YES	10 -2 -3	23 0 65
		WB	C			D	Through/Right Left	290 215	250 88	NO NO	390 93	YES NO	293 90	YES NO	425 93	YES NO	43 2	35 0		
		NB	C			D	Through/Right Left	385 305	255 33	NO NO	435 78	YES NO	280 33	NO NO	450 78	YES NO	25 0	15 0		
		SB	B			B	Through/Right	305	323	YES	250	NO	335	YES	250	NO	12	0		
5.	Mill Street & 7th Street	E	F			EB	-	-	Left/Through	85	3	NO	3	NO	3	NO	3	NO	0	0
						SB	-	-	Left/Through/Right	355	35	NO	38	NO	58	NO	170	NO	23	132
6.	Mateo Street & 7th Street	B	C	EB	A	B	Left Through/Right	50 420 50	13 28 45	NO NO NO	28 158 28	NO NO NO	18 45 68	NO NO YES	35 205 35	NO NO NO	5 17 23	7 47 7		
				NB	D	E	Through/Right	270	208	NO	175	NO	300	YES	210	NO	92	35		
				SB	C	D	Left/Through/Right	130	200	YES	320	YES	258	YES	568	YES	58	248		
							Left/Through/Right	340	230	NO	263	NO	230	NO	473	YES	0	210		
C-1	I-10 Westbound Off Ramp at 8th Street [f]	-	-	-	-	-	Left	2,830	90	NO	145	NO	110	NO	168	NO	20	23		
				-	-	-	Right	135	218	YES	203	YES	220	YES	215	YES	2	12		
C-2	I-10 Eastbound Off Ramp at Porter Street	-	-	-	-	-	Left	1,985	1,185	NO	228	NO	1,240	NO	330	NO	55	102		
				-	-	-	Right	185	23	NO	8	NO	28	NO	10	NO	5	2		
C-3	I-10 Westbound Off-Ramp at Mateo Street	-	-	-	-	-	Left/Right	2,775	918	NO	63	NO	1,085	NO	80	NO	167	17		

Notes:

LOS: Level of Service

Results per HCM 6th Edition.

[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.

[f] Although queueing in the right turn pocket at the intersection is exceeded, vehicles would then queue in the shared portion of the ramp which extends for an additional 2,695 ft. Therefore the ramp capacity is not exceeded.

Section 5C

Residential Street Cut-Through Analysis

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

Section 3.5.2 of the TAG provides a list of questions to assess whether the Project would negatively affect residential streets. The Project is not projected to lead to trip diversion along residential Local Streets, nor is the Project projected to add a substantial amount of automobile traffic to congested Arterial Streets that could potentially cause a shift to residential Local Streets, as the surrounding area uses mainly consist of industrial and commercial uses. Thus, the Project is not required to conduct a Local Residential Street Cut-Through Analysis.

Section 5D

Project Construction Assessment

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

CONSTRUCTION EVALUATION CRITERIA

Section 3.4.3 of the TAG identifies 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 within the public ROW:

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

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

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed over a period of approximately 25 months, with anticipated completion in Year 2026. The construction period would include the sub-phases of site demolition, excavation and grading, foundations, building construction, and paving and landscape. Peak haul truck activity occurs during the excavation and grading phase, and peak worker activity occurs during the building construction phases. These sub-phases of construction were studied in greater detail.

EXCAVATION AND GRADING PHASE

The peak period of truck activity during construction of the Project would occur during the excavation and grading subphase.

Haul truck traffic would take the most direct route from the Project Site to the appropriate freeway ramps, utilizing designated truck routes within the City. The haul route will be reviewed and approved by the City.

Based on projections compiled for the Project, the excavation and grading sub-phases would occur over a one-and-a-half-month period and would require up to 250 haul trucks per day. Thus, up to 500 daily truck trips (250 inbound, 250 outbound) are forecast to occur during the excavation and grading period, with approximately 84 trips per hour (42 inbound, 42 outbound) uniformly over a typical six-hour haul period (i.e., not operating during commuter peak hours).

Transportation Research Circular No. 212, Interim Materials on Highway Capacity (Transportation Research Board, 1980) defines passenger car equivalency (PCE) for a heavy vehicle as the number of through moving passenger cars to which it is equivalent based on the heavy vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 12-25 of the HCM suggest a PCE of 2.0 for trucks. Assuming a PCE factor of 2.0, the 500

truck trips would be equivalent to 1,000 daily PCE trips. The 84 hourly truck trips would be equivalent to 168 PCE trips (84 inbound, 84 outbound) per hour.

In addition, a maximum of 35 construction workers would work at the Project Site during this phase. Assuming minimal carpooling amongst those workers, an average vehicle occupancy (AVO) of 1.135 persons per vehicle was applied, as provided in *CEQA Air Quality Handbook* (South Coast Air Quality Management District, 1993). Therefore, 35 workers would result in 31 vehicles inbound and 31 vehicles outbound on a daily basis during this phase.

With implementation of the Construction Management Plan (further described 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 significant peak hour construction traffic constraints are expected during the excavation and grading phase of construction.

BUILDING CONSTRUCTION PHASE

The traffic effects 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 sub-phase would employ the most construction workers, with a maximum of approximately 225 workers per day.

Assuming an AVO of 1.135 persons per vehicle, 225 workers would result in a total of 198 vehicles that would arrive and depart from the Project Site each day during Project construction. The estimated number of daily trips associated with the construction workers is approximately 394

(198 inbound and 198 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. As such, the building construction phase would not cause a significant traffic effect at any of the Study Intersections.

During the entirety of construction activities, parking for construction workers would be secured either on-site or within off-site parking facilities. 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. Once the Project's parking structure is completed, parking for construction workers will be accommodated within the new parking structure.

POTENTIAL CONSTRAINTS ON ACCESS, TRANSIT, AND PARKING

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, as 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.) will be incorporated into the Construction Management Plan. The construction-related constraints associated with access and transit would be addressed with the implementation of the Construction Management Plan described below.

Access

Construction activities are expected to be primarily contained within the Project Site boundary, but limited encroachment or closures may occur within the public ROW (e.g., sidewalks and roadways) adjacent to the Project Site. The Project-adjacent parking lane and sidewalks along Alameda Street, 6th Street and Mill Street may be affected by construction activities or the staging of construction materials and equipment.

Transit

No bus stops are located immediately adjacent to the Project Site; therefore, transit operations would not be affected. An existing bus stop on the north side of 6th Street at Alameda Street would be maintained during construction.

Parking

Unmetered on-street parking is provided along the Project frontage on Mill Street. Project construction may result in the temporary loss of up to 11 on-street parking spaces along the west side of Mill Street during the construction period. A final number and duration of closures, if any, would be determined in the Construction Management Plan

CONSTRUCTION MANAGEMENT PLAN

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

- Advance, bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation
- Prohibition of construction worker or equipment parking on adjacent streets
- Prohibition of haul truck staging on any streets adjacent to the Project, unless specifically approved as a condition of an approved haul route
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding Arterial Streets
- Containment of construction activity within the Project Site boundaries

-
- Implementation of safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers
 - Scheduling of construction-related deliveries, haul trips, etc., to occur outside the commuter peak hours
 - Spacing of trucks so as to discourage a convoy effect
 - Sufficient dampening of the construction area to control dust caused by grading and hauling and reasonable control at all times of dust caused by wind
 - 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 posted at the site readily visible to any interested party during site preparation, grading, and construction

It is likely that Construction Management Plans of the Related Projects would also be submitted to the City for approval 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

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

PARKING SUPPLY

The Project would provide a total of up to 759 parking spaces on-site and at least 172 bicycle parking spaces. Parking for the Project would be provided via on-site parking facilities within each site.

VEHICLE PARKING CODE REQUIREMENTS

The parking requirements of the Project were calculated by applying the appropriate parking ratios from Section 12.21A.4 of the LAMC, as detailed in Table 15. As shown, the standard LAMC requirement without any application of specific parking overlays would result in a code requirement of 1,371 parking spaces.

However, the Project is located within 0.50 miles of a Major Transit Stop. Thus, per AB 2097, no parking would be required for the Project.

BICYCLE PARKING CODE REQUIREMENTS

LAMC Section 12.21.A.16 details the bicycle parking requirements for new developments.

As shown in Table 16, the Project would require a total of 71 short-term and 101 long-term bicycle parking spaces. The Project's proposed 172 bicycle parking spaces meet the LAMC requirements for on-site bicycle parking supply.

**TABLE 15
VEHICLE PARKING CODE REQUIREMENTS**

Land Use	Size [a]	Code Requirement [b]	Parking Required
Los Angeles Municipal Code Requirements [a]			
New Studio Construction [b]	667,611 sf	1.0 space / 500 sf	1,335 spaces
Retail	4,000 sf	1.0 space / 250 sf	16 spaces
Restaurant	4,000 sf	1.0 space / 200 sf	20 spaces
Total Standard Code Parking Requirement			1,371 spaces
AB 2097 Parking Requirement [c]			0 spaces
Total Parking Provided			759 spaces

Notes:

sf = square feet.

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

[b] Per LAMC Section 12.21.A4, the vehicle code parking requirements consider the total floor area within the studio development, excluding mechanical areas.

[c] Per AB-2097, zero parking required for a Project located within 0.5 mile of a Major Transit Stop

TABLE 16
BICYCLE PARKING CODE REQUIREMENTS

Land Use	Size	Short-Term		Long-Term	
		Rate [a]	Requirement	Rate [a]	Requirement
New Studio Construction					
Sound Stage	299,012 sf	1.0 sp / 10,000 sf	30 sp	1.0 sp / 10,000 sf	30 sp
Production Support	69,192 sf	1.0 sp / 10,000 sf	7 sp	1.0 sp / 10,000 sf	7 sp
Office	299,407 sf	1.0 sp / 10,000 sf	30 sp	1.0 sp / 5,000 sf	60 sp
Retail	4,000 sf	1.0 sp / 2,000 sf	2 sp	1.0 sp / 2,000 sf	2 sp
Restaurant	4,000 sf	1.0 sp / 2,000 sf	2 sp	1.0 sp / 2,000 sf	2 sp
Total Bicycle Parking Requirements		Short-Term:	71 sp	Long-Term:	101 sp

Notes

sp: spaces

[a] Bicycle requirements as calculated by Section 12.21.A.16 of the LAMC.

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 proposes to construct an approximately 675,611 sf studio development including sound stages, production support, office, mill space, and ancillary, circulation, and support uses. Project would include the construction of approximately 299,012 sf of studio space, 299,407 sf of studio office space, and 69,192 sf of support space. The office may include up to 8,000 sf of retail, including up to 4,000 sf of restaurant space. The existing 311,000 sf of light industrial uses on site would be removed with development of the Project. The Project is anticipated to be completed in 2026.
- The Project would provide a total of up to 759 vehicle parking spaces and a total of 172 bicycle parking spaces, including both short-term and long-term spaces.
- Vehicular access to the Project Site would be provided via driveways along 6th Street and Mill Street.
- The Project would be consistent with the City's plans, programs, ordinances, and policies and would not generate any geometric design hazard impacts.
- The Project's primary TDM strategies included as part of the Project design features include:
 - Reduced parking supply per AB 2097
 - Provision of bicycle parking spaces
- The Project would not result in VMT impacts upon implementation of the TDM strategies as part of the Project design features and would not require mitigation.
- After accounting for vehicle trips generated by the existing industrial uses on the Project Site, the Project is estimated to generate 348 net new morning peak hour trips and 521 net new afternoon peak hour trips.
- The Project provides adequate internal circulation to accommodate vehicular, pedestrian, and bicycle traffic without impeding through traffic movements on City streets.
- The Project would meet LAMC-required vehicle and bicycle parking requirements and incorporate pedestrian and bicycle-friendly designs including wider sidewalks and open spaces.
- The addition of Project trips would not adversely affect any residential Local Streets.

-
- Construction travel to and from the Project Site would occur outside of the commuter morning and afternoon peak hours to the extent feasible and would not result in substantial interference. A Construction Management Plan would be prepared to ensure that construction impacts are less than significant.

References

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

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

California Manual on Uniform Traffic Control Devices, California Department of Transportation, Rev. March 2020.

Central City North Community Plan, Los Angeles Department of City Planning, 2000.

California Code of Regulations, Title 14, Section 15000 and following.

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

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

City of Los Angeles VMT Calculator Version 1.4, Los Angeles Department of Transportation and Los Angeles Department of City Planning, June 2023.

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, 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.

Manual of Policies and Procedures, Los Angeles Department of Transportation, Updated 2020.

Metro NextGen; Rapid Bus Definitions, LADCP, March 25, 2021

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.

References, cont.

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

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

State of California Senate Bill 743, Steinberg, 2013.

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

Transit Oriented Communities Program Guidelines, LADCP, Revised February 26, 2018

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

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

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

Trip Generation, 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

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: 6th & Alameda

Project Address: 640 ALAMEDA ST. LOS ANGELES, CA 90021

Project Description: Construction of 675,611 square foot (sf) sound stage campus with 299,012 sf of studio space, 299,407 sf of studio office space, and 69,192 sf of support space. The office could also include up to 8,000 sf of retail, inclusive of up to 4,000 square feet of restaurant space. If this area is not used by a retailer, the area would be used as additional common area for the office tenants. The Project will replace approximately 311,000 sf of light industrial uses. See Figure 1.

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 Feature¹, 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 _____	4 _____
2 _____	5 _____
3 _____	6 _____

III. TRIP GENERATION

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

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	272	76	348
PM Trips	146	375	521

NET Daily Vehicle Trips (DVT)
 _____ DVT (ITE ____ ed.)
 2,683 DVT (VMT Calculator ver. 1.4)

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.



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 <u>See Table 1 attached</u>	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

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

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) <i>*See Note</i>	☐	☐	☒

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

**Project would provide bicycle parking within the public right-of-way to meet LAMC requirements but is not shown on the site plan.*

**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**

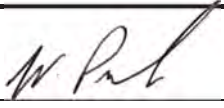
Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

IX. CONTACT INFORMATIONCONSULTANT

Name: Gibson Transportation Consulting, Inc.
Address: 555 W 5th Street, Suite 3375, Los Angeles, CA 90013
Phone Number: (213) 683-0088
E-Mail: rgibson@gibsontrans.com

DEVELOPER

Alameda Studio Owner LLC
34 East 51st Street, 2nd Floor
New York, NY 10022
s.mohideen@gardinerusa.com

Approved by:	x			x		9/6/23
		Consultant's Representative			Date	LADOT Representative
Adjacent Municipality:						
					Approved by: (if applicable)	Representative

**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



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: 6th & Alameda

Project Address: 640 ALAMEDA ST. LOS ANGELES, CA 90021

Project Description: Construction of 675,611 square foot (sf) sound stage campus with 299,012 sf of studio space, 299,407 sf of studio office space, and 69,192 sf of support space. The office could also include up to 8,000 sf of retail, inclusive of up to 4,000 square feet of restaurant space. If this area is not used by a retailer, the area would be used as additional common area for the office tenants. The Project will replace approximately 311,000 sf of light industrial uses. See Figure 1.

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 50 % S 15 % E 10 % W 25 %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and other municipal bus stops)



City of Los Angeles Transportation Assessment MOU

- 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:

6th Street	at 0 (feet)
Alameda Street	at 0 (feet)
Central Avenue	at 500 (feet)
7th Street	at 400 (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



City of Los Angeles Transportation Assessment MOU

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.

560 (feet) at 6th St:Central & Alameda	800 (feet) at 7th St:Decatur & Mateo
1,700 (feet) at 6th St: Alameda & Mateo	1,000 (feet) at Central Ave: 6th & 5th
1,800 (feet) at Alameda Ave:6th & 4th	800 (feet) at Central Ave: 7th & 6th
1,100 (feet) at Alameda Ave:7th & 6th	1,300 (feet) at Central Ave: 7th & 8th
980 (feet) at 7th St: Central & Alameda	1,200 (feet) at Mateo: 4th PI & 6th
1,100 (feet) at 7th St:Alameda & Decatur	800/400 (feet) at Mateo: 6th & Industrial/Industrial & 7th

For each street along the property frontage, provide:

the roadway configuration: See Table 6

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

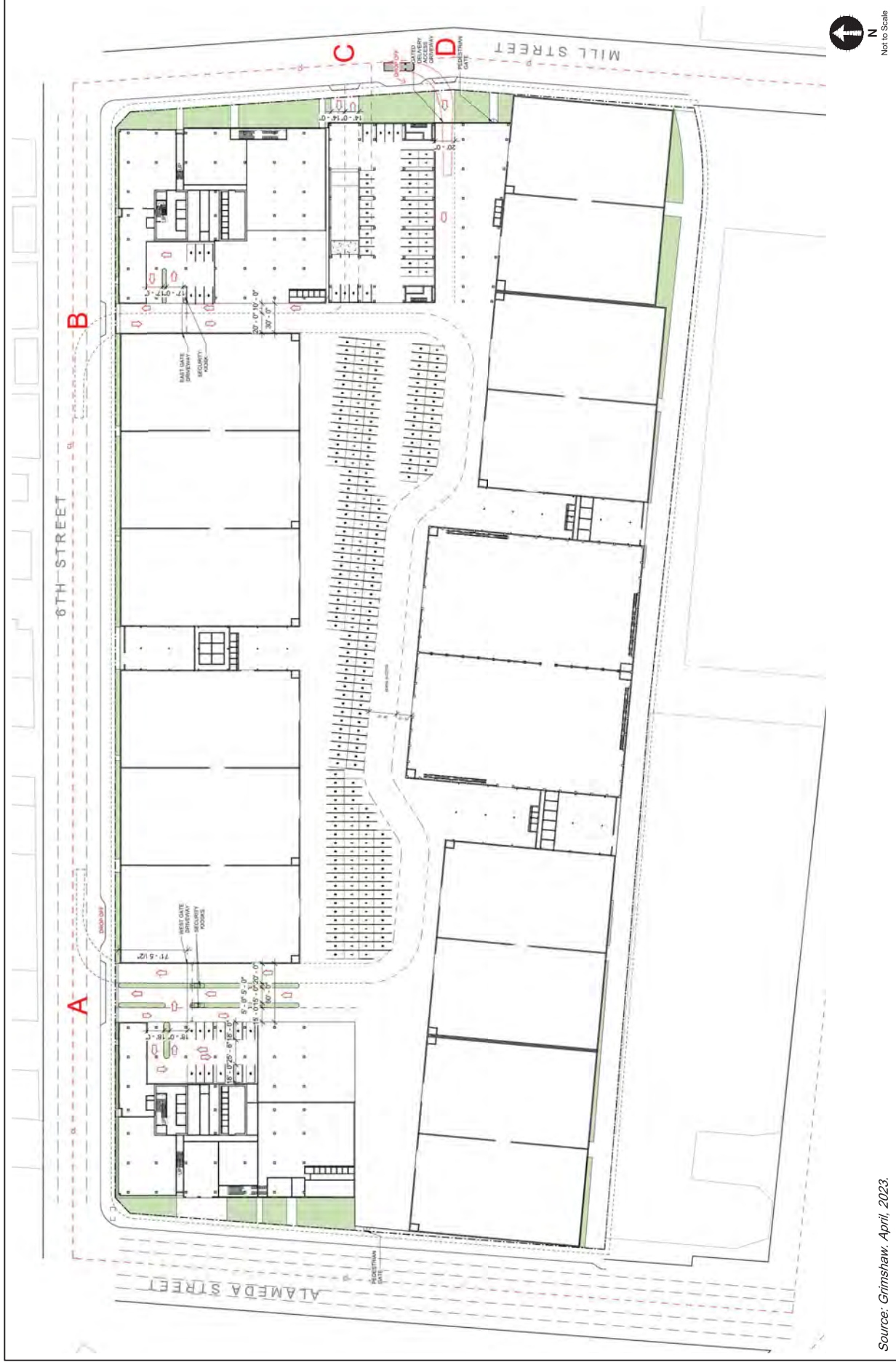
and crossing distance: _____ ft total _____ ft to median _____ ft to median

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: Grimshaw, April, 2023.

PROJECT SITE PLAN

FIGURE
1



PROJECT SITE LOCATION

FIGURE
2



FIGURE
3

TABLE 1
STUDY INTERSECTIONS

No.	N/S Steet	E/W Street
1.	Alameda Street	6th Street
2. [a]	Mill Street	6th Street
3.	Mateo Street	6th Street
4.	Alameda Street	7th Street
5. [a]	Mill Street	7th Street
6.	Mateo Street	7th Street

Notes:

[a] Intersection is unsignalized.

**TABLE 2
PROJECT TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES [a]									
Land Use	ITE Land Use	Rate	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Sound Stage	[b]	per ksf	[b]	63%	37%	0.20	40%	60%	0.43
Production Support	[b]	per ksf	[b]	65%	35%	0.61	45%	55%	0.57
General Light Industrial	110	per ksf	[c]	88%	12%	[c]	14%	86%	[c]
General Office	710	per ksf	10.84	88%	12%	1.52	17%	83%	1.44
Retail	822	per ksf	54.45	60%	40%	2.36	50%	50%	6.59
High-Turnover (Sit-Down) Restaurant	932	per ksf	107.2	55%	45%	9.57	61%	39%	9.05

TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<u>New Studio Construction</u> [d]									
Sound Stage	[b]	299.012 ksf	1,767	38	22	60	52	77	129
Production Support	[b]	69.192 ksf	286	27	15	42	18	21	39
Studio Office	710	299.407 ksf	3,246	400	55	455	73	358	431
Transit/Walk-In Reduction [e] 5%			(162)	(20)	(3)	(23)	(4)	(18)	(22)
Retail	822	4.000 ksf	218	5	4	9	13	13	26
Internal Capture [f] 10%			(22)	(1)	0	(1)	(1)	(1)	(2)
Transit/Walk-In Reduction [e] 5%			(10)	0	0	0	(1)	(1)	(2)
Passby Reduction [g] 50%			(93)	(2)	(2)	(4)	(6)	(6)	(12)
High-Turnover (Sit-Down) Restaurant	932	4.000 ksf	429	21	17	38	22	14	36
Internal Capture [f] 10%			(43)	(2)	(2)	(4)	(2)	(1)	(3)
Transit/Walk-In Reduction [e] 5%			(19)	(1)	(1)	(2)	(1)	(1)	(2)
Passby Reduction [g] 20%			(73)	(4)	(3)	(7)	(4)	(2)	(6)
TOTAL - PROPOSED PROJECT TRIPS			5,525	461	102	563	159	453	612
<u>Existing Uses to Removed</u>									
General Light Industrial	110	311.0 ksf	1,237	189	26	215	13	78	91
TOTAL - NET NEW PROJECT TRIPS			4,288	272	76	348	146	375	521

Notes:

ksf = 1,000 square feet.

[a] Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021, unless as noted.

[b] Rate based on empirical rate from *Transportation Study for the NBC Universal Evolution Plan Environmental Impact Report*, Gibson Transportation Consulting, Inc. and Raju Associates, Inc., March 2010.

[c] The trip generation estimates for the existing uses were calculated based on the following best-fit curve equations for general light industrial uses (ITE Land Use Code 110):

$$\text{Daily: } T = 3.76(X) + 50.47$$

$$\text{AM: } T = 0.68(X) + 3.81$$

$$\text{PM: } \text{Ln}(T) = 0.72 \text{Ln}(X) + 0.38$$

[d] Amenities and supporting uses for the Project (i.e., commissary, circulation areas, mechanical rooms, gym/spa/salon) were assumed to be ancillary to the studio, production, and office uses, and therefore, were not considered for trip generation purposes.

[e] The Project Site is located within walking distance of a Metro bus stop, therefore a 5% transit reduction is applied to account for transit usage and walking visitor arrivals from the adjacent commercial developments.

[f] Internal capture reductions account for person trips made between distinct land uses within a mixed-use development (i.e. between employees and commercial uses) without using an off-site road system.

[g] Pass-by reductions account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 3
SOUND STAGE & PRODUCTION SUPPORT EMPLOYEE GENERATION (ITE OFFICE EQUIVALENCY METHODOLOGY)

Land Use	ITE Land Use Code	Size	Daily
<u>Trip Generation Rates</u>			
General Office Building	710 [a]	per ksf	10.84
General Office Building	710 [a]	per employee	3.30
Sound Stage	[b]	per ksf	5.91
Production Support	[c]	per ksf	4.14
<u>Proposed Project</u>			
Office	710	100 ksf	1,084
Office	710	328 employees	1,084
Sound Stage	[b]	100 ksf	591
Sound Stage	710	54,520 ksf	591
Sound Stage	710	179 employees	591
Production Support	[c]	100 ksf	414
Sound Stage	710	38,192 ksf	414
Production Support	710	125 employees	414

[a] Source: *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021, unless as noted.

[b] Rate based on empirical rate from *Transportation Study for the NBC Universal Evolution Plan Environmental Impact Report*, Gibson Transportation Consulting, Inc. and Raju Associates, Inc., March 2010.

[c] Rate based on empirical rate from *Transportation Study for the NBC Universal Evolution Plan Environmental Impact Report*, Gibson Transportation Consulting, Inc. and Raju Associates, Inc., March 2010.

**TABLE 4
RELATED PROJECTS**

No.	CPC Case No.	Project	Address	Description	Trip Generation [a]						
					Daily	Morning Peak Hour		Afternoon Peak Hour		Total	
						In	Out	In	Out		
1.	CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR	Camden Arts Mixed-Use	1525 E Industrial St	336,304 sf mixed-use, 344 live/work units, 7,458 sf of leasing/amenity area, 24,774 sf of creative office uses, 4,042 sf of restaurant space	1,729	37	59	96	69	44	113
2.	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)
3.	CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI	668 S Alameda St Mixed-Use	668 S Alameda St	475 live/work units, 27,063 sf retail and studio space, 16,280 sf restaurant, 700 sf gallery space	4,004	120	184	304	215	153	368
4.	CPC-2016-3399-GPA-VZC-HD-MCUP-ZAI-SPR	Palmetto	527 S Colyton St	346 apartment units, 12,396 sf retail and restaurant, 12,396 sf of leasable arts and productive space, 512 sf resident production.	2,095	36	116	152	121	74	195
5.	CPC-2016-2683-GPA-VZC-HD-CUB-DB-SPR	Mixed Use (Revised)	1800 E 7th St	122 residential units, 9,500 sf commercial uses, and 5,885 sf of amenity space	816	26	45	71	45	37	82
6.	CPC-2016-3726-GPA-VZC-HD-MCUP-ZAA-DB-SPR	1100 5th Mixed-Use	1100 E 5th St	220 live/work units with 11% set aside for very low income, 46,548 sf of commercial uses, and 22,725 sf open space and recreational amenities such as a resident gallery	2,556	78	107	185	130	80	210
7.	CPC-2016-3689-GPA-VZC-HD-MCUP-DB-SPR	676 Mateo Mixed-Use	676 S Mateo St	185 live/work units and 23,380 sf commercial space OR, 159 live/work units and 45,873 sf commercial space	1,991	64	81	145	100	68	168
8.	CPC-2016-3853-GPA-VZC-HD-ZAD-SPR	520 Mateo	520 S Mateo St	475 live/work units, 10,000 sf of restaurant space, 10,000 sf of retail space, and 105,000 sf office	4,995	157	220	373	274	223	491
9.	ENV-2016-4475-EIR	Arts District Center (Mixed-Use)	1129 & 1101 E. 5th St, 445-457 S. Colyton St, 450-456 S. Seaton St	129 live/work condominium units, a 113-room hotel, and 81,328 square feet of commercial space to be used for art galleries, retail, restaurant, and artist collaborative space. Of the 129 live/work units, 15 units (11%) would be set aside for Very Low Income households	4,713	133	140	273	157	72	229
10.	CPC-2016-3655-GPA-ZC-HD-CUB-ZAA-SPR	400 S Alameda Street	400 S Alameda St	66 hotel rooms, 3,800 sf restaurant, 840 sf specialty retail, 890 sf screening room	512	20	18	38	23	14	37
11.	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
12.	ENV-2020-6829-EAF; CPC-2020-6828-GPA-ZC-HD-SPR-MCUP	Office	655 S Mesquit St	188,954 sf office, 4,325 sf retail	1,867	185	31	216	37	181	218

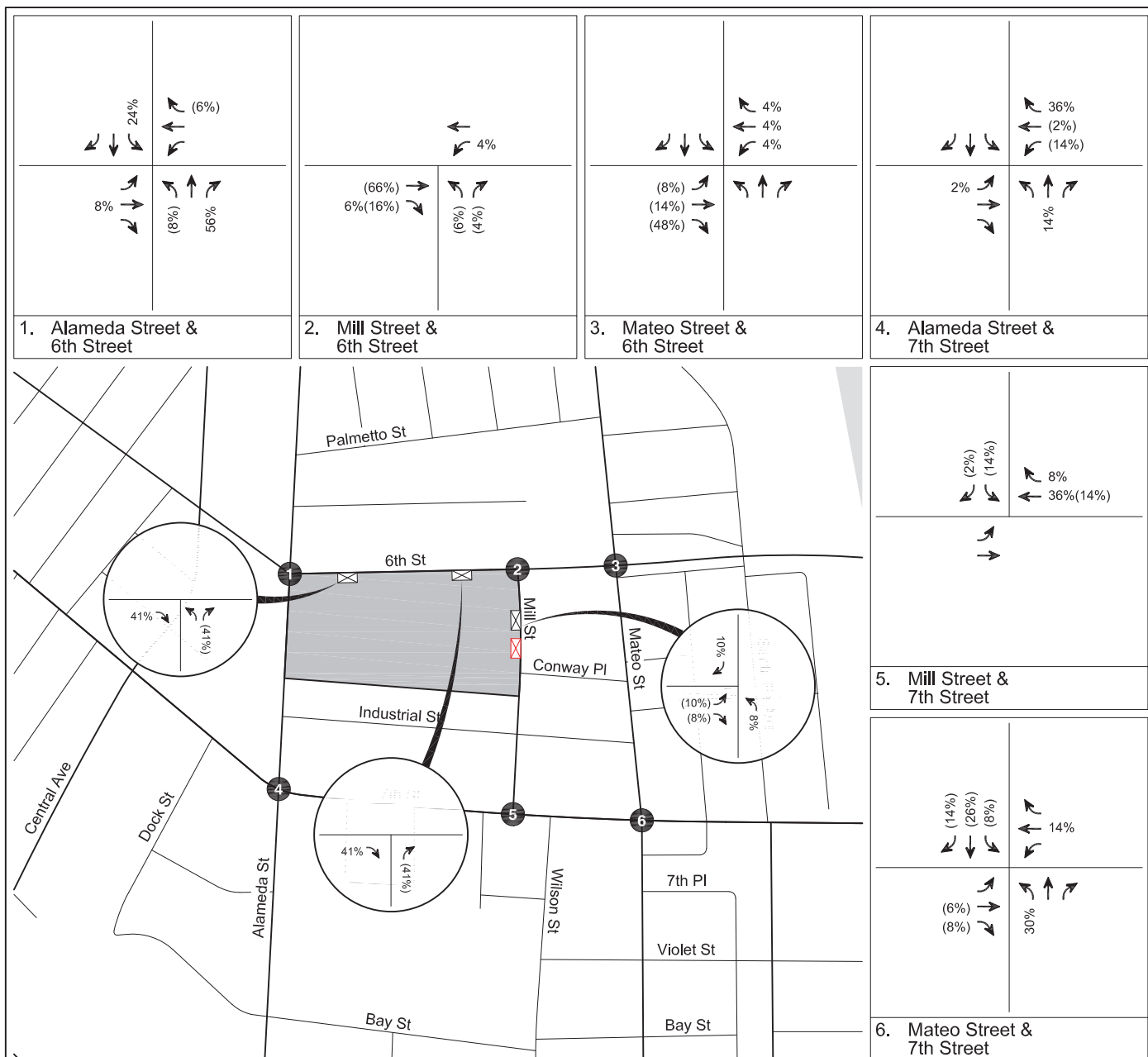
**TABLE 4 (cont.)
RELATED PROJECTS**

No.	CPC Case No.	Project	Address	Description	Trip Generation [a]								
					Daily	Morning Peak Hour		Afternoon Peak Hour		Total	In	Out	Total
						In	Out	In	Out				
13.	CPC-2017-469-GPA-VZC-HD-MCUP-SPR	4th & Hewitt	405 S Hewitt St	311,682 sf office, 8,149 sf restaurant space, and 7,800 sf museum	3,493	365	76	441	100	324	424		
14.	CPC-2017-849-GPAJ-VZCJ-HD-SPR	656 S Stanford Ave	656 S Stanford Ave	82 apartment units	545	8	33	41	33	18	51		
15.	ENV-2017-249-EIR; CPC-2017-247-GPAJ-VZCJ-HD-VZCJ-MCUP-CUX-	670 Mesquit	670 S Mesquit St	236 hotel rooms, 208 apartment units, 136,152 sf retail, grocery, 89,577 sf restaurant, 93,617 sf studio/event/gallery and potential museum space, and 62,148 sf gym	26,489	1,513	451	1,964	698	1,316	2,014		
16.	ZA-2021-9890-ZV	Mixed Use	719 E 5th St	Re-establish hotel uses with 42 guest rooms	1,033	15	58	73	59	37	96		
17.	CPC-2017-420-GPAJ-VZCJ-HD-SPR	Residential	713 E 5th St	51 apartment units	208	15	10	25	9	8	17		
18.	CPC-2016-4554-GPA-VZC-HD-DB-SPR	1000 S Mateo Street	1000 S Mateo St	106 live/work units, 119,845 sf commercial space	2,238	153	83	236	90	131	221		
19.	CPC-2021-4259-CU-CUB-SPR	Studio	2000 E 8th St	832,750 sf studio with production support and office	3,511	216	100	316	147	255	402		
20.	ENV-2021-4071-EIR	Fourth & Central	400 S Central Ave	68 hotel rooms, 411,113 square feet (sf) of office, and 101,088 sf of commercial retail and restaurant	15,110	640	501	1,141	598	693	1,291		
21.	CPC-2021-2231-GPA-VZC-HD-VZCJ-ZV-SPR	Violet St Creative Office Campus Project	2045 E Violet St	435,100 sf creative office with possible future expansion phase of 211,201 sf office	5,055	409	81	490	173	501	674		
OTHER AREA-WIDE PROJECTS													
CPC Case No.		Project	Description	Extents									
CPC-2017-432-CPU		DTLA 2040 Community Plan	Combined updates to the existing land use policies and land use diagrams in the Central City and Central City North Community Plans, resulting in future growth through horizon year 2040	Central City Community Plan areas and bounded north by Sunset Boulevard/Cesar Chavez Avenue, south by Santa Monica Freeway (I-10), west by Harbor Freeway (I-110), and east by Alameda Street, and the Central City North Community Plan areas bounded north by Stadium Way, Lilac Terrace, and North Broadway, south by City of Vernon, on the west by Alameda Street, and east by the Los Angeles River.									

Notes

[a] Source: Related project information based on available information provided by LADOT and Department of City Planning in June 2023, as well as recent studies in the area, at the time of the Initial Study. Related projects include developments within one-half mile radius of the Project site and was reviewed by the Department of City Planning in June 2023.

[b] Trip generation estimated using rates from Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021, and/or the LADOT Transportation Assessment Guidelines.

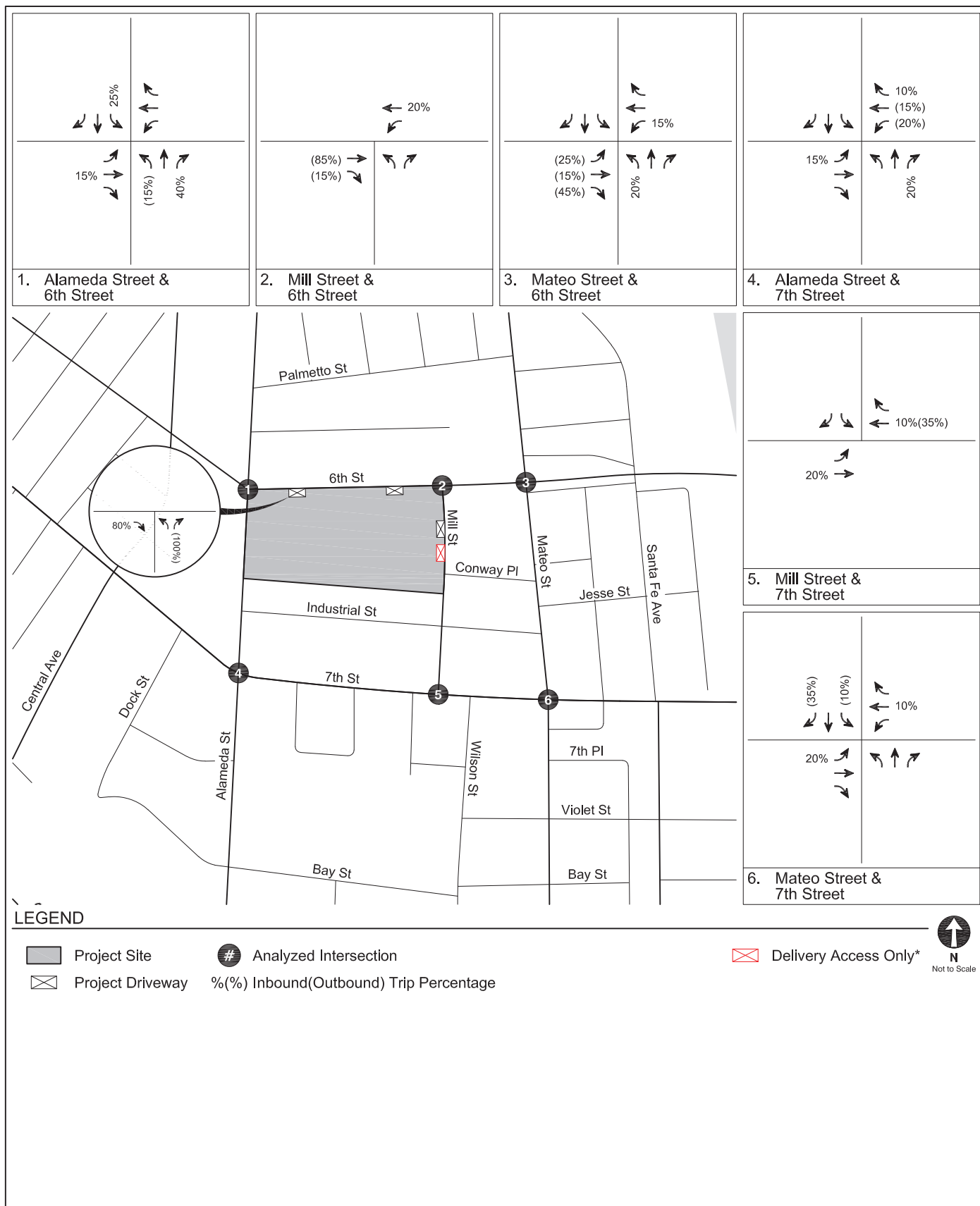


LEGEND

- Project Site
- Analyzed Intersection
- Project Driveway
- %(%) Inbound(Outbound) Trip Percentage
- Delivery Access Only*

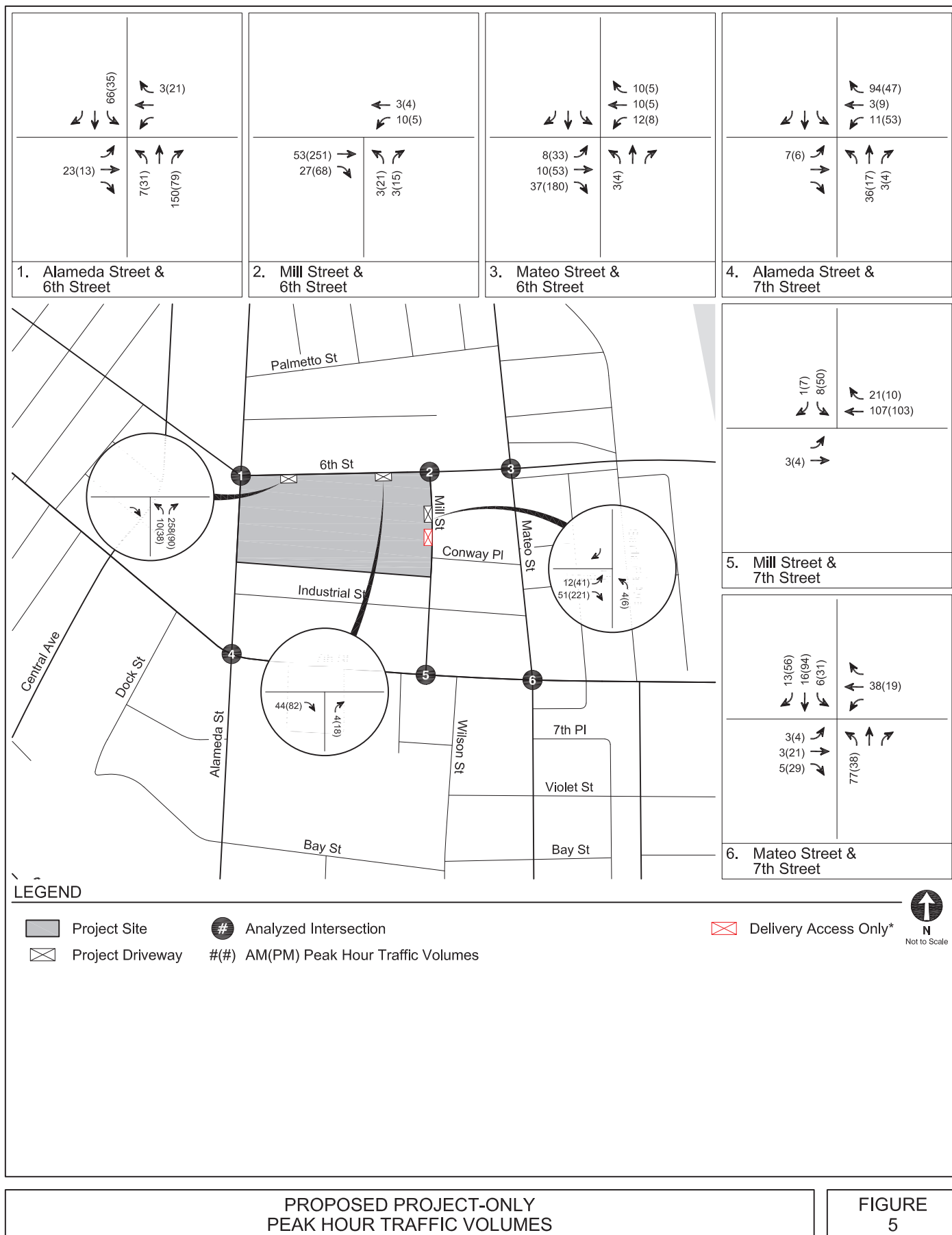
* Delivery Access Only*





PROJECT TRIP DISTRIBUTION
RETAIL / RESTAURANT

FIGURE
4B



PROPOSED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5



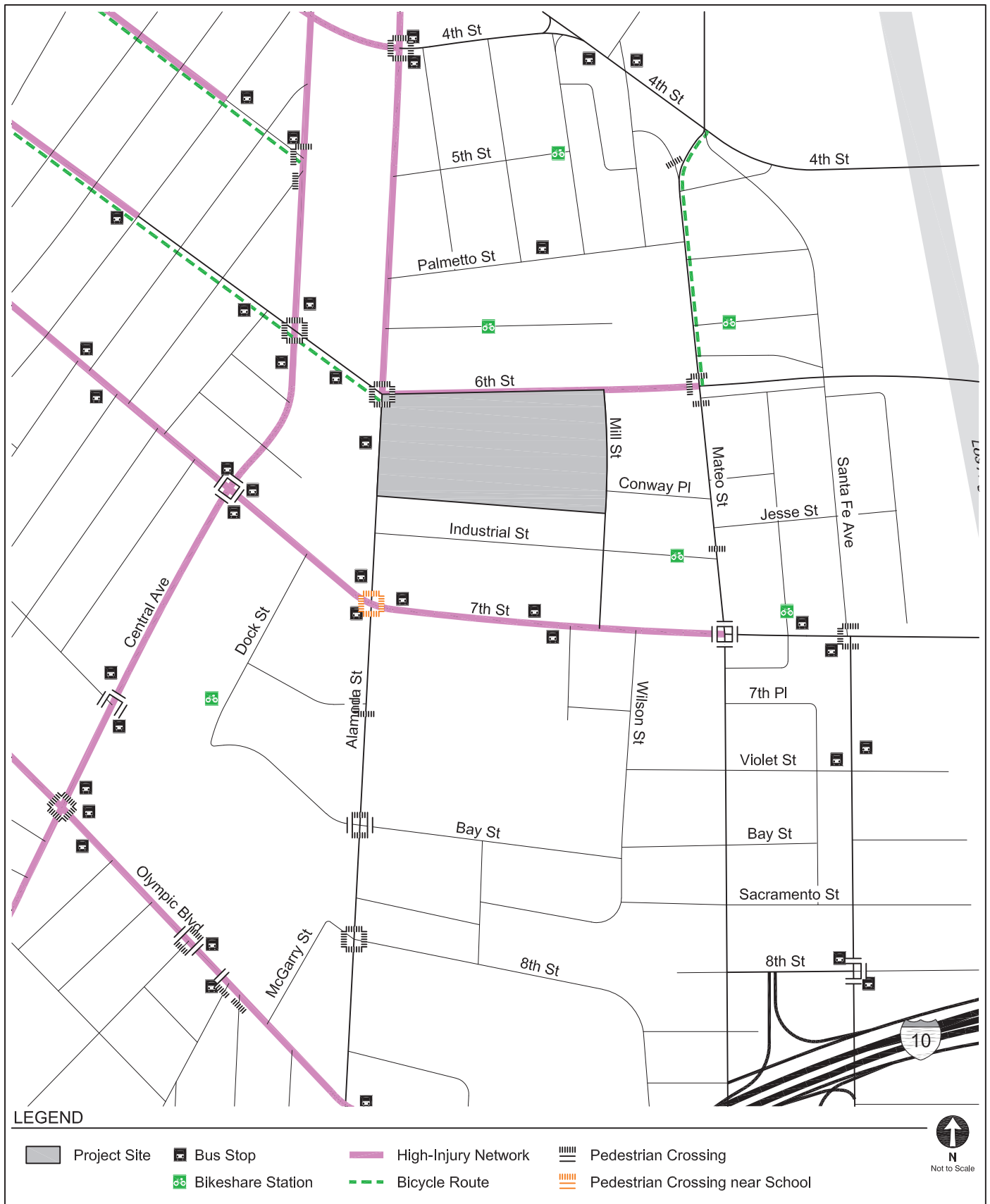
LOCATIONS OF RELATED PROJECTS

FIGURE
6



PEDESTRIAN DESTINATIONS

FIGURE
7



EXISTING TRANSPORTATION FACILITIES

FIGURE
8

TABLE 5
FREEWAY OFF-RAMP SCREENING PROCESS

Freeway Off-Ramp	Peak Hour	Project Traffic	Meets Screening Criteria? [a]
US-101 Northbound			
Off-ramp to 4th Street	AM PM	6 3	NO NO
Off-ramp to Vignes Street	AM PM	3 1	NO NO
Off-ramp to Alameda Street	AM PM	10 5	NO NO
US-101 Southbound			
Off-ramp to Los Angeles Street	AM PM	10 5	NO NO
Off-ramp to Garey Street	AM PM	3 1	NO NO
Off-ramp to 4th Street	AM PM	6 3	NO NO
Off-ramp to 7th Street	AM PM	16 7	NO NO
I-5 Northbound			
Off-ramp to 7th Street	AM PM	16 7	NO NO
Off-ramp to Soto Street	AM PM	10 5	NO NO
I-10 Eastbound			
Off-ramp to Alameda Street	AM PM	19 9	NO NO
Off-ramp to Porter Street	AM PM	27 13	YES NO
Off-ramp to Santa Fe Avenue	AM PM	0 0	NO NO
Off-ramp to Boyle Avenue	AM PM	10 5	NO NO
Off-ramp to 4th Street	AM PM	6 3	NO NO
I-10 Westbound			
Off-ramp to Newton Street	AM PM	10 5	NO NO
Off-ramp to Mateo St / Enterprise Street	AM PM	27 13	YES NO
Off-ramp to 8th Street	AM PM	27 13	YES NO
Off-ramp to 4th Street	AM PM	6 3	NO NO

Notes

[a] Based on *Transportation Assessment Guidelines* (LADOT, August 2022), 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.

TABLE 6
STREET DESCRIPTIONS

Street	Numbers of Lanes	Median	Crossing Distance
Alameda Street	2 in each direction	Painted two-way left-turn lane	65 feet total
6th Street	2 in each direction	None	62 feet total
Mill Street	1 in each direction	None	38 feet total

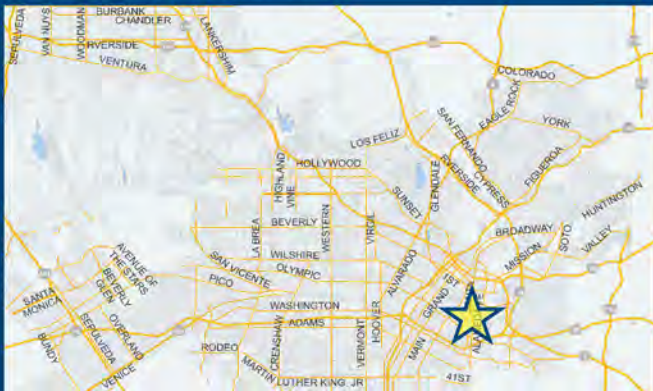
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Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: 6th and Alameda Studios
 Scenario: [www](#)
 Address: 1206 E 6TH 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 Light Industrial	311	ksf
Industrial Light Industrial	311	ksf

[Click here to add a single custom land use type \(will be included in the above list\)](#)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail High-Turnover Sit-Down Restaurant		ksf
(custom) Stage and Support Uses Daily	2050	Trips
(custom) Stage and Support Uses HBW-Attr	52	Percent
(custom) Stage and Support Uses HBO-Attr	24	Percent
(custom) Stage and Support Uses NHB-Attr	12	Percent
(custom) Stage and Support Uses HBW-Prod	0	Percent
(custom) Stage and Support Uses HBO-Prod	0	Percent
(custom) Stage and Support Uses NHB-Prod	12	Percent
(custom) Stage and Support Uses Daily	0	Residents
(custom) Stage and Support Uses Daily	622	Employee
(custom) Stage and Support Uses Daily	Non-Retail	Retail/Non
Office General Office	299,407	ksf
Retail General Retail	4	ksf
Retail High-Turnover Sit-Down Restaurant	4	ksf

[Click here to add a single custom land use type \(will be included in the above list\)](#)

Project Screening Summary

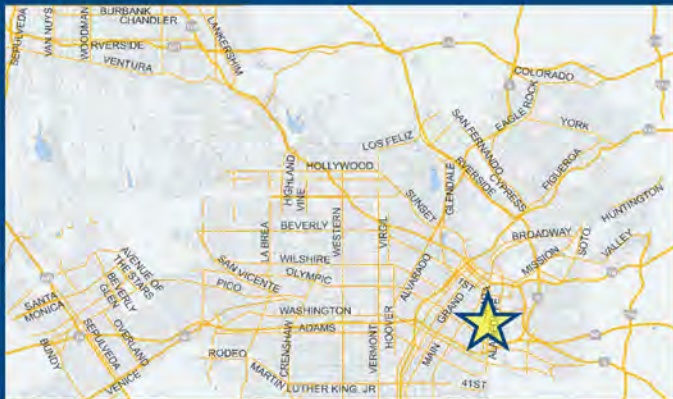
Existing Land Use	Proposed Project
1,701 Daily Vehicle Trips	4,384 Daily Vehicle Trips
11,821 Daily VMT	32,163 Daily VMT
Tier 1 Screening Criteria	
Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐	
Tier 2 Screening Criteria	
The net increase in daily trips < 250 trips	2,683 Net Daily Trips
The net increase in daily VMT ≤ 0	20,342 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	8,000 ksf
The proposed project is required to perform VMT analysis.	

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Project Information

Project: 6th and Alameda Studios
 Scenario:
 Address: 1206 E 6TH ST, 90021



Proposed Project Land Use Type	Value	Unit
(custom) Stage and Support Uses Daily	2050	Trips
(custom) Stage and Support Uses HBW-Attr	52	Percent
(custom) Stage and Support Uses HBO-Attr	24	Percent
(custom) Stage and Support Uses NHB-Attr	12	Percent
(custom) Stage and Support Uses HBW-Prod	0	Percent
(custom) Stage and Support Uses HBO-Prod	0	Percent
(custom) Stage and Support Uses NHB-Prod	12	Percent
(custom) Stage and Support Uses Daily	0	Residents
(custom) Stage and Support Uses Daily	622	Employees
(custom) Stage and Support Uses Daily	Non-Retail	Retail/Non-R
Office General Office	299.407	ksf
Retail General Retail	4	ksf
Retail High-Turnover Sit-Down Restaurant	4	ksf

TDM Strategies

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

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

A **Parking**

Reduce Parking Supply city code parking provision for the project site
☒ Proposed Prj ☐ Mitigation actual parking provision for the project site

Unbundle Parking monthly parking cost (dollar) for the project site
☐ Proposed Prj ☐ Mitigation

Parking Cash-Out percent of employees eligible
☐ Proposed Prj ☐ Mitigation

Price Workplace Parking daily parking charge (dollar)
☐ Proposed Prj ☐ Mitigation percent of employees subject to priced parking

Residential Area Parking 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
3,812 Daily Vehicle Trips	3,812 Daily Vehicle Trips
27,965 Daily VMT	27,965 Daily VMT
0.0 Household VMT per Capita	0.0 Household VMT per Capita
7.6 Work VMT per Employee	7.6 Work VMT per Employee

Significant VMT Impact?

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



CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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	4.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	4.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	299.407	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	Stage and Support Uses	2050	Trips

Project and Analysis Overview

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

Analysis Results			
Total Employees: 1,844			
Total Population: 0			
Proposed Project		With Mitigation	
3,812	Daily Vehicle Trips	3,812	Daily Vehicle Trips
27,965	Daily VMT	27,965	Daily VMT
0	Household VMT per Capita	0	Household VMT per Capita
7.6	Work VMT per Employee	7.6	Work VMT per Employee
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 7.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

TDM Strategy Inputs				
Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	1371	1371
		Actual parking provision (spaces)	800	800
	Unbundle parking	Monthly cost for parking (\$)	\$0	\$0
	Parking cash-out	Employees eligible (%)	0%	0%
	Price workplace parking	Daily parking charge (\$)	\$0.00	\$0.00
		Employees subject to priced parking (%)	0%	0%
	Residential area parking permits	Cost of annual permit (\$)	\$0	\$0
(cont. on following page)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: July 17, 2023
 Project Name: 6th and Alameda Studios
 Project Scenario:
 Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: July 17, 2023
 Project Name: 6th and Alameda Studios
 Project Scenario:
 Project Address: 1206 E 6TH ST, 90021



Version 1.4

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	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

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

$$= \text{Minimum}(X\%, 1 - [(1-A) * (1-B) \dots])$$

where X%=

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

Note: $(1 - [(1-A) * (1-B) \dots])$ 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: July 17, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	6.7	0	0
Home Based Other Production	0	0.0%	0	4.6	0	0
Non-Home Based Other Production	754	-4.4%	721	7.5	5,655	5,408
Home-Based Work Attraction	2,689	-27.3%	1,954	8.2	22,050	16,023
Home-Based Other Attraction	1,553	-36.4%	988	5.9	9,163	5,829
Non-Home Based Other Attraction	754	-4.4%	721	6.8	5,127	4,903

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	-13.0%	0	0	-13.0%	0	0
Home Based Other Production	-13.0%	0	0	-13.0%	0	0
Non-Home Based Other Production	-13.0%	627	4,702	-13.0%	627	4,702
Home-Based Work Attraction	-13.0%	1,699	13,932	-13.0%	1,699	13,932
Home-Based Other Attraction	-13.0%	859	5,068	-13.0%	859	5,068
Non-Home Based Other Attraction	-13.0%	627	4,263	-13.0%	627	4,263

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0

Total Employees: 1,844

APC: Central

	Proposed Project	Project with Mitigation Measures
Total Home Based Production VMT	0	0
Total Home Based Work Attraction VMT	13,932	13,932
Total Home Based VMT Per Capita	0.0	0.0
Total Work Based VMT Per Employee	7.6	7.6

Appendix B

Traffic Volume Data

Turning Movement Count Report AM

Location ID: 1
 North/South: Alameda Street
 East/West: 6th 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	7	69	3	14	32	18	7	68	7	7	16	11	259
6:15	9	98	9	29	72	17	6	85	6	8	19	3	361
6:30	11	95	6	33	113	28	8	154	7	17	21	7	500
6:45	11	95	5	38	122	29	12	147	8	14	28	6	515
7:00	9	120	8	66	123	40	11	140	16	25	32	13	603
7:15	15	155	10	40	149	39	14	168	19	21	29	9	668
7:30	18	181	9	30	156	49	15	164	20	15	26	9	692
7:45	25	183	10	35	147	36	18	118	16	21	41	11	661
8:00	26	190	10	31	150	35	9	145	15	17	28	12	668
8:15	19	180	13	32	141	38	14	148	18	22	18	14	657
8:30	17	185	20	31	164	48	13	118	9	11	20	6	642
8:45	24	190	14	22	135	43	17	150	18	14	28	8	663

Total Volume:	191	1741	117	401	1504	420	144	1605	159	192	306	109	6889
Approach %	9%	85%	6%	17%	65%	18%	8%	84%	8%	32%	50%	18%	

Peak Hr Begin:	7:15												
PHV	84	709	39	136	602	159	56	595	70	74	124	41	2689
PHF	0.920			0.954			0.897			0.818			0.971

Turning Movement Count Report PM

Location ID: 1
 North/South: Alameda Street
 East/West: 6th Street

Date: 12/13/22
 City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	20	178	25	27	53	17	20	188	12	39	108	36	723
15:15	15	190	23	26	46	13	24	187	10	27	101	35	697
15:30	23	193	28	24	55	23	30	189	8	28	112	28	741
15:45	24	196	23	22	65	17	24	187	12	25	119	16	730
16:00	21	190	27	20	66	8	25	186	5	31	124	24	727
16:15	15	195	38	33	85	16	11	217	10	26	140	16	802
16:30	18	249	33	29	95	24	24	231	10	33	158	31	935
16:45	30	177	35	30	91	20	29	256	28	29	147	28	900
17:00	39	161	46	25	80	13	30	196	40	14	143	17	804
17:15	21	193	41	29	96	10	25	212	18	33	166	24	868
17:30	18	186	31	51	104	19	26	241	16	26	151	37	906
17:45	17	175	44	37	103	19	31	215	33	20	144	25	863

Total Volume:	261	2283	394	353	939	199	299	2505	202	331	1613	317	9696
Approach %	9%	78%	13%	24%	63%	13%	10%	83%	7%	15%	71%	14%	

Peak Hr Begin:	16:30												
PHV	108	780	155	113	362	67	108	895	96	109	614	100	3507
PHF	0.869			0.916			0.878			0.923			0.938

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:00	34	0	2	0	9	0	2	0
6:15	2	0	1	0	1	0	1	0
6:30	4	0	0	0	7	0	2	0
6:45	2	0	5	1	5	1	2	0
7:00	4	0	6	0	0	0	4	0
7:15	1	0	8	1	1	1	5	1
7:30	2	0	8	0	4	1	2	0
7:45	2	0	1	0	3	0	0	0
8:00	2	0	8	0	5	0	2	0
8:15	0	0	2	0	0	0	0	0
8:30	2	0	0	2	3	1	0	0
8:45	2	0	1	0	2	0	1	0

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

Turning Movement Count Report AM

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

Date: 12/13/22
 City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:00	0	0	0	0	62	5	2	0	6	2	20	0	97
6:15	0	0	0	0	112	2	1	0	3	4	27	0	149
6:30	0	0	0	0	183	4	2	0	0	4	29	0	222
6:45	0	0	0	0	211	4	2	0	0	3	33	0	253
7:00	0	0	0	0	201	5	4	0	3	4	35	0	252
7:15	0	0	0	0	223	1	3	0	2	12	44	0	285
7:30	0	0	0	0	247	5	4	0	4	8	39	0	307
7:45	0	0	0	0	207	4	5	0	7	15	55	0	293
8:00	0	0	0	0	209	5	3	0	7	3	41	0	268
8:15	0	0	0	0	229	7	2	0	6	10	34	0	288
8:30	0	0	0	0	238	9	5	0	4	5	40	0	301
8:45	0	0	0	0	186	3	4	0	4	9	55	0	261

Total Volume:	0	0	0	0	2308	54	37	0	46	79	452	0	2976
Approach %	0%	0%	0%	0%	98%	2%	45%	0%	55%	15%	85%	0%	

Peak Hr Begin:	7:30												
PHV	0	0	0	0	892	21	14	0	24	36	169	0	1156
PHF	0.000			0.906			0.792			0.732			0.941

Turning Movement Count Report PM

Location ID: 2
 North/South: Mill Street
 East/West: 6th 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	0	0	0	0	82	7	12	0	4	6	133	0	244
15:15	0	0	0	0	76	5	17	0	6	7	155	0	266
15:30	0	0	0	0	98	2	12	0	5	13	146	0	276
15:45	0	0	0	0	93	7	12	0	9	9	161	0	291
16:00	0	0	0	0	88	4	10	0	4	10	171	0	287
16:15	0	0	0	0	120	3	6	0	3	6	172	0	310
16:30	0	0	0	0	136	2	9	0	7	9	217	0	380
16:45	0	0	0	0	138	4	12	0	4	3	218	0	379
17:00	0	0	0	0	113	2	14	0	4	6	207	0	346
17:15	0	0	0	0	109	4	14	0	5	8	221	0	361
17:30	0	0	0	0	145	1	9	0	9	6	207	0	377
17:45	0	0	0	0	137	7	10	0	5	12	208	0	379

Total Volume:	0	0	0	0	1335	48	137	0	65	95	2216	0	3896
Approach %	0%	0%	0%	0%	97%	3%	68%	0%	32%	4%	96%	0%	

Peak Hr Begin:	16:30												
PHV	0	0	0	0	496	12	49	0	20	26	863	0	1466
PHF	0.000			0.894			0.908			0.971			0.964

Pedestrian/Bicycle Count Report

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

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

Turning Movement Count Report AM

Location ID: 3
 North/South: Mateo Street
 East/West: 6th 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	12	7	5	17	53	3	1	13	6	2	17	3	139
6:15	12	10	3	16	102	13	3	10	4	5	20	5	203
6:30	7	9	2	23	169	12	2	7	3	5	24	1	264
6:45	8	18	2	38	201	18	1	18	7	7	17	15	350
7:00	9	19	3	47	195	17	3	15	10	7	21	11	357
7:15	19	14	5	26	198	12	3	13	15	5	37	5	352
7:30	15	18	0	29	227	19	1	32	13	4	32	7	397
7:45	13	25	5	34	196	23	1	26	16	7	41	10	397
8:00	20	27	2	25	183	22	2	17	14	3	30	7	352
8:15	18	20	3	36	211	23	1	23	16	8	21	7	387
8:30	12	30	2	26	236	25	2	27	12	9	28	10	419
8:45	19	26	7	30	185	24	1	28	9	10	40	6	385

Total Volume:	164	223	39	347	2156	211	21	229	125	72	328	87	4002
Approach %	38%	52%	9%	13%	79%	8%	6%	61%	33%	15%	67%	18%	

Peak Hr Begin:	7:45												
PHV	63	102	12	121	826	93	6	93	58	27	120	34	1555
PHF	0.903			0.906			0.913			0.780			0.928

Turning Movement Count Report PM

Location ID: 3
 North/South: Mateo Street
 East/West: 6th 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	14	32	14	10	51	5	15	22	15	20	106	19	323
15:15	17	41	11	14	53	9	8	22	8	12	136	24	355
15:30	19	36	13	12	71	2	8	15	12	22	123	26	359
15:45	14	42	14	18	67	5	13	25	7	19	132	19	375
16:00	19	47	16	14	68	10	11	29	7	7	145	28	401
16:15	20	31	13	11	97	8	13	19	12	11	153	20	408
16:30	18	39	7	17	114	8	14	34	6	7	183	33	480
16:45	15	40	9	15	120	3	5	31	13	18	182	25	476
17:00	16	49	10	21	86	16	15	28	18	27	174	29	489
17:15	18	38	18	17	102	12	13	27	15	29	186	27	502
17:30	16	43	16	28	124	13	19	32	12	26	154	33	516
17:45	19	30	17	24	111	11	13	35	12	20	159	31	482

Total Volume:	205	468	158	201	1064	102	147	319	137	218	1833	314	5166
Approach %	25%	56%	19%	15%	78%	7%	24%	53%	23%	9%	78%	13%	

Peak Hr Begin:	17:00												
PHV	69	160	61	90	423	52	60	122	57	102	673	120	1989
PHF	0.967			0.856			0.948			0.925			0.964

Pedestrian/Bicycle Count Report

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
6:00	21	0	1	0	4	0	1	0
6:15	21	1	0	0	0	0	4	0
6:30	0	0	2	0	8	0	11	0
6:45	5	0	0	0	2	0	0	0
7:00	2	0	0	0	0	0	1	0
7:15	0	0	0	0	0	0	5	0
7:30	1	0	4	0	0	0	5	0
7:45	3	0	2	0	0	0	6	1
8:00	3	0	7	0	0	1	10	0
8:15	3	0	8	0	2	0	5	0
8:30	2	0	4	0	1	0	0	0
8:45	2	0	4	1	5	0	5	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
15:00	6	0	16	1	9	0	12	0
15:15	2	0	8	0	5	0	12	0
15:30	3	0	5	0	6	0	11	0
15:45	4	1	12	2	9	1	11	0
16:00	5	1	19	1	3	0	10	1
16:15	8	0	17	0	6	1	17	0
16:30	9	0	11	0	2	0	12	1
16:45	11	0	8	1	5	0	4	0
17:00	4	0	10	0	2	0	7	0
17:15	5	0	8	0	1	1	6	1
17:30	0	0	10	0	3	0	6	0
17:45	4	0	12	0	1	0	11	0

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

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	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	Totals:
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

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: 6
 North/South: Mill Street
 East/West: 7th Street

Date: 12/13/22
 City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:00	4	0	9	13	108	0	0	0	0	0	39	2	175
6:15	8	0	3	15	168	0	0	0	0	0	33	0	227
6:30	3	0	5	20	229	0	0	0	0	0	45	3	305
6:45	2	0	6	9	218	0	0	0	0	0	56	0	291
7:00	6	0	7	13	292	0	0	0	0	0	57	6	381
7:15	13	0	5	6	246	0	0	0	0	0	49	2	321
7:30	15	0	7	11	254	0	0	0	0	0	46	3	336
7:45	20	0	2	8	293	0	0	0	0	0	65	3	391
8:00	9	0	4	8	261	0	0	0	0	0	61	4	347
8:15	9	0	5	12	260	0	0	0	0	0	51	3	340
8:30	10	0	3	12	248	0	0	0	0	0	55	1	329
8:45	7	0	9	14	259	0	0	0	0	0	68	3	360

Total Volume:	106	0	65	141	2836	0	0	0	0	0	625	30	3803
Approach %	62%	0%	38%	5%	95%	0%	0%	0%	0%	0%	95%	5%	

Peak Hr Begin:	7:00												
PHV	54	0	21	38	1085	0	0	0	0	0	217	14	1429
PHF	0.852			0.920			0.000			0.849			0.914

Turning Movement Count Report PM

Location ID: 6
 North/South: Mill 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	13	0	14	7	112	0	0	0	0	0	107	3	256
15:15	11	0	12	2	125	0	0	0	0	0	99	4	253
15:30	20	0	8	4	166	0	0	0	0	0	111	7	316
15:45	18	0	8	10	148	0	0	0	0	0	111	4	299
16:00	27	0	8	7	153	0	0	0	0	0	105	7	307
16:15	17	0	6	6	214	0	0	0	0	0	115	4	362
16:30	10	0	5	6	229	0	0	0	0	0	117	5	372
16:45	13	0	7	6	185	0	0	0	0	0	139	2	352
17:00	13	0	9	8	176	0	0	0	0	0	170	2	378
17:15	14	0	3	4	212	0	0	0	0	0	162	2	397
17:30	15	0	9	6	211	0	0	0	0	0	143	6	390
17:45	14	0	6	4	220	0	0	0	0	0	174	11	429

Total Volume:	185	0	95	70	2151	0	0	0	0	0	1553	57	4111
Approach %	66%	0%	34%	3%	97%	0%	0%	0%	0%	0%	96%	4%	

Peak Hr Begin:	17:00												
PHV	56	0	27	22	819	0	0	0	0	0	649	21	1594
PHF	0.865			0.939			0.000			0.905			0.929

Pedestrian/Bicycle Count Report

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

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

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

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			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	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

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

Turning Movement Count Report AM

Location ID: 8
 North/South: Mateo Street
 East/West: 8th Street

Date: 12/13/22
 City: Los Angeles, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
6:00	1	10	8	22	0	5	5	38	0	0	2	0	91
6:15	0	20	7	19	0	3	5	35	0	0	0	0	89
6:30	0	20	13	30	0	9	16	29	0	0	0	0	117
6:45	0	32	15	34	1	12	14	41	1	1	0	0	151
7:00	0	29	25	28	0	27	31	34	0	0	1	0	175
7:15	0	36	29	27	0	7	26	42	0	0	0	0	167
7:30	0	29	29	28	0	9	26	59	0	0	0	1	181
7:45	0	33	24	34	0	6	22	68	0	0	0	1	188
8:00	2	38	43	28	0	12	18	60	0	0	0	1	202
8:15	0	40	37	28	0	11	13	56	1	0	0	0	186
8:30	0	56	48	35	0	8	13	54	1	0	0	2	217
8:45	1	30	35	40	0	15	28	62	1	0	0	0	212

Total Volume:	4	373	313	353	1	124	217	578	4	1	3	5	1976
Approach %	1%	54%	45%	74%	0%	26%	27%	72%	1%	11%	33%	56%	

Peak Hr Begin:	8:00												
PHV	3	164	163	131	0	46	72	232	3	0	0	3	817
PHF	0.793			0.805			0.843			0.375			0.941

Turning Movement Count Report PM

Location ID: 8
 North/South: Mateo Street
 East/West: 8th 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	0	70	38	33	0	6	19	35	0	0	0	0	201
15:15	1	52	42	28	0	6	13	28	0	0	1	0	171
15:30	0	50	31	33	0	10	12	39	0	0	0	0	175
15:45	0	36	37	21	0	26	13	44	0	0	0	0	177
16:00	0	55	44	24	0	22	20	34	0	0	0	0	199
16:15	0	50	33	15	0	23	23	37	0	0	0	0	181
16:30	0	61	34	29	0	26	18	37	0	0	0	0	205
16:45	0	55	37	38	0	31	22	31	0	0	0	0	214
17:00	0	77	39	28	1	23	26	51	0	0	1	0	246
17:15	0	80	32	28	0	49	13	34	0	0	0	0	236
17:30	0	69	24	30	0	47	18	32	0	0	0	0	220
17:45	0	43	23	31	0	27	22	35	0	0	0	0	181

Total Volume:	1	698	414	338	1	296	219	437	0	0	2	0	2406
Approach %	0%	63%	37%	53%	0%	47%	33%	67%	0%	0%	100%	0%	

Peak Hr Begin:	16:45												
PHV	0	281	132	124	1	150	79	148	0	0	1	0	916
PHF	0.890			0.893			0.737			0.250			0.931

Pedestrian/Bicycle Count Report

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

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



North/South	<u>10 Fwy WB on and off Ramp</u>

8th St

Day: Tuesday

Weather: SUNNY

Hours: 7-10 & 3-6

Chekrs: NDS

School Day: YES

I/S CODE

	<u>N/B</u>	<u>S/B</u>	<u>E/B</u>	<u>W/B</u>
DUAL- WHEELED	362	0	118	217
BIKES	0	0	5	6
BUSES	5	0	1	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	172	7.15	0	0.00	103	9.00	138	7.45
PM PK 15 MIN	201	17.15	0	0.00	79	17.00	139	17.00
AM PK HOUR	610	7.00	0	0.00	393	8.15	505	7.45
PM PK HOUR	691	16.30	0	0.00	248	16.45	487	16.30

SOUTHBOUND Approach

XING S/L

XING N/L

Hours	Lt	Th	Rt	Total
7-8	225	0	385	610
8-9	207	0	282	489
9-10	218	0	327	545
15-16	73	0	335	408
16-17	220	0	350	570
17-18	286	0	382	668
TOTAL	1229	0	2061	3290

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

N-S
610
489
545
408
570
668
3290

Ped	Sch
0	0
1	0
0	0
0	0
1	0
1	0

3	0

Ped	Sch
0	0
0	0
0	0
6	0
4	0
3	0

13	0

WESTBOUND Approach

XING W/L

XING E/L

Hours	Lt	Th	Rt	Total
7-8	0	14	294	308
8-9	0	29	347	376
9-10	0	18	303	321
15-16	0	24	212	236
16-17	0	28	184	212
17-18	0	21	225	246
TOTAL	0	134	1565	1699

Hours	Lt	Th	Rt	Total
7-8	477	15	0	492
8-9	430	26	0	456
9-10	418	21	0	439
15-16	381	32	0	413
16-17	440	29	0	469
17-18	406	37	0	443
TOTAL	2552	160	0	2712

E-W
800
832
760
649
681
689

4411

Ped	Sch
0	0
0	0
0	0
0	0
1	0
0	0

1	0

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

0	0



City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South 10 Fwy EB on and off Ramp

East/West Porter St

Day: Tuesday **Date:** November 10, 2015 **Weather:** SUNNY

Hours: 7-10 & 3-6 **Chekr:** NDS

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

	N/B	S/B	E/B	W/B
DUAL-WHEELED	3	139	297	463
BIKES	0	0	6	4
BUSES	0	0	2	5

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	1	7.45	214	8.15	76	9.45	117	7.00
PM PK 15 MIN	1	16.30	66	15.00	105	15.00	142	17.00
AM PK HOUR	1	7.45	754	7.45	236	8.00	447	7.00
PM PK HOUR	2	16.30	214	16.00	359	15.00	545	16.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	1	0	0	1
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	1	0	0	1
17-18	1	0	0	1
TOTAL	3	0	0	3

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	432	0	122	554
8-9	583	0	154	737
9-10	383	0	118	501
15-16	153	0	58	211
16-17	152	0	62	214
17-18	130	1	51	182
TOTAL	1833	1	565	2399

TOTAL

N-S
555
737
501
211
215
183
2402

XING S/L

Ped	Sch
6	0
1	0
17	0
1	0
5	0
3	0
33	0

XING N/L

Ped	Sch
4	0
3	0
2	0
4	0
4	0
2	0
19	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	116	89	0	205
8-9	113	122	1	236
9-10	163	47	0	210
15-16	225	133	1	359
16-17	162	141	1	304
17-18	196	147	2	345
TOTAL	975	679	5	1659

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	3	16	428	447
8-9	0	26	340	366
9-10	3	27	290	320
15-16	0	27	504	531
16-17	0	22	503	525
17-18	2	26	475	503
TOTAL	8	144	2540	2692

TOTAL

E-W
652
602
530
890
829
848
4351

XING W/L

Ped	Sch
2	0
1	0
2	0
0	0
1	0
0	0
6	0

XING E/L

Ped	Sch
0	0
1	0
0	0
0	0
0	0
0	0
1	0

Appendix C

CEQA T-1 Plans, Policies, Programs Consistency Worksheet



Attachment D: Plan, Policy, and Program 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:



Plan, Policy, and Program Consistency Worksheet

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.

6th Street	Frontage 1 Existing PROW'/Curb' : Existing	<u>44/30</u>	Required	<u>43/28</u>	Proposed	<u>43/28</u>
Mill Street	Frontage 2 Existing PROW'/Curb' : Existing	<u>30/20</u>	Required	<u>33/20</u>	Proposed	<u>33/20</u>
Alameda Street	Frontage 3 Existing PROW'/Curb' : Existing	<u>50/32</u>	Required	<u>50/35</u>	Proposed	<u>50/32</u>
	Frontage 4 Existing PROW'/Curb' : Existing	<u> </u>	Required	<u> </u>	Proposed	<u> </u>

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?



Plan, Policy, and Program Consistency Worksheet

- 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

B.1 Does the project propose, above and beyond any PROW changes needed to comply with Section 12.37 of the LAMC as discussed in Section II.A, 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 developer-initiated 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

¹ LADOT Transportation Assessment Support Map <https://arcg.is/fubbbD>



Plan, Policy, and Program Consistency Worksheet

- 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 feet² 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

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.



Plan, Policy, and Program Consistency Worksheet

- 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

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

³ LADOT Transportation Assessment Support Map <https://arcg.is/fubbbD>



Plan, Policy, and Program Consistency Worksheet

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.



Plan, Policy, and Program Consistency Worksheet

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 amount⁴ 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

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

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.



Plan, Policy, and Program Consistency Worksheet

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.



Plan, Policy, and Program Consistency Worksheet

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/fubbbD>

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

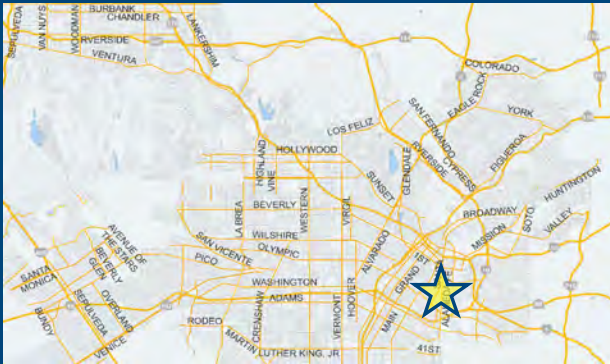
CITY OF LOS ANGELES VMT CALCULATOR Version 1.4



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

Project Information

Project: 6th and Alameda Studios
 Scenario: [WWW](#)
 Address: 1206 E 6TH ST, 90021 [Q](#)



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 Light Industrial	311	ksf
Industrial Light Industrial	311	ksf

[Click here to add a single custom land use type \(will be included in the above list\)](#)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail High-Turnover Sit-Down Restaurant		ksf
Retail General Retail	4	ksf
Retail High-Turnover Sit-Down Restaurant	4	ksf
Office General Office	299.407	ksf
(custom) Stage and Support Uses Daily	2054	Trips
(custom) Stage and Support Uses HBW-Attr	52	Percent
(custom) Stage and Support Uses HBO-Attr	24	Percent
(custom) Stage and Support Uses NHB-Attr	12	Percent
(custom) Stage and Support Uses HBW-Prod	0	Percent
(custom) Stage and Support Uses HBO-Prod	0	Percent
(custom) Stage and Support Uses NHB-Prod	12	Percent
(custom) Stage and Support Uses Daily	0	Residents
(custom) Stage and Support Uses Daily	1334 [a]	Employee
(custom) Stage and Support Uses Daily	Non-Retail	Retail/Non

[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
1,701 Daily Vehicle Trips	4,387 Daily Vehicle Trips
11,821 Daily VMT	32,185 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	2,686 Net Daily Trips
The net increase in daily VMT ≤ 0	20,364 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	8.000 ksf
The proposed project is required to perform VMT analysis.	



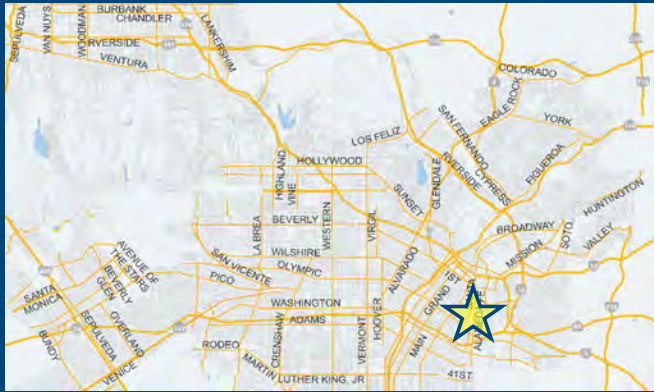
[a] The custom land use includes daily trips (see Table 4) and employee estimates (4.0 employees per 1,000 sf of sound stage use, 2.0 employees per 1,000 sf of production support use) for sound stage and production support that are based on other studios in the City.

CITY OF LOS ANGELES VMT CALCULATOR Version 1.4



Project Information

Project: 6th and Alameda Studios
 Scenario:
 Address: 1206 E 6TH ST, 90021



Proposed Project Land Use Type

Retail | General Retail
 Retail | High-Turnover Sit-Down Restaur
 Office | General Office
 (custom) Stage and Support Uses | Daily
 (custom) Stage and Support Uses | HBV
 (custom) Stage and Support Uses | HBO

Value Unit

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

Max Home Based TDM Achieved?

Proposed Project

No

With Mitigation

No

Max Work Based TDM Achieved?

No

No

A

Parking

Reduce Parking Supply

1371

city code parking provision for the project site

☒ Proposed Prj ☐ Mitigation

759

actual parking provision for the project site

Unbundle Parking

☐ Proposed Prj ☐ Mitigation

175

monthly parking cost (dollar) for the project site

Parking Cash-Out

☐ Proposed Prj ☐ Mitigation

50

percent of employees eligible

Price Workplace Parking

☐ Proposed Prj ☐ Mitigation

6.00

daily parking charge (dollar)

50

percent of employees subject to priced parking

Residential Area Parking

Permits

☐ Proposed Prj ☐ Mitigation

200

cost (dollar) of annual permit

B

Transit

C

Education & Encouragement

D

Commute Trip Reductions

E

Shared Mobility

F

Bicycle Infrastructure

G

Neighborhood Enhancement

Analysis Results

Proposed Project

With Mitigation

3,815

Daily Vehicle Trips

3,815

Daily Vehicle Trips

27,985

Daily VMT

27,985

Daily VMT

0.0

Household VMT per Capita

0.0

Household VMT per Capita

5.5

Work VMT per Employee

5.5

Work VMT per Employee

Significant VMT Impact?

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



CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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	4.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	4.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	299.407	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	Stage and Support Uses	2054	Trips

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

Analysis Results			
Total Employees: 2,556			
Total Population: 0			
Proposed Project		With Mitigation	
3,815	Daily Vehicle Trips	3,815	Daily Vehicle Trips
27,985	Daily VMT	27,985	Daily VMT
0	Household VMT per Capita	0	Household VMT per Capita
5.5	Work VMT per Employee	5.5	Work VMT per Employee
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 7.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

TDM Strategy Inputs				
Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	1371	1371
		Actual parking provision (spaces)	759	759
	Unbundle parking	Monthly cost for parking (\$)	\$0	\$0
	Parking cash-out	Employees eligible (%)	0%	0%
	Price workplace parking	Daily parking charge (\$)	\$0.00	\$0.00
		Employees subject to priced parking (%)	0%	0%
	Residential area parking permits	Cost of annual permit (\$)	\$0	\$0
(cont. on following page)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

TDM Strategy Inputs, Cont.			
Strategy Type	Description	Proposed Project	Mitigations
Transit	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
	Degree of implementation (low, medium, high)	0	0
	Employees and residents eligible (%)	0%	0%
	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%
	Promotions and marketing	Employees and residents participating (%)	0%
(cont. on following page)			

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: September 18, 2023
 Project Name: 6th and Alameda Studios
 Project Scenario:
 Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: September 18, 2023
 Project Name: 6th and Alameda Studios
 Project Scenario:
 Project Address: 1206 E 6TH ST, 90021



Version 1.4

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	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

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

$$= \text{Minimum}(X\%, 1 - [(1-A) * (1-B) \dots])$$

where X%=

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

Note: $(1 - [(1-A) * (1-B) \dots])$ 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: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	6.7	0	0
Home Based Other Production	0	0.0%	0	4.6	0	0
Non-Home Based Other Production	755	-4.4%	722	7.5	5,663	5,415
Home-Based Work Attraction	2,691	-27.4%	1,955	8.2	22,066	16,031
Home-Based Other Attraction	1,554	-36.4%	988	5.9	9,169	5,829
Non-Home Based Other Attraction	755	-4.4%	722	6.8	5,134	4,910

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	-13.0%	0	0	-13.0%	0	0
Home Based Other Production	-13.0%	0	0	-13.0%	0	0
Non-Home Based Other Production	-13.0%	628	4,709	-13.0%	628	4,709
Home-Based Work Attraction	-13.0%	1,700	13,939	-13.0%	1,700	13,939
Home-Based Other Attraction	-13.0%	859	5,068	-13.0%	859	5,068
Non-Home Based Other Attraction	-13.0%	628	4,269	-13.0%	628	4,269

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0

Total Employees: 2,556

APC: Central

	Proposed Project	Project with Mitigation Measures
Total Home Based Production VMT	0	0
Total Home Based Work Attraction VMT	13,939	13,939
Total Home Based VMT Per Capita	0.0	0.0
Total Work Based VMT Per Employee	5.5	5.5

Appendix E

HCM Analysis Worksheets

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/25/2023

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	41	125	75	161	608	137	71	601	57	39	716	85	
Future Volume (veh/h)	41	125	75	161	608	137	71	601	57	39	716	85	
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	136	82	175	661	149	77	653	62	42	778	92	
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	313	1113	632	621	1468	331	192	1265	120	240	956	113	
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.04	0.39	0.39	0.30	0.30	0.30	
Sat Flow, veh/h	673	2184	1240	1163	2882	649	1781	3280	311	736	3201	378	
Grp Volume(v), veh/h	45	109	109	175	407	403	77	353	362	42	432	438	
Grp Sat Flow(s),veh/h/ln	673	1777	1647	1163	1777	1754	1781	1777	1814	736	1777	1802	
Q Serve(g_s), s	4.8	3.4	3.6	9.8	15.3	15.4	3.0	16.0	16.1	4.9	23.6	23.7	
Cycle Q Clear(g_c), s	20.1	3.4	3.6	13.4	15.3	15.4	3.0	16.0	16.1	11.8	23.6	23.7	
Prop In Lane	1.00		0.75	1.00		0.37	1.00		0.17	1.00		0.21	
Lane Grp Cap(c), veh/h	313	905	839	621	905	894	192	685	700	240	531	538	
V/C Ratio(X)	0.14	0.12	0.13	0.28	0.45	0.45	0.40	0.52	0.52	0.18	0.81	0.81	
Avail Cap(c_a), veh/h	313	905	839	621	905	894	241	939	959	325	736	747	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	22.8	13.5	13.5	17.0	16.4	16.4	26.0	24.7	24.7	32.8	34.1	34.1	
Incr Delay (d2), s/veh	1.0	0.3	0.3	1.1	1.6	1.6	1.3	0.6	0.6	0.3	4.9	4.9	
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	1.5	2.5	2.5	5.0	10.6	10.5	2.4	11.0	11.2	1.6	16.1	16.3	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	23.8	13.7	13.8	18.2	18.0	18.0	27.3	25.3	25.3	33.1	39.0	39.0	
LnGrp LOS	C	B	B	B	B	B	C	C	C	C	D	D	
Approach Vol, veh/h	263			985				792				912	
Approach Delay, s/veh	15.5			18.0				25.5				38.7	
Approach LOS	B			B				C				D	
Timer - Assigned Phs	1	2	4			6		8					
Phs Duration (G+Y+Rc), s	9.1	36.9	59.0			46.0		59.0					
Change Period (Y+Rc), s	4.6	* 5.5	* 5.5			* 5.5		* 5.5					
Max Green Setting (Gmax), s	7.4	* 44	* 39			* 56		* 39					
Max Q Clear Time (g_c+I1), s	5.0	25.7	17.4			18.1		22.1					
Green Ext Time (p_c), s	0.0	5.7	6.1			5.1		1.4					
Intersection Summary													
HCM 6th Ctrl Delay			26.2										
HCM 6th LOS			C										
Notes													

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

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	125	75	161	608	137	71	601	57	39	716	85
Future Volume (veh/h)	41	125	75	161	608	137	71	601	57	39	716	85
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	136	82	175	661	149	77	653	62	42	778	92
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	313	1113	632	621	1468	331	192	1265	120	240	956	113
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
Prop Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.04	0.39	0.39	0.30	0.30	0.30
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.8	13.7	13.8	18.2	18.0	18.0	27.3	25.3	25.3	33.1	39.0	39.0
Ln Grp LOS	C	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h	263			985			792			912		
Approach Delay, s/veh	15.5			18.0			25.5			38.7		
Approach LOS	B			B			C			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Case No	1.2	6.3		6.0		4.0		6.0				
Phs Duration (G+Y+Rc), s	9.1	36.9		59.0		46.0		59.0				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green (Gmax), s	7.4	* 44		* 39		* 56		* 39				
Max Allow Headway (MAH), s	3.8	5.3		5.1		5.3		5.6				
Max Q Clear (g_c+I1), s	5.0	25.7		17.4		18.1		22.1				
Green Ext Time (g_e), s	0.0	5.7		6.1		5.1		1.4				
Prob of Phs Call (p_c)	0.89	1.00		1.00		1.00		1.00				
Prob of Max Out (p_x)	1.00	0.21		0.00		0.00		0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	5		7		3						
Mvmt Sat Flow, veh/h	1781	736		1163		673						
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3201		2882		3280		2184				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		378		649		311		1240				
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)	L		L				L				

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	77	42	0	175	0	0	0	45
Grp Sat Flow (s), veh/h/ln	1781	736	0	1163	0	0	0	673
Q Serve Time (g_s), s	3.0	4.9	0.0	9.8	0.0	0.0	0.0	4.8
Cycle Q Clear Time (g_c), s	3.0	11.8	0.0	13.4	0.0	0.0	0.0	20.1
Perm LT Sat Flow (s_l), veh/h/ln	637	736	0	1163	0	0	0	673
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	33.4	31.4	0.0	53.5	0.0	0.0	0.0	53.5
Perm LT Serve Time (g_u), s	7.7	24.4	0.0	49.9	0.0	0.0	0.0	38.2
Perm LT Q Serve Time (g_ps), s	3.5	4.9	0.0	9.8	0.0	0.0	0.0	4.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	192	240	0	621	0	0	0	313
V/C Ratio (X)	0.40	0.18	0.00	0.28	0.00	0.00	0.00	0.14
Avail Cap (c_a), veh/h	241	325	0	621	0	0	0	313
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	26.0	32.8	0.0	17.0	0.0	0.0	0.0	22.8
Incr Delay (d2), s/veh	1.3	0.3	0.0	1.1	0.0	0.0	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
Control Delay (d), s/veh	27.3	33.1	0.0	18.2	0.0	0.0	0.0	23.8
1st-Term Q (Q1), veh/ln	1.3	0.9	0.0	2.6	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.4	1.6	0.0	5.0	0.0	0.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.36	0.16	0.00	1.29	0.00	0.00	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	432	0	407	0	353	0	109
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	23.6	0.0	15.3	0.0	16.0	0.0	3.4
Cycle Q Clear Time (g_c), s	0.0	23.6	0.0	15.3	0.0	16.0	0.0	3.4
Lane Grp Cap (c), veh/h	0	531	0	905	0	685	0	905
V/C Ratio (X)	0.00	0.81	0.00	0.45	0.00	0.52	0.00	0.12
Avail Cap (c_a), veh/h	0	736	0	905	0	939	0	905
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.1	0.0	16.4	0.0	24.7	0.0	13.5
Incr Delay (d2), s/veh	0.0	4.9	0.0	1.6	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.0	0.0	18.0	0.0	25.3	0.0	13.7
1st-Term Q (Q1), veh/ln	0.0	10.0	0.0	6.0	0.0	6.6	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.4	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	0.00	1.65	0.00	1.63	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	16.1	0.0	10.6	0.0	11.0	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.79	0.00	0.25	0.00	0.42	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	438	0	403	0	362	0	109
Grp Sat Flow (s), veh/h/ln	0	1802	0	1754	0	1814	0	1647
Q Serve Time (g_s), s	0.0	23.7	0.0	15.4	0.0	16.1	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	23.7	0.0	15.4	0.0	16.1	0.0	3.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.21	0.00	0.37	0.00	0.17	0.00	0.75
Lane Grp Cap (c), veh/h	0	538	0	894	0	700	0	839
V/C Ratio (X)	0.00	0.81	0.00	0.45	0.00	0.52	0.00	0.13
Avail Cap (c_a), veh/h	0	747	0	894	0	959	0	839
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.1	0.0	16.4	0.0	24.7	0.0	13.5
Incr Delay (d2), s/veh	0.0	4.9	0.0	1.6	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.0	0.0	18.0	0.0	25.3	0.0	13.8
1st-Term Q (Q1), veh/ln	0.0	10.2	0.0	6.0	0.0	6.8	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.4	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.50	0.00	1.65	0.00	1.62	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	16.3	0.0	10.5	0.0	11.2	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.80	0.00	0.24	0.00	0.43	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/25/2023

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	171	36	21	901	24	14
Future Vol, veh/h	171	36	21	901	24	14
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	186	39	23	979	26	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	225
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1341
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1341
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	1341	-
HCM Lane V/C Ratio	0.094	-	-	0.017	-
HCM Control Delay (s)	14	-	-	7.7	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	121	27	94	834	122	59	94	6	12	103	64
Future Volume (veh/h)	34	121	27	94	834	122	59	94	6	12	103	64
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	37	132	29	102	907	133	64	102	7	13	112	70
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	230	1420	304	647	1517	222	233	351	22	59	365	213
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	542	2912	623	1225	3109	456	520	1025	65	47	1067	623
Grp Volume(v), veh/h	37	79	82	102	518	522	173	0	0	195	0	0
Grp Sat Flow(s),veh/h/ln	542	1777	1758	1225	1777	1788	1610	0	0	1737	0	0
Q Serve(g_s), s	4.8	2.2	2.2	4.4	19.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	23.8	2.2	2.2	6.6	19.0	19.0	6.2	0.0	0.0	7.4	0.0	0.0
Prop In Lane	1.00		0.35	1.00		0.25	0.37		0.04	0.07		0.36
Lane Grp Cap(c), veh/h	230	867	858	647	867	872	606	0	0	637	0	0
V/C Ratio(X)	0.16	0.09	0.10	0.16	0.60	0.60	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	230	867	858	647	867	872	606	0	0	637	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.3	12.4	12.4	14.2	16.7	16.7	21.5	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.2	0.2	0.5	3.0	3.0	1.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	1.6	1.6	2.3	12.6	12.7	5.0	0.0	0.0	5.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	12.6	12.6	14.7	19.7	19.7	22.7	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	C	B	B	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h	198			1142			173			195		
Approach Delay, s/veh	15.2			19.3			22.7			23.1		
Approach LOS	B			B			C			C		
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	* 9.1			6.2			* 9.1			6.2		
Max Green Setting (Gmax), s	* 44			30.8			* 44			30.8		
Max Q Clear Time (g_c+I1), s	21.0			9.4			25.8			8.2		
Green Ext Time (p_c), s	7.9			1.1			1.1			1.0		
Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	121	27	94	834	122	59	94	6	12	103	64
Future Volume (veh/h)	34	121	27	94	834	122	59	94	6	12	103	64
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	132	29	102	907	133	64	102	7	13	112	70
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	230	1420	304	647	1517	222	233	351	22	59	365	213
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.8	12.6	12.6	14.7	19.7	19.7	22.7	0.0	0.0	23.1	0.0	0.0
Ln Grp LOS	C	B	B	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h	198			1142			173			195		
Approach Delay, s/veh	15.2			19.3			22.7			23.1		
Approach LOS	B			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.2			5.4			5.8			5.4		
Max Q Clear (g_c+I1), s	21.0			9.4			25.8			8.2		
Green Ext Time (g_e), s	7.9			1.1			1.1			1.0		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.20			0.00			0.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1225			47			542			520		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3109			1067			2912			1025		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	456			623			623			65		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	102	0	195	0	37	0	173
Grp Sat Flow (s), veh/h/ln	0	1225	0	1737	0	542	0	1610
Q Serve Time (g_s), s	0.0	4.4	0.0	0.0	0.0	4.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.6	0.0	7.4	0.0	23.8	0.0	6.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1225	0	1305	0	542	0	1221
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1864	0	0	0	1801
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	41.7	0.0	24.6	0.0	24.9	0.0	23.4
Perm LT Q Serve Time (g_ps), s	0.0	4.4	0.0	0.0	0.0	4.8	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	18.2	0.0	0.0	0.0	3.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	3.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.07	0.00	1.00	0.00	0.37
Lane Grp Cap (c), veh/h	0	647	0	637	0	230	0	606
V/C Ratio (X)	0.00	0.16	0.00	0.31	0.00	0.16	0.00	0.29
Avail Cap (c_a), veh/h	0	647	0	637	0	230	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.2	0.0	21.9	0.0	25.3	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.2	0.0	1.5	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	23.1	0.0	26.8	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	3.0	0.0	0.6	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.3	0.0	5.7	0.0	1.3	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.71	0.00	0.21	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	518	0	0	0	79	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	19.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	0.0	0.0	2.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.60	0.00	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	0.0	0.0	12.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	0.0	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	12.6	0.0	0.0	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	522	0	0	0	82	0	0
Grp Sat Flow (s), veh/h/ln	0	1788	0	0	0	1758	0	0
Q Serve Time (g_s), s	0.0	19.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	0.0	0.0	2.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.25	0.00	0.36	0.00	0.35	0.00	0.04
Lane Grp Cap (c), veh/h	0	872	0	0	0	858	0	0
V/C Ratio (X)	0.00	0.60	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	872	0	0	0	858	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	0.0	0.0	12.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	0.0	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	12.7	0.0	0.0	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/25/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	173	99	101	904	100	81	569	49	57	738	226
Future Volume (veh/h)	44	173	99	101	904	100	81	569	49	57	738	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	48	188	108	110	983	109	88	618	53	62	802	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	141	776	426	391	1131	125	246	1242	106	397	1382	424
Arrive On Green	0.35	0.35	0.35	0.70	0.70	0.70	0.38	0.38	0.38	0.08	0.52	0.52
Sat Flow, veh/h	516	2214	1214	1083	3225	358	538	3312	284	1781	2678	821
Grp Volume(v), veh/h	48	149	147	110	541	551	88	331	340	62	532	516
Grp Sat Flow(s),veh/h/ln	516	1777	1652	1083	1777	1806	538	1777	1819	1781	1777	1723
Q Serve(g_s), s	8.1	5.4	5.7	4.9	21.0	21.0	12.2	12.9	12.9	1.7	18.6	18.6
Cycle Q Clear(g_c), s	29.0	5.4	5.7	10.6	21.0	21.0	18.1	12.9	12.9	1.7	18.6	18.6
Prop In Lane	1.00		0.74	1.00		0.20	1.00		0.16	1.00		0.48
Lane Grp Cap(c), veh/h	141	623	579	391	623	633	246	666	682	397	917	889
V/C Ratio(X)	0.34	0.24	0.25	0.28	0.87	0.87	0.36	0.50	0.50	0.16	0.58	0.58
Avail Cap(c_a), veh/h	153	665	619	417	665	676	246	666	682	435	917	889
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	20.7	20.8	11.8	11.9	11.9	25.7	21.6	21.6	14.1	15.0	15.0
Incr Delay (d2), s/veh	1.4	0.2	0.2	0.4	11.4	11.3	4.0	2.6	2.6	0.2	2.7	2.8
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	1.9	4.0	3.9	1.5	9.8	9.9	3.2	9.6	9.8	1.2	12.2	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	20.9	21.1	12.2	23.3	23.1	29.7	24.2	24.2	14.3	17.7	17.8
LnGrp LOS	D	C	C	B	C	C	C	C	C	B	B	B
Approach Vol, veh/h	344				1202		759				1110	
Approach Delay, s/veh	23.6				22.2		24.9				17.6	
Approach LOS	C				C		C				B	
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	52.1		37.9		12.7	39.4	37.9					
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	20.6		23.0		3.7	20.1	31.0					
Green Ext Time (p_c), s	7.7		5.6		0.0	3.5	0.6					

Intersection Summary

HCM 6th Ctrl Delay 21.4

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	173	99	101	904	100	81	569	49	57	738	226
Future Volume (veh/h)	44	173	99	101	904	100	81	569	49	57	738	226
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	188	108	110	983	109	88	618	53	62	802	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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	141	776	426	391	1131	125	246	1242	106	397	1382	424
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
Prop Arrive On Green	0.35	0.35	0.35	0.70	0.70	0.70	0.38	0.38	0.38	0.08	0.52	0.52
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.0	20.9	21.1	12.2	23.3	23.1	29.7	24.2	24.2	14.3	17.7	17.8
Ln Grp LOS	D	C	C	B	C	C	C	C	C	B	B	B
Approach Vol, veh/h	344			1202			759			1110		
Approach Delay, s/veh	23.6			22.2			24.9			17.6		
Approach LOS	C			C			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	52.1			37.9			12.7			39.4		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 6.3		
Max Green (Gmax), s	* 44			* 34			9.0			* 30		
Max Allow Headway (MAH), s	5.3			5.2			3.8			5.6		
Max Q Clear (g_c+I1), s	20.6			23.0			3.7			20.1		
Green Ext Time (g_e), s	7.7			5.6			0.0			3.5		
Prob of Phs Call (p_c)	1.00			1.00			0.79			1.00		
Prob of Max Out (p_x)	0.00			0.64			0.15			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				1083			1781			538		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2678			3225			3312			2214		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	821			358			284			1214		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/25/2023

Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	110	62	88	0	48
Grp Sat Flow (s), veh/h/ln	0	0	0	1083	1781	538	0	516
Q Serve Time (g_s), s	0.0	0.0	0.0	4.9	1.7	12.2	0.0	8.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.6	1.7	18.1	0.0	29.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1083	767	538	0	516
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	31.6	35.8	33.8	0.0	31.6
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	25.9	20.8	27.8	0.0	10.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	4.9	1.3	12.2	0.0	8.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	391	397	246	0	141
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.16	0.36	0.00	0.34
Avail Cap (c_a), veh/h	0	0	0	417	435	246	0	153
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.8	14.1	25.7	0.0	38.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.2	4.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	12.2	14.3	29.7	0.0	40.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.7	1.5	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.5	1.2	3.2	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.24	0.11	0.41	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	532	0	541	0	331	0	149
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	18.6	0.0	21.0	0.0	12.9	0.0	5.4
Cycle Q Clear Time (g_c), s	0.0	18.6	0.0	21.0	0.0	12.9	0.0	5.4
Lane Grp Cap (c), veh/h	0	917	0	623	0	666	0	623
V/C Ratio (X)	0.00	0.58	0.00	0.87	0.00	0.50	0.00	0.24
Avail Cap (c_a), veh/h	0	917	0	665	0	666	0	665
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.0	0.0	11.9	0.0	21.6	0.0	20.7
Incr Delay (d2), s/veh	0.0	2.7	0.0	11.4	0.0	2.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.7	0.0	23.3	0.0	24.2	0.0	20.9
1st-Term Q (Q1), veh/ln	0.0	7.0	0.0	3.9	0.0	5.2	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	2.0	0.0	0.5	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.59	0.00	1.68	0.00	1.69	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	12.2	0.0	9.8	0.0	9.6	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.93	0.00	0.21	0.00	0.29	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	516	0	551	0	340	0	147
Grp Sat Flow (s), veh/h/ln	0	1723	0	1806	0	1819	0	1652
Q Serve Time (g_s), s	0.0	18.6	0.0	21.0	0.0	12.9	0.0	5.7
Cycle Q Clear Time (g_c), s	0.0	18.6	0.0	21.0	0.0	12.9	0.0	5.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.48	0.00	0.20	0.00	0.16	0.00	0.74
Lane Grp Cap (c), veh/h	0	889	0	633	0	682	0	579
V/C Ratio (X)	0.00	0.58	0.00	0.87	0.00	0.50	0.00	0.25
Avail Cap (c_a), veh/h	0	889	0	676	0	682	0	619
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.0	0.0	11.9	0.0	21.6	0.0	20.8
Incr Delay (d2), s/veh	0.0	2.8	0.0	11.3	0.0	2.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.8	0.0	23.1	0.0	24.2	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	6.8	0.0	3.9	0.0	5.3	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	2.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.60	0.00	1.67	0.00	1.68	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	11.9	0.0	9.9	0.0	9.8	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.91	0.00	0.21	0.00	0.30	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	219	1096	38	21	55
Future Vol, veh/h	14	219	1096	38	21	55
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	15	238	1191	41	23	60

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1232	0	0 1361 616
Stage 1	-	-	- 1212 -
Stage 2	-	-	- 149 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	561	-	- 139 433
Stage 1	-	-	- 244 -
Stage 2	-	-	- 863 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	561	-	- 135 433
Mov Cap-2 Maneuver	-	-	- 135 -
Stage 1	-	-	- 236 -
Stage 2	-	-	- 863 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	561	-	-	-	269
HCM Lane V/C Ratio	0.027	-	-	-	0.307
HCM Control Delay (s)	11.6	0.2	-	-	24.2
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	181	34	141	1037	67	73	88	24	27	159	41
Future Volume (veh/h)	23	181	34	141	1037	67	73	88	24	27	159	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	197	37	153	1127	73	79	96	26	29	173	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	347	2140	395	876	2421	157	134	136	32	68	237	58
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	466	2995	552	1146	3388	219	435	757	177	128	1317	322
Grp Volume(v), veh/h	25	115	119	153	591	609	201	0	0	247	0	0
Grp Sat Flow(s),veh/h/ln	466	1777	1771	1146	1777	1831	1369	0	0	1767	0	0
Q Serve(g_s), s	2.2	1.8	1.8	4.2	12.8	12.8	1.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.0	1.8	1.8	6.1	12.8	12.8	13.0	0.0	0.0	11.9	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.12	0.39		0.13	0.12		0.18
Lane Grp Cap(c), veh/h	347	1270	1265	876	1270	1308	302	0	0	363	0	0
V/C Ratio(X)	0.07	0.09	0.09	0.17	0.47	0.47	0.67	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	347	1270	1265	876	1270	1308	646	0	0	762	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.7	3.9	3.9	4.9	5.5	5.5	35.3	0.0	0.0	35.1	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	0.4	1.2	1.2	2.5	0.0	0.0	2.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	1.0	1.1	1.7	7.5	7.7	7.8	0.0	0.0	9.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	4.1	4.1	5.3	6.7	6.7	37.8	0.0	0.0	37.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h	259		1353				201		247			
Approach Delay, s/veh	4.6		6.5				37.8		37.3			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	68.9		21.1		68.9		21.1					
Change Period (Y+Rc), s	4.6		* 4.9		4.6		* 4.9					
Max Green Setting (Gmax), s	43.4		* 37		43.4		* 37					
Max Q Clear Time (g_c+I1), s	14.8		13.9		17.0		15.0					
Green Ext Time (p_c), s	10.6		1.4		1.7		1.2					
Intersection Summary												
HCM 6th Ctrl Delay			13.0									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	181	34	141	1037	67	73	88	24	27	159	41
Future Volume (veh/h)	23	181	34	141	1037	67	73	88	24	27	159	41
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	197	37	153	1127	73	79	96	26	29	173	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes				Yes				Yes			
Cap, veh/h	347	2140	395	876	2421	157	134	136	32	68	237	58
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
Prop Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.18	0.18	0.18	0.18	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	9.1	4.1	4.1	5.3	6.7	6.7	37.8	0.0	0.0	37.3	0.0	0.0
Ln Grp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h	259			1353			201			247		
Approach Delay, s/veh	4.6			6.5			37.8			37.3		
Approach LOS	A			A			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	68.9			21.1			68.9			21.1		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	43.4			* 37			43.4			* 37		
Max Allow Headway (MAH), s	5.2			5.3			5.6			5.5		
Max Q Clear (g_c+I1), s	14.8			13.9			17.0			15.0		
Green Ext Time (g_e), s	10.6			1.4			1.7			1.2		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			0.00			0.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1146			128			466			435		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3388			1317			2995			757		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	219			322			552			177		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	153	0	247	0	25	0	201
Grp Sat Flow (s), veh/h/ln	0	1146	0	1767	0	466	0	1369
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	2.2	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	11.9	0.0	15.0	0.0	13.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1146	0	1289	0	466	0	1182
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1751	0	0	0	1206
Perm LT Eff Green (g_p), s	0.0	64.3	0.0	16.2	0.0	64.3	0.0	16.2
Perm LT Serve Time (g_u), s	0.0	62.5	0.0	3.2	0.0	51.5	0.0	4.3
Perm LT Q Serve Time (g_ps), s	0.0	4.2	0.0	0.0	0.0	2.2	0.0	1.1
Time to First Blk (g_f), s	0.0	0.0	0.0	6.0	0.0	0.0	0.0	2.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	6.0	0.0	0.0	0.0	2.3
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.12	0.00	1.00	0.00	0.39
Lane Grp Cap (c), veh/h	0	876	0	363	0	347	0	302
V/C Ratio (X)	0.00	0.17	0.00	0.68	0.00	0.07	0.00	0.67
Avail Cap (c_a), veh/h	0	876	0	762	0	347	0	646
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	4.9	0.0	35.1	0.0	8.7	0.0	35.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	2.3	0.0	0.4	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.3	0.0	37.3	0.0	9.1	0.0	37.8
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	5.0	0.0	0.2	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.71	0.00	1.80	0.00	1.78
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	9.0	0.0	0.4	0.0	7.8
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.71	0.00	0.02	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	591	0	0	0	115	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	12.8	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.8	0.0	0.0	0.0	1.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1270	0	0	0	1270	0	0
V/C Ratio (X)	0.00	0.47	0.00	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	1270	0	0	0	1270	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.5	0.0	0.0	0.0	3.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.1	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
Control Delay (d), s/veh	0.0	6.7	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.5	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	609	0	0	0	119	0	0
Grp Sat Flow (s), veh/h/ln	0	1831	0	0	0	1771	0	0
Q Serve Time (g_s), s	0.0	12.8	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.8	0.0	0.0	0.0	1.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.12	0.00	0.18	0.00	0.31	0.00	0.13
Lane Grp Cap (c), veh/h	0	1308	0	0	0	1265	0	0
V/C Ratio (X)	0.00	0.47	0.00	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	1308	0	0	0	1265	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.5	0.0	0.0	0.0	3.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.1	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
Control Delay (d), s/veh	0.0	6.7	0.0	0.0	0.0	4.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.79	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.7	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/25/2023

Intersection

Intersection Delay, s/veh45.2

Intersection LOS E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	318	515	16	243	416
Future Vol, veh/h	15	318	515	16	243	416
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	16	346	560	17	264	452
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	19.7	82.9	27.7
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	97%
Vol Thru, %	0%	0%	5%	3%
Vol Right, %	0%	100%	95%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	243	416	333	531
LT Vol	243	0	0	515
Through Vol	0	0	15	16
RT Vol	0	416	318	0
Lane Flow Rate	264	452	362	577
Geometry Grp	7	7	2	2
Degree of Util (X)	0.562	0.811	0.627	1.065
Departure Headway (Hd)	7.912	6.68	6.46	6.644
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	460	547	561	548
Service Time	5.612	4.38	4.46	4.703
HCM Lane V/C Ratio	0.574	0.826	0.645	1.053
HCM Control Delay	20.3	32	19.7	82.9
HCM Lane LOS	C	D	C	F
HCM 95th-tile Q	3.4	7.9	4.3	17

HCM 6th TWSC
138: Porter Street & I-10 Off Ramps

07/25/2023

Intersection						
Int Delay, s/veh	170.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	122	132	28	367	630	166
Future Vol, veh/h	122	132	28	367	630	166
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	150
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	133	143	30	399	685	180
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	429	0	-	0	639	230
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	409	-
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	1130	-	-	-	~ 440	809
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	~ 671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1130	-	-	-	~ 384	809
Mov Cap-2 Maneuver	-	-	-	-	~ 384	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	~ 671	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.1	0		\$ 308.5		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1130	-	-	-	384	809
HCM Lane V/C Ratio	0.117	-	-	-	1.783	0.223
HCM Control Delay (s)	8.6	0	-	-	\$ 387	10.7
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	43.5	0.9
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection												
Int Delay, s/veh	106.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	580	0	278	10	22	0	0	202	10
Future Vol, veh/h	10	0	10	580	0	278	10	22	0	0	202	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	630	0	302	11	24	0	0	220	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	423	272	226	277	277	24	231	0	-	-	-	0
Stage 1	226	226	-	46	46	-	-	-	-	-	-	-
Stage 2	197	46	-	231	231	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	541	635	813	675	631	1052	1337	-	0	0	-	-
Stage 1	777	717	-	968	857	-	-	-	0	0	-	-
Stage 2	805	857	-	772	713	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	383	630	813	662	626	1052	1337	-	-	-	-	-
Mov Cap-2 Maneuver	383	630	-	662	626	-	-	-	-	-	-	-
Stage 1	771	717	-	960	850	-	-	-	-	-	-	-
Stage 2	569	850	-	762	713	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.2		138.6		2.4		0					
HCM LOS	B		F									
Minor Lane/Major Mvmt	NBL		NBT EBLn1WBLn1		SBT		SBR					
Capacity (veh/h)	1337		-		521		752		-		-	
HCM Lane V/C Ratio	0.008		-		0.042		1.24		-		-	
HCM Control Delay (s)	7.7		0		12.2		138.6		-		-	
HCM Lane LOS	A		A		B		F		-		-	
HCM 95th %tile Q(veh)	0		-		0.1		33.1		-		-	

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	620	110	68	366	114	97	904	109	157	788	109
Future Volume (veh/h)	101	620	110	68	366	114	97	904	109	157	788	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	674	120	74	398	124	105	983	118	171	857	118
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	968	172	166	859	264	315	1779	213	264	1425	196
Arrive On Green	0.32	0.32	0.32	0.11	0.11	0.11	0.05	0.56	0.56	0.45	0.45	0.45
Sat Flow, veh/h	880	3015	536	684	2675	824	1781	3195	383	512	3137	432
Grp Volume(v), veh/h	110	397	397	74	263	259	105	547	554	171	485	490
Grp Sat Flow(s),veh/h/ln	880	1777	1774	684	1777	1722	1781	1777	1801	512	1777	1793
Q Serve(g_s), s	10.6	17.6	17.6	9.7	12.5	12.7	2.7	17.7	17.7	28.9	18.5	18.5
Cycle Q Clear(g_c), s	23.3	17.6	17.6	27.3	12.5	12.7	2.7	17.7	17.7	37.4	18.5	18.5
Prop In Lane	1.00		0.30	1.00		0.48	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	238	570	569	166	570	553	315	989	1003	264	807	814
V/C Ratio(X)	0.46	0.70	0.70	0.45	0.46	0.47	0.33	0.55	0.55	0.65	0.60	0.60
Avail Cap(c_a), veh/h	238	570	569	166	570	553	323	1009	1023	268	819	827
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	26.7	26.7	48.3	32.9	33.0	13.5	12.8	12.8	27.7	18.4	18.4
Incr Delay (d2), s/veh	6.3	6.9	6.9	8.5	2.7	2.8	0.6	0.6	0.6	5.2	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	13.0	13.0	3.9	10.5	10.4	1.9	10.9	11.0	6.8	11.9	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	33.6	33.7	56.8	35.6	35.9	14.1	13.4	13.4	32.9	19.7	19.6
LnGrp LOS	D	C	C	E	D	D	B	B	B	C	B	B
Approach Vol, veh/h		904			596			1206			1146	
Approach Delay, s/veh		34.5			38.3			13.5			21.6	
Approach LOS		C			D			B			C	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.2	46.4		34.4		55.6		34.4				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	5.0	* 42		* 28		* 51		* 28				
Max Q Clear Time (g_c+I1), s	4.7	39.4		29.3		19.7		25.3				
Green Ext Time (p_c), s	0.0	1.5		0.0		8.9		1.4				
Intersection Summary												
HCM 6th Ctrl Delay				24.7								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	620	110	68	366	114	97	904	109	157	788	109
Future Volume (veh/h)	101	620	110	68	366	114	97	904	109	157	788	109
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	674	120	74	398	124	105	983	118	171	857	118
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	238	968	172	166	859	264	315	1779	213	264	1425	196
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.32	0.32	0.32	0.11	0.11	0.11	0.05	0.56	0.56	0.45	0.45	0.45
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.0	33.6	33.7	56.8	35.6	35.9	14.1	13.4	13.4	32.9	19.7	19.6
Ln Grp LOS	D	C	C	E	D	D	B	B	B	C	B	B
Approach Vol, veh/h	904			596			1206			1146		
Approach Delay, s/veh	34.5			38.3			13.5			21.6		
Approach LOS	C			D			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Case No	1.2	6.3		6.0		4.0		6.0				
Phs Duration (G+Y+Rc), s	9.2	46.4		34.4		55.6		34.4				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green (Gmax), s	5.0	* 42		* 28		* 51		* 28				
Max Allow Headway (MAH), s	3.8	5.7		5.5		5.3		5.3				
Max Q Clear (g_c+I1), s	4.7	39.4		29.3		19.7		25.3				
Green Ext Time (g_e), s	0.0	1.5		0.0		8.9		1.4				
Prob of Phs Call (p_c)	0.93	1.00		1.00		1.00		1.00				
Prob of Max Out (p_x)	1.00	1.00		0.00		0.09		0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	5		7		3						
Mvmt Sat Flow, veh/h	1781	512		684		880						
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3137		2675		3195		3015				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		432		824		383		536				
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)	L		L				L				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	105	171	0	74	0	0	0	110
Grp Sat Flow (s), veh/h/ln	1781	512	0	684	0	0	0	880
Q Serve Time (g_s), s	2.7	28.9	0.0	9.7	0.0	0.0	0.0	10.6
Cycle Q Clear Time (g_c), s	2.7	37.4	0.0	27.3	0.0	0.0	0.0	23.3
Perm LT Sat Flow (s_l), veh/h/ln	577	512	0	684	0	0	0	880
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	42.9	40.9	0.0	28.9	0.0	0.0	0.0	28.9
Perm LT Serve Time (g_u), s	22.4	32.4	0.0	11.3	0.0	0.0	0.0	16.1
Perm LT Q Serve Time (g_ps), s	4.6	28.9	0.0	9.7	0.0	0.0	0.0	10.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	315	264	0	166	0	0	0	238
V/C Ratio (X)	0.33	0.65	0.00	0.45	0.00	0.00	0.00	0.46
Avail Cap (c_a), veh/h	323	268	0	166	0	0	0	238
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	13.5	27.7	0.0	48.3	0.0	0.0	0.0	34.6
Incr Delay (d2), s/veh	0.6	5.2	0.0	8.5	0.0	0.0	0.0	6.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.1	32.9	0.0	56.8	0.0	0.0	0.0	41.0
1st-Term Q (Q1), veh/ln	1.0	3.4	0.0	1.8	0.0	0.0	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.1	0.4	0.0	0.4	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	1.9	6.8	0.0	3.9	0.0	0.0	0.0	4.7
%ile Storage Ratio (RQ%)	0.28	0.68	0.00	1.01	0.00	0.00	0.00	1.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	485	0	263	0	547	0	397
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	18.5	0.0	12.5	0.0	17.7	0.0	17.6
Cycle Q Clear Time (g_c), s	0.0	18.5	0.0	12.5	0.0	17.7	0.0	17.6
Lane Grp Cap (c), veh/h	0	807	0	570	0	989	0	570
V/C Ratio (X)	0.00	0.60	0.00	0.46	0.00	0.55	0.00	0.70
Avail Cap (c_a), veh/h	0	819	0	570	0	1009	0	570
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.4	0.0	32.9	0.0	12.8	0.0	26.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	2.7	0.0	0.6	0.0	6.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	35.6	0.0	13.4	0.0	33.6
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	5.9	0.0	6.5	0.0	7.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.2	0.0	1.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.60	0.00	1.65	0.00	1.64	0.00	1.57
%ile Back of Q (95%), veh/ln	0.0	11.9	0.0	10.5	0.0	10.9	0.0	13.0
%ile Storage Ratio (RQ%)	0.00	0.58	0.00	0.24	0.00	0.42	0.00	1.52
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	490	0	259	0	554	0	397
Grp Sat Flow (s), veh/h/ln	0	1793	0	1722	0	1801	0	1774
Q Serve Time (g_s), s	0.0	18.5	0.0	12.7	0.0	17.7	0.0	17.6
Cycle Q Clear Time (g_c), s	0.0	18.5	0.0	12.7	0.0	17.7	0.0	17.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.24	0.00	0.48	0.00	0.21	0.00	0.30
Lane Grp Cap (c), veh/h	0	814	0	553	0	1003	0	569
V/C Ratio (X)	0.00	0.60	0.00	0.47	0.00	0.55	0.00	0.70
Avail Cap (c_a), veh/h	0	827	0	553	0	1023	0	569
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.4	0.0	33.0	0.0	12.8	0.0	26.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	2.8	0.0	0.6	0.0	6.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.6	0.0	35.9	0.0	13.4	0.0	33.7
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	5.8	0.0	6.6	0.0	7.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.2	0.0	1.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.60	0.00	1.65	0.00	1.63	0.00	1.57
%ile Back of Q (95%), veh/ln	0.0	12.0	0.0	10.4	0.0	11.0	0.0	13.0
%ile Storage Ratio (RQ%)	0.00	0.59	0.00	0.24	0.00	0.42	0.00	1.53
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/25/2023

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	872	26	12	501	20	49
Future Vol, veh/h	872	26	12	501	20	49
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	948	28	13	545	22	53

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	976
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	703
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	703
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	20
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	314	-	-	703	-
HCM Lane V/C Ratio	0.239	-	-	0.019	-
HCM Control Delay (s)	20	-	-	10.2	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	680	103	53	427	91	58	123	61	62	162	70
Future Volume (veh/h)	121	680	103	53	427	91	58	123	61	62	162	70
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	739	112	58	464	99	63	134	66	67	176	76
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	411	1509	229	292	1423	302	152	311	139	138	347	137
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	847	3094	469	648	2917	618	299	909	405	263	1015	400
Grp Volume(v), veh/h	132	424	427	58	281	282	263	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	847	1777	1786	648	1777	1759	1613	0	0	1677	0	0
Q Serve(g_s), s	10.1	14.5	14.5	6.0	8.7	8.8	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	18.9	14.5	14.5	20.4	8.7	8.8	10.7	0.0	0.0	13.0	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.35	0.24		0.25	0.21		0.24
Lane Grp Cap(c), veh/h	411	867	871	292	867	858	602	0	0	622	0	0
V/C Ratio(X)	0.32	0.49	0.49	0.20	0.32	0.33	0.44	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	411	867	871	292	867	858	602	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.8	15.5	15.5	22.4	14.0	14.1	22.9	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	2.1	2.0	2.0	1.5	1.0	1.0	2.3	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	3.9	10.0	10.1	1.8	6.4	6.4	8.1	0.0	0.0	9.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	17.5	17.5	23.9	15.0	15.1	25.2	0.0	0.0	26.7	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		983			621			263			319	
Approach Delay, s/veh		18.1			15.9			25.2			26.7	
Approach LOS		B			B			C			C	
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		* 9.1		6.2		* 9.1		6.2				
Max Green Setting (Gmax), s		* 44		30.8		* 44		30.8				
Max Q Clear Time (g_c+I1), s		22.4		15.0		20.9		12.7				
Green Ext Time (p_c), s		4.0		1.8		6.8		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				19.6								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	680	103	53	427	91	58	123	61	62	162	70
Future Volume (veh/h)	121	680	103	53	427	91	58	123	61	62	162	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	739	112	58	464	99	63	134	66	67	176	76
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	411	1509	229	292	1423	302	152	311	139	138	347	137
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.9	17.5	17.5	23.9	15.0	15.1	25.2	0.0	0.0	26.7	0.0	0.0
Ln Grp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h	983			621			263			319		
Approach Delay, s/veh	18.1			15.9			25.2			26.7		
Approach LOS	B			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.4			5.4			5.3			5.5		
Max Q Clear (g_c+I1), s	22.4			15.0			20.9			12.7		
Green Ext Time (g_e), s	4.0			1.8			6.8			1.5		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.04			0.00			0.14			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	648			263			847			299		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2917			1015			3094			909		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	618			400			469			405		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	58	0	319	0	132	0	263
Grp Sat Flow (s), veh/h/ln	0	648	0	1677	0	847	0	1613
Q Serve Time (g_s), s	0.0	6.0	0.0	2.2	0.0	10.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.4	0.0	13.0	0.0	18.9	0.0	10.7
Perm LT Sat Flow (s_l), veh/h/ln	0	648	0	1201	0	847	0	1146
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1851	0	0	0	1605
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	29.4	0.0	20.1	0.0	35.1	0.0	17.8
Perm LT Q Serve Time (g_ps), s	0.0	6.0	0.0	2.2	0.0	10.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	6.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	6.3
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.24
Lane Grp Cap (c), veh/h	0	292	0	622	0	411	0	602
V/C Ratio (X)	0.00	0.20	0.00	0.51	0.00	0.32	0.00	0.44
Avail Cap (c_a), veh/h	0	292	0	622	0	411	0	602
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.4	0.0	23.7	0.0	19.8	0.0	22.9
Incr Delay (d2), s/veh	0.0	1.5	0.0	3.0	0.0	2.1	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.9	0.0	26.7	0.0	21.9	0.0	25.2
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	5.2	0.0	1.9	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.5	0.0	0.2	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.68	0.00	1.80	0.00	1.77
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	9.7	0.0	3.9	0.0	8.1
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	1.20	0.00	0.66	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	281	0	0	0	424	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.7	0.0	0.0	0.0	14.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	0.0	0.0	14.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.32	0.00	0.00	0.00	0.49	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.0	0.0	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	2.0	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
Control Delay (d), s/veh	0.0	15.0	0.0	0.0	0.0	17.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	5.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.67	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.4	0.0	0.0	0.0	10.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.51	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	282	0	0	0	427	0	0
Grp Sat Flow (s), veh/h/ln	0	1759	0	0	0	1786	0	0
Q Serve Time (g_s), s	0.0	8.8	0.0	0.0	0.0	14.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	0.0	0.0	14.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.35	0.00	0.24	0.00	0.26	0.00	0.25
Lane Grp Cap (c), veh/h	0	858	0	0	0	871	0	0
V/C Ratio (X)	0.00	0.33	0.00	0.00	0.00	0.49	0.00	0.00
Avail Cap (c_a), veh/h	0	858	0	0	0	871	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.1	0.0	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	2.0	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
Control Delay (d), s/veh	0.0	15.1	0.0	0.0	0.0	17.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	5.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.67	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.4	0.0	0.0	0.0	10.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.52	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/25/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	376	57	84	651	102	98	862	86	134	682	129
Future Volume (veh/h)	81	376	57	84	651	102	98	862	86	134	682	129
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	88	409	62	91	708	111	107	937	93	146	741	140
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	160	1056	159	301	1050	165	311	1195	119	314	1567	296
Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Sat Flow, veh/h	668	3097	466	922	3078	482	630	3265	324	1781	2982	563
Grp Volume(v), veh/h	88	233	238	91	408	411	107	510	520	146	441	440
Grp Sat Flow(s),veh/h/ln	668	1777	1786	922	1777	1784	630	1777	1812	1781	1777	1769
Q Serve(g_s), s	10.8	9.0	9.1	8.5	19.9	19.9	11.7	23.0	23.0	4.1	14.1	14.1
Cycle Q Clear(g_c), s	30.7	9.0	9.1	17.5	19.9	19.9	11.7	23.0	23.0	4.1	14.1	14.1
Prop In Lane	1.00		0.26	1.00		0.27	1.00		0.18	1.00		0.32
Lane Grp Cap(c), veh/h	160	606	609	301	606	608	311	650	663	314	934	930
V/C Ratio(X)	0.55	0.39	0.39	0.30	0.67	0.67	0.34	0.78	0.78	0.46	0.47	0.47
Avail Cap(c_a), veh/h	160	606	609	301	606	608	311	650	663	319	934	930
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	22.5	22.5	38.4	35.1	35.1	21.8	25.4	25.4	17.7	13.5	13.5
Incr Delay (d2), s/veh	3.9	0.4	0.4	0.6	2.9	2.9	3.0	9.2	9.0	1.1	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	6.7	6.8	3.8	15.0	15.1	3.5	16.3	16.6	3.0	9.6	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	22.9	22.9	39.0	38.1	38.1	24.8	34.6	34.4	18.8	15.2	15.2
LnGrp LOS	D	C	C	D	D	D	C	C	C	B	B	B
Approach Vol, veh/h	559		910			1137			1027			
Approach Delay, s/veh	26.2		38.2			33.6			15.7			
Approach LOS	C		D			C			B			
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	53.0		37.0		14.4	38.6	37.0					
Change Period (Y+Rc), s	* 5.7		* 6.3		5.6	* 5.7	* 6.3					
Max Green Setting (Gmax), s	* 47		* 31		9.0	* 33	* 31					
Max Q Clear Time (g_c+I1), s	16.1		21.9		6.1	25.0	32.7					
Green Ext Time (p_c), s	6.6		3.7		0.1	4.4	0.0					

Intersection Summary

HCM 6th Ctrl Delay 28.5

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	376	57	84	651	102	98	862	86	134	682	129
Future Volume (veh/h)	81	376	57	84	651	102	98	862	86	134	682	129
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	409	62	91	708	111	107	937	93	146	741	140
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	160	1056	159	301	1050	165	311	1195	119	314	1567	296
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.0	22.9	22.9	39.0	38.1	38.1	24.8	34.6	34.4	18.8	15.2	15.2
Ln Grp LOS	D	C	C	D	D	D	C	C	C	B	B	B
Approach Vol, veh/h	559			910			1137			1027		
Approach Delay, s/veh	26.2			38.2			33.6			15.7		
Approach LOS	C			D			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	4.0			6.0			1.2			6.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			14.4			37.0		
Change Period (Y+Rc), s	* 5.7			* 6.3			* 5.7			* 6.3		
Max Green (Gmax), s	* 47			* 31			9.0			* 31		
Max Allow Headway (MAH), s	5.3			5.3			3.8			5.5		
Max Q Clear (g_c+I1), s	16.1			21.9			6.1			25.0		
Green Ext Time (g_e), s	6.6			3.7			0.1			4.4		
Prob of Phs Call (p_c)	1.00			1.00			0.97			1.00		
Prob of Max Out (p_x)	0.00			0.64			1.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				922			1781			630		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2982			3078			3265			3097		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	563			482			324			466		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	91	146	107	0	88
Grp Sat Flow (s), veh/h/ln	0	0	0	922	1781	630	0	668
Q Serve Time (g_s), s	0.0	0.0	0.0	8.5	4.1	11.7	0.0	10.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.5	4.1	11.7	0.0	30.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	922	548	630	0	668
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	30.7	34.9	32.9	0.0	30.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	21.6	10.0	32.9	0.0	10.8
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	8.5	9.1	11.7	0.0	10.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	301	314	311	0	160
V/C Ratio (X)	0.00	0.00	0.00	0.30	0.46	0.34	0.00	0.55
Avail Cap (c_a), veh/h	0	0	0	301	319	311	0	160
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	38.4	17.7	21.8	0.0	40.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	1.1	3.0	0.0	3.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	39.0	18.8	24.8	0.0	44.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.1	1.6	1.7	0.0	1.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	3.8	3.0	3.5	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.61	0.27	0.44	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	441	0	408	0	510	0	233
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	14.1	0.0	19.9	0.0	23.0	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	19.9	0.0	23.0	0.0	9.0
Lane Grp Cap (c), veh/h	0	934	0	606	0	650	0	606
V/C Ratio (X)	0.00	0.47	0.00	0.67	0.00	0.78	0.00	0.39
Avail Cap (c_a), veh/h	0	934	0	606	0	650	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	35.1	0.0	25.4	0.0	22.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	2.9	0.0	9.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	38.1	0.0	34.6	0.0	22.9
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	9.4	0.0	9.3	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.5	0.0	1.7	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.69	0.00	1.52	0.00	1.50	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.6	0.0	15.0	0.0	16.3	0.0	6.7
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	0.32	0.00	0.49	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	440	0	411	0	520	0	238
Grp Sat Flow (s), veh/h/ln	0	1769	0	1784	0	1812	0	1786
Q Serve Time (g_s), s	0.0	14.1	0.0	19.9	0.0	23.0	0.0	9.1
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	19.9	0.0	23.0	0.0	9.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.32	0.00	0.27	0.00	0.18	0.00	0.26
Lane Grp Cap (c), veh/h	0	930	0	608	0	663	0	609
V/C Ratio (X)	0.00	0.47	0.00	0.67	0.00	0.78	0.00	0.39
Avail Cap (c_a), veh/h	0	930	0	608	0	663	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	35.1	0.0	25.4	0.0	22.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	2.9	0.0	9.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	38.1	0.0	34.4	0.0	22.9
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	9.4	0.0	9.4	0.0	3.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.5	0.0	1.7	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.69	0.00	1.52	0.00	1.49	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.6	0.0	15.1	0.0	16.6	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	0.32	0.00	0.50	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	655	827	22	27	57
Future Vol, veh/h	21	655	827	22	27	57
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	23	712	899	24	29	62

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	923	0	0 1313 462
Stage 1	-	-	- 911 -
Stage 2	-	-	- 402 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	736	-	- 150 547
Stage 1	-	-	- 352 -
Stage 2	-	-	- 644 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	736	-	- 142 547
Mov Cap-2 Maneuver	-	-	- 142 -
Stage 1	-	-	- 334 -
Stage 2	-	-	- 644 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	736	-	-	-	285
HCM Lane V/C Ratio	0.031	-	-	-	0.32
HCM Control Delay (s)	10	0.2	-	-	23.5
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	542	99	47	643	56	103	140	78	49	192	58
Future Volume (veh/h)	47	542	99	47	643	56	103	140	78	49	192	58
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	51	589	108	51	699	61	112	152	85	53	209	63
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	434	1821	333	462	2007	175	159	189	95	98	320	89
Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	706	3000	549	748	3307	288	370	659	331	179	1115	311
Grp Volume(v), veh/h	51	348	349	51	375	385	349	0	0	325	0	0
Grp Sat Flow(s),veh/h/ln	706	1777	1772	748	1777	1818	1360	0	0	1605	0	0
Q Serve(g_s), s	3.5	8.6	8.7	3.2	9.5	9.5	6.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.0	8.6	8.7	11.9	9.5	9.5	22.5	0.0	0.0	15.8	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.16	0.32		0.24	0.16		0.19
Lane Grp Cap(c), veh/h	434	1079	1075	462	1079	1104	444	0	0	508	0	0
V/C Ratio(X)	0.12	0.32	0.32	0.11	0.35	0.35	0.79	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	434	1079	1075	462	1079	1104	546	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	8.6	8.7	11.6	8.8	8.8	30.8	0.0	0.0	28.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.8	0.8	0.5	0.9	0.9	6.1	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	5.8	5.9	1.0	6.4	6.6	12.4	0.0	0.0	10.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	9.4	9.5	12.0	9.7	9.7	36.9	0.0	0.0	29.7	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	D	A	A	C	A	A
Approach Vol, veh/h		748			811			349			325	
Approach Delay, s/veh		9.7			9.8			36.9			29.7	
Approach LOS		A			A			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.2		30.8		59.2		30.8				
Change Period (Y+Rc), s		4.6		* 4.9		4.6		* 4.9				
Max Green Setting (Gmax), s		48.4		* 32		48.4		* 32				
Max Q Clear Time (g_c+I1), s		13.9		17.8		15.0		24.5				
Green Ext Time (p_c), s		6.0		1.7		5.5		1.3				
Intersection Summary												
HCM 6th Ctrl Delay				16.9								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	542	99	47	643	56	103	140	78	49	192	58
Future Volume (veh/h)	47	542	99	47	643	56	103	140	78	49	192	58
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	589	108	51	699	61	112	152	85	53	209	63
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	434	1821	333	462	2007	175	159	189	95	98	320	89
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
Prop Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.29	0.29	0.29	0.29	0.29	0.29
Unsig. Movement Delay												
Ln Grp Delay, s/veh	12.6	9.4	9.5	12.0	9.7	9.7	36.9	0.0	0.0	29.7	0.0	0.0
Ln Grp LOS	B	A	A	B	A	A	D	A	A	C	A	A
Approach Vol, veh/h	748			811			349			325		
Approach Delay, s/veh	9.7			9.8			36.9			29.7		
Approach LOS	A			A			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	59.2			30.8			59.2			30.8		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	48.4			* 32			48.4			* 32		
Max Allow Headway (MAH), s	5.3			5.4			5.4			5.5		
Max Q Clear (g_c+I1), s	13.9			17.8			15.0			24.5		
Green Ext Time (g_e), s	6.0			1.7			5.5			1.3		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			0.05			0.00			0.54		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	748			179			706			370		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3307			1115			3000			659		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	288			311			549			331		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	51	0	325	0	51	0	349
Grp Sat Flow (s), veh/h/ln	0	748	0	1605	0	706	0	1360
Q Serve Time (g_s), s	0.0	3.2	0.0	0.0	0.0	3.5	0.0	6.7
Cycle Q Clear Time (g_c), s	0.0	11.9	0.0	15.8	0.0	13.0	0.0	22.5
Perm LT Sat Flow (s_l), veh/h/ln	0	748	0	1161	0	706	0	1125
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1500	0	0	0	1166
Perm LT Eff Green (g_p), s	0.0	54.6	0.0	25.9	0.0	54.6	0.0	25.9
Perm LT Serve Time (g_u), s	0.0	46.0	0.0	3.3	0.0	45.1	0.0	10.0
Perm LT Q Serve Time (g_ps), s	0.0	3.2	0.0	0.0	0.0	3.5	0.0	6.7
Time to First Blk (g_f), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	3.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	3.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	0.32
Lane Grp Cap (c), veh/h	0	462	0	508	0	434	0	444
V/C Ratio (X)	0.00	0.11	0.00	0.64	0.00	0.12	0.00	0.79
Avail Cap (c_a), veh/h	0	462	0	622	0	434	0	546
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	28.2	0.0	12.0	0.0	30.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.6	0.0	0.6	0.0	6.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.0	0.0	29.7	0.0	12.6	0.0	36.9
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	6.0	0.0	0.5	0.0	7.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.66	0.00	1.80	0.00	1.59
%ile Back of Q (95%), veh/ln	0.0	1.0	0.0	10.3	0.0	1.1	0.0	12.4
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.82	0.00	0.05	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	375	0	0	0	348	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	9.5	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	0.0	0.0	8.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	1079	0	0	0	1079	0	0
V/C Ratio (X)	0.00	0.35	0.00	0.00	0.00	0.32	0.00	0.00
Avail Cap (c_a), veh/h	0	1079	0	0	0	1079	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.8	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
Control Delay (d), s/veh	0.0	9.7	0.0	0.0	0.0	9.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	3.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.4	0.0	0.0	0.0	5.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.00	0.00	0.27	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	385	0	0	0	349	0	0
Grp Sat Flow (s), veh/h/ln	0	1818	0	0	0	1772	0	0
Q Serve Time (g_s), s	0.0	9.5	0.0	0.0	0.0	8.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	0.0	0.0	8.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	0.19	0.00	0.31	0.00	0.24
Lane Grp Cap (c), veh/h	0	1104	0	0	0	1075	0	0
V/C Ratio (X)	0.00	0.35	0.00	0.00	0.00	0.32	0.00	0.00
Avail Cap (c_a), veh/h	0	1104	0	0	0	1075	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	8.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.8	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
Control Delay (d), s/veh	0.0	9.7	0.0	0.0	0.0	9.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	0.0	0.0	3.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.6	0.0	0.0	0.0	5.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.00	0.00	0.27	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/25/2023

Intersection

Intersection Delay, s/veh32.5

Intersection LOS D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	243	438	40	309	413
Future Vol, veh/h	23	243	438	40	309	413
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	264	476	43	336	449
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	15.7	50.3	27
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	92%
Vol Thru, %	0%	0%	9%	8%
Vol Right, %	0%	100%	91%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	309	413	266	478
LT Vol	309	0	0	438
Through Vol	0	0	23	40
RT Vol	0	413	243	0
Lane Flow Rate	336	449	289	520
Geometry Grp	7	7	2	2
Degree of Util (X)	0.697	0.779	0.505	0.939
Departure Headway (Hd)	7.472	6.246	6.284	6.507
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	480	575	570	556
Service Time	5.256	4.029	4.367	4.574
HCM Lane V/C Ratio	0.7	0.781	0.507	0.935
HCM Control Delay	25.9	27.8	15.7	50.3
HCM Lane LOS	D	D	C	F
HCM 95th-tile Q	5.3	7.2	2.8	12

HCM 6th TWSC
138: Porter Street & I-10 EB Off-Ramp

07/25/2023

Intersection

Int Delay, s/veh 17.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	243	144	29	544	165	63
Future Vol, veh/h	243	144	29	544	165	63
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	185
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	264	157	32	591	179	68

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	623	0	0 1013 328
Stage 1	-	-	- - 328 -
Stage 2	-	-	- - 685 -
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	958	-	- - 265 713
Stage 1	-	-	- - 730 -
Stage 2	-	-	- - 500 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	958	-	- - 185 713
Mov Cap-2 Maneuver	-	-	- - 185 -
Stage 1	-	-	- - 510 -
Stage 2	-	-	- - 500 -

Approach	EB	WB	SB
HCM Control Delay, s	6.4	0	82.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	958	-	-	-	185	713
HCM Lane V/C Ratio	0.276	-	-	-	0.969	0.096
HCM Control Delay (s)	10.2	0	-	-	110	10.6
HCM Lane LOS	B	A	-	-	F	B
HCM 95th %tile Q(veh)	1.1	-	-	-	7.9	0.3

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	123	0	59	10	161	0	0	425	10
Future Vol, veh/h	10	0	10	123	0	59	10	161	0	0	425	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	134	0	64	11	175	0	0	462	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	697	665	468	670	670	175	473	0	-	-	-	0
Stage 1	468	468	-	197	197	-	-	-	-	-	-	-
Stage 2	229	197	-	473	473	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	356	381	595	371	378	868	1089	-	0	0	-	-
Stage 1	575	561	-	805	738	-	-	-	0	0	-	-
Stage 2	774	738	-	572	558	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	327	377	595	361	374	868	1089	-	-	-	-	-
Mov Cap-2 Maneuver	327	377	-	361	374	-	-	-	-	-	-	-
Stage 1	569	561	-	796	730	-	-	-	-	-	-	-
Stage 2	709	730	-	562	558	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14		19.4		0.5		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR						
Capacity (veh/h)	1089	-	422	445	-	-						
HCM Lane V/C Ratio	0.01	-	0.052	0.445	-	-						
HCM Control Delay (s)	8.3	0	14	19.4	-	-						
HCM Lane LOS	A	A	B	C	-	-						
HCM 95th %tile O(veh)	0	-	0.2	2.2	-	-						

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	148	75	161	608	140	78	601	210	105	716	85
Future Volume (veh/h)	41	148	75	161	608	140	78	601	210	105	716	85
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	161	82	175	661	152	85	653	228	114	778	92
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	1075	522	548	1331	306	232	1115	389	219	1097	130
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.04	0.43	0.43	0.34	0.34	0.34
Sat Flow, veh/h	671	2319	1126	1137	2869	659	1781	2583	902	630	3201	378
Grp Volume(v), veh/h	45	122	121	175	409	404	85	449	432	114	432	438
Grp Sat Flow(s),veh/h/ln	671	1777	1668	1137	1777	1752	1781	1777	1708	630	1777	1802
Q Serve(g_s), s	5.3	4.1	4.4	11.0	16.8	16.9	3.1	20.2	20.2	17.7	22.2	22.2
Cycle Q Clear(g_c), s	22.1	4.1	4.4	15.5	16.8	16.9	3.1	20.2	20.2	28.5	22.2	22.2
Prop In Lane	1.00		0.68	1.00		0.38	1.00		0.53	1.00		0.21
Lane Grp Cap(c), veh/h	272	824	773	548	824	812	232	767	737	219	609	618
V/C Ratio(X)	0.17	0.15	0.16	0.32	0.50	0.50	0.37	0.59	0.59	0.52	0.71	0.71
Avail Cap(c_a), veh/h	272	824	773	548	824	812	278	939	903	264	736	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	16.2	16.3	20.8	19.6	19.6	22.6	22.7	22.7	37.1	30.0	30.0
Incr Delay (d2), s/veh	1.3	0.4	0.4	1.5	2.1	2.2	1.0	0.7	0.7	1.9	2.5	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	1.7	3.2	3.2	5.6	11.7	11.6	2.4	13.1	12.7	5.0	14.8	15.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	16.6	16.7	22.3	21.7	21.8	23.6	23.4	23.5	39.0	32.5	32.4
LnGrp LOS	C	B	B	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h		288			988			966			984	
Approach Delay, s/veh		18.5			21.9			23.5			33.2	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	41.5		54.2		50.8		54.2				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	7.4	* 44		* 39		* 56		* 39				
Max Q Clear Time (g_c+I1), s	5.1	30.5		18.9		22.2		24.1				
Green Ext Time (p_c), s	0.0	5.4		6.0		6.8		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				25.5								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	148	75	161	608	140	78	601	210	105	716	85
Future Volume (veh/h)	41	148	75	161	608	140	78	601	210	105	716	85
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	161	82	175	661	152	85	653	228	114	778	92
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	272	1075	522	548	1331	306	232	1115	389	219	1097	130
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
Prop Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.04	0.43	0.43	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.6	16.6	16.7	22.3	21.7	21.8	23.6	23.4	23.5	39.0	32.5	32.4
Ln Grp LOS	C	B	B	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h	288			988			966			984		
Approach Delay, s/veh	18.5			21.9			23.5			33.2		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4			6	8					
Case No	1.2	6.3	6.0			4.0	6.0					
Phs Duration (G+Y+Rc), s	9.3	41.5	54.2			50.8	54.2					
Change Period (Y+Rc), s	4.6	* 5.5	* 5.5			* 5.5	* 5.5					
Max Green (Gmax), s	7.4	* 44	* 39			* 56	* 39					
Max Allow Headway (MAH), s	3.8	5.5	5.1			5.3	5.5					
Max Q Clear (g_c+I1), s	5.1	30.5	18.9			22.2	24.1					
Green Ext Time (g_e), s	0.0	5.4	6.0			6.8	1.5					
Prob of Phs Call (p_c)	0.92	1.00	1.00			1.00	1.00					
Prob of Max Out (p_x)	1.00	0.46	0.00			0.03	0.00					
Left-Turn Movement Data												
Assigned Mvmt	1	5	7			3						
Mvmt Sat Flow, veh/h	1781	630	1137			671						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3201		2869		2583		2319					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	378		659		902		1126					
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)		L	L				L				

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	85	114	0	175	0	0	0	45
Grp Sat Flow (s), veh/h/ln	1781	630	0	1137	0	0	0	671
Q Serve Time (g_s), s	3.1	17.7	0.0	11.0	0.0	0.0	0.0	5.3
Cycle Q Clear Time (g_c), s	3.1	28.5	0.0	15.5	0.0	0.0	0.0	22.1
Perm LT Sat Flow (s_l), veh/h/ln	637	630	0	1137	0	0	0	671
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	38.0	36.0	0.0	48.7	0.0	0.0	0.0	48.7
Perm LT Serve Time (g_u), s	13.8	25.1	0.0	44.3	0.0	0.0	0.0	31.8
Perm LT Q Serve Time (g_ps), s	3.7	17.7	0.0	11.0	0.0	0.0	0.0	5.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	232	219	0	548	0	0	0	272
V/C Ratio (X)	0.37	0.52	0.00	0.32	0.00	0.00	0.00	0.17
Avail Cap (c_a), veh/h	278	264	0	548	0	0	0	272
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	22.6	37.1	0.0	20.8	0.0	0.0	0.0	27.3
Incr Delay (d2), s/veh	1.0	1.9	0.0	1.5	0.0	0.0	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
Control Delay (d), s/veh	23.6	39.0	0.0	22.3	0.0	0.0	0.0	28.6
1st-Term Q (Q1), veh/ln	1.3	2.7	0.0	2.9	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.4	5.0	0.0	5.6	0.0	0.0	0.0	1.7
%ile Storage Ratio (RQ%)	0.36	0.51	0.00	1.46	0.00	0.00	0.00	0.57
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	432	0	409	0	449	0	122
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	22.2	0.0	16.8	0.0	20.2	0.0	4.1
Cycle Q Clear Time (g_c), s	0.0	22.2	0.0	16.8	0.0	20.2	0.0	4.1
Lane Grp Cap (c), veh/h	0	609	0	824	0	767	0	824
V/C Ratio (X)	0.00	0.71	0.00	0.50	0.00	0.59	0.00	0.15
Avail Cap (c_a), veh/h	0	736	0	824	0	939	0	824
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.0	0.0	19.6	0.0	22.7	0.0	16.2
Incr Delay (d2), s/veh	0.0	2.5	0.0	2.1	0.0	0.7	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.5	0.0	21.7	0.0	23.4	0.0	16.6
1st-Term Q (Q1), veh/ln	0.0	9.3	0.0	6.8	0.0	8.2	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.5	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.53	0.00	1.61	0.00	1.57	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	14.8	0.0	11.7	0.0	13.1	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.72	0.00	1.25	0.00	0.50	0.00	0.37
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	438	0	404	0	432	0	121
Grp Sat Flow (s), veh/h/ln	0	1802	0	1752	0	1708	0	1668
Q Serve Time (g_s), s	0.0	22.2	0.0	16.9	0.0	20.2	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	22.2	0.0	16.9	0.0	20.2	0.0	4.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.21	0.00	0.38	0.00	0.53	0.00	0.68
Lane Grp Cap (c), veh/h	0	618	0	812	0	737	0	773
V/C Ratio (X)	0.00	0.71	0.00	0.50	0.00	0.59	0.00	0.16
Avail Cap (c_a), veh/h	0	747	0	812	0	903	0	773
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.0	0.0	19.6	0.0	22.7	0.0	16.3
Incr Delay (d2), s/veh	0.0	2.5	0.0	2.2	0.0	0.7	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.4	0.0	21.8	0.0	23.5	0.0	16.7
1st-Term Q (Q1), veh/ln	0.0	9.4	0.0	6.7	0.0	7.9	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.5	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.52	0.00	1.61	0.00	1.58	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	15.0	0.0	11.6	0.0	12.7	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	1.24	0.00	0.49	0.00	0.37
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/26/2023

Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	224	63	31	901	27	17
Future Vol, veh/h	224	63	31	901	27	17
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	243	68	34	979	29	18

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	311
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1246
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1246
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	388	-	-	1246	-
HCM Lane V/C Ratio	0.123	-	-	0.027	-
HCM Control Delay (s)	15.6	-	-	8	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	131	64	106	844	132	59	94	6	12	103	64
Future Volume (veh/h)	42	131	64	106	844	132	59	94	6	12	103	64
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	46	142	70	115	917	143	64	102	7	13	112	70
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	224	1145	537	610	1503	234	233	351	22	59	365	213
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	532	2348	1101	1170	3080	480	520	1025	65	47	1067	623
Grp Volume(v), veh/h	46	106	106	115	529	531	173	0	0	195	0	0
Grp Sat Flow(s),veh/h/ln	532	1777	1672	1170	1777	1784	1610	0	0	1737	0	0
Q Serve(g_s), s	6.2	2.9	3.1	5.4	19.5	19.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	25.8	2.9	3.1	8.5	19.5	19.5	6.2	0.0	0.0	7.4	0.0	0.0
Prop In Lane	1.00		0.66	1.00		0.27	0.37		0.04	0.07		0.36
Lane Grp Cap(c), veh/h	224	867	816	610	867	870	606	0	0	637	0	0
V/C Ratio(X)	0.21	0.12	0.13	0.19	0.61	0.61	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	224	867	816	610	867	870	606	0	0	637	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.2	12.6	12.6	14.9	16.8	16.8	21.5	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.3	0.3	0.7	3.2	3.2	1.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	2.1	2.2	2.7	12.9	13.0	5.0	0.0	0.0	5.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	12.8	12.9	15.6	20.0	20.0	22.7	0.0	0.0	23.1	0.0	0.0
LnGrp LOS	C	B	B	B	C	B	C	A	A	C	A	A
Approach Vol, veh/h	258			1175				173			195	
Approach Delay, s/veh	15.6			19.6				22.7			23.1	
Approach LOS	B			B				C			C	
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	* 9.1			6.2			* 9.1			6.2		
Max Green Setting (Gmax), s	* 44			30.8			* 44			30.8		
Max Q Clear Time (g_c+I1), s	21.5			9.4			27.8			8.2		
Green Ext Time (p_c), s	8.1			1.1			1.5			1.0		
Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	131	64	106	844	132	59	94	6	12	103	64
Future Volume (veh/h)	42	131	64	106	844	132	59	94	6	12	103	64
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	142	70	115	917	143	64	102	7	13	112	70
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	224	1145	537	610	1503	234	233	351	22	59	365	213
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.3	12.8	12.9	15.6	20.0	20.0	22.7	0.0	0.0	23.1	0.0	0.0
Ln Grp LOS	C	B	B	B	C	B	C	A	A	C	A	A
Approach Vol, veh/h	258			1175			173			195		
Approach Delay, s/veh	15.6			19.6			22.7			23.1		
Approach LOS	B			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.2			5.4			5.8			5.4		
Max Q Clear (g_c+I1), s	21.5			9.4			27.8			8.2		
Green Ext Time (g_e), s	8.1			1.1			1.5			1.0		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.23			0.00			0.02			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1170			47			532			520		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3080			1067			2348			1025		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	480			623			1101			65		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	115	0	195	0	46	0	173
Grp Sat Flow (s), veh/h/ln	0	1170	0	1737	0	532	0	1610
Q Serve Time (g_s), s	0.0	5.4	0.0	0.0	0.0	6.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	7.4	0.0	25.8	0.0	6.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1170	0	1305	0	532	0	1221
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1864	0	0	0	1801
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	40.8	0.0	24.6	0.0	24.4	0.0	23.4
Perm LT Q Serve Time (g_ps), s	0.0	5.4	0.0	0.0	0.0	6.2	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	18.2	0.0	0.0	0.0	3.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	3.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.07	0.00	1.00	0.00	0.37
Lane Grp Cap (c), veh/h	0	610	0	637	0	224	0	606
V/C Ratio (X)	0.00	0.19	0.00	0.31	0.00	0.21	0.00	0.29
Avail Cap (c_a), veh/h	0	610	0	637	0	224	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.9	0.0	21.9	0.0	26.2	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.7	0.0	1.2	0.0	2.1	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.6	0.0	23.1	0.0	28.3	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	3.0	0.0	0.8	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.7	0.0	5.7	0.0	1.6	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.71	0.00	0.27	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	529	0	0	0	106	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	19.5	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.5	0.0	0.0	0.0	2.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.61	0.00	0.00	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	0.0	0.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	0.0	0.0	12.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	12.9	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.00	0.00	0.11	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	531	0	0	0	106	0	0
Grp Sat Flow (s), veh/h/ln	0	1784	0	0	0	1672	0	0
Q Serve Time (g_s), s	0.0	19.5	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.5	0.0	0.0	0.0	3.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.27	0.00	0.36	0.00	0.66	0.00	0.04
Lane Grp Cap (c), veh/h	0	870	0	0	0	816	0	0
V/C Ratio (X)	0.00	0.61	0.00	0.00	0.00	0.13	0.00	0.00
Avail Cap (c_a), veh/h	0	870	0	0	0	816	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	0.0	0.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	0.0	0.0	12.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.0	0.0	0.0	0.0	2.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.00	0.00	0.11	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/26/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	173	99	112	907	194	81	609	49	57	738	226
Future Volume (veh/h)	51	173	99	112	907	194	81	609	49	57	738	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	55	188	108	122	986	211	88	662	53	62	802	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	131	829	455	419	1091	233	228	1171	94	360	1318	404
Arrive On Green	0.37	0.37	0.37	0.75	0.75	0.75	0.35	0.35	0.35	0.08	0.49	0.49
Sat Flow, veh/h	468	2214	1214	1083	2913	622	538	3333	267	1781	2678	821
Grp Volume(v), veh/h	55	149	147	122	601	596	88	353	362	62	532	516
Grp Sat Flow(s),veh/h/ln	468	1777	1652	1083	1777	1758	538	1777	1822	1781	1777	1723
Q Serve(g_s), s	9.9	5.2	5.5	4.9	23.6	23.8	12.7	14.5	14.5	1.8	19.5	19.5
Cycle Q Clear(g_c), s	33.7	5.2	5.5	10.4	23.6	23.8	19.6	14.5	14.5	1.8	19.5	19.5
Prop In Lane	1.00		0.74	1.00		0.35	1.00		0.15	1.00		0.48
Lane Grp Cap(c), veh/h	131	665	619	419	665	658	228	624	640	360	875	848
V/C Ratio(X)	0.42	0.22	0.24	0.29	0.90	0.91	0.39	0.57	0.57	0.17	0.61	0.61
Avail Cap(c_a), veh/h	131	665	619	419	665	658	228	624	640	398	875	848
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	19.2	19.3	9.7	10.0	10.1	28.3	23.6	23.6	15.6	16.6	16.6
Incr Delay (d2), s/veh	2.1	0.2	0.2	0.4	15.7	16.2	4.9	3.7	3.6	0.2	3.1	3.2
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	2.3	3.8	3.8	1.4	10.6	10.7	3.4	10.7	10.9	1.3	12.9	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	19.4	19.5	10.1	25.7	26.3	33.1	27.3	27.2	15.9	19.7	19.8
LnGrp LOS	D	B	B	B	C	C	C	C	C	B	B	B
Approach Vol, veh/h	351		1319				803			1110		
Approach Delay, s/veh	23.1		24.5				27.9			19.5		
Approach LOS	C		C				C			B		
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	50.0		40.0		12.7	37.3	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	21.5		25.8		3.8	21.6	35.7					
Green Ext Time (p_c), s	7.6		4.9		0.0	3.3	0.0					

Intersection Summary

HCM 6th Ctrl Delay 23.6

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	173	99	112	907	194	81	609	49	57	738	226
Future Volume (veh/h)	51	173	99	112	907	194	81	609	49	57	738	226
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	188	108	122	986	211	88	662	53	62	802	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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	131	829	455	419	1091	233	228	1171	94	360	1318	404
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
Prop Arrive On Green	0.37	0.37	0.37	0.75	0.75	0.75	0.35	0.35	0.35	0.08	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	42.5	19.4	19.5	10.1	25.7	26.3	33.1	27.3	27.2	15.9	19.7	19.8
Ln Grp LOS	D	B	B	B	C	C	C	C	C	B	B	B
Approach Vol, veh/h	351			1319			803			1110		
Approach Delay, s/veh	23.1			24.5			27.9			19.5		
Approach LOS	C			C			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			5			6		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	50.0			40.0			12.7			37.3		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 5.7		
Max Green (Gmax), s	* 44			* 34			9.0			* 30		
Max Allow Headway (MAH), s	5.3			5.2			3.8			5.5		
Max Q Clear (g_c+I1), s	21.5			25.8			3.8			21.6		
Green Ext Time (g_e), s	7.6			4.9			0.0			3.3		
Prob of Phs Call (p_c)	1.00			1.00			0.79			1.00		
Prob of Max Out (p_x)	0.00			0.84			0.17			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				1083			1781			538		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2678			2913			3333			2214		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	821			622			267			1214		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	122	62	88	0	55
Grp Sat Flow (s), veh/h/ln	0	0	0	1083	1781	538	0	468
Q Serve Time (g_s), s	0.0	0.0	0.0	4.9	1.8	12.7	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.4	1.8	19.6	0.0	33.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1083	736	538	0	468
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	33.7	33.6	31.6	0.0	33.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	28.2	17.1	24.8	0.0	9.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	4.9	1.5	12.7	0.0	9.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	419	360	228	0	131
V/C Ratio (X)	0.00	0.00	0.00	0.29	0.17	0.39	0.00	0.42
Avail Cap (c_a), veh/h	0	0	0	419	398	228	0	131
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	9.7	15.6	28.3	0.0	40.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.2	4.9	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	10.1	15.9	33.1	0.0	42.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.7	1.6	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.4	1.3	3.4	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.22	0.12	0.44	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	532	0	601	0	353	0	149
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	19.5	0.0	23.6	0.0	14.5	0.0	5.2
Cycle Q Clear Time (g_c), s	0.0	19.5	0.0	23.6	0.0	14.5	0.0	5.2
Lane Grp Cap (c), veh/h	0	875	0	665	0	624	0	665
V/C Ratio (X)	0.00	0.61	0.00	0.90	0.00	0.57	0.00	0.22
Avail Cap (c_a), veh/h	0	875	0	665	0	624	0	665
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.6	0.0	10.0	0.0	23.6	0.0	19.2
Incr Delay (d2), s/veh	0.0	3.1	0.0	15.7	0.0	3.7	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	25.7	0.0	27.3	0.0	19.4
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	3.6	0.0	5.9	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	2.9	0.0	0.6	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	0.00	1.65	0.00	1.64	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	12.9	0.0	10.6	0.0	10.7	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.98	0.00	0.22	0.00	0.32	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	516	0	596	0	362	0	147
Grp Sat Flow (s), veh/h/ln	0	1723	0	1758	0	1822	0	1652
Q Serve Time (g_s), s	0.0	19.5	0.0	23.8	0.0	14.5	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	19.5	0.0	23.8	0.0	14.5	0.0	5.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.48	0.00	0.35	0.00	0.15	0.00	0.74
Lane Grp Cap (c), veh/h	0	848	0	658	0	640	0	619
V/C Ratio (X)	0.00	0.61	0.00	0.91	0.00	0.57	0.00	0.24
Avail Cap (c_a), veh/h	0	848	0	658	0	640	0	619
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.6	0.0	10.1	0.0	23.6	0.0	19.3
Incr Delay (d2), s/veh	0.0	3.2	0.0	16.2	0.0	3.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.8	0.0	26.3	0.0	27.2	0.0	19.5
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	3.5	0.0	6.0	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	3.0	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.64	0.00	1.64	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	12.6	0.0	10.7	0.0	10.9	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.96	0.00	0.22	0.00	0.33	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	219	1203	59	29	56
Future Vol, veh/h	14	219	1203	59	29	56
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	15	238	1308	64	32	61

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1372	0	0 1489 686
Stage 1	-	-	- 1340 -
Stage 2	-	-	- 149 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	496	-	- 115 390
Stage 1	-	-	- 209 -
Stage 2	-	-	- 863 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	496	-	- 111 390
Mov Cap-2 Maneuver	-	-	- 111 -
Stage 1	-	-	- 202 -
Stage 2	-	-	- 863 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	35
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	496	-	-	-	210
HCM Lane V/C Ratio	0.031	-	-	-	0.44
HCM Control Delay (s)	12.5	0.2	-	-	35
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2.1

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	184	39	141	1075	67	150	88	24	33	175	54
Future Volume (veh/h)	23	184	39	141	1075	67	150	88	24	33	175	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	200	42	153	1168	73	163	96	26	36	190	59
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	267	1814	373	751	2100	131	237	123	30	83	346	100
Arrive On Green	0.62	0.62	0.62	0.62	0.62	0.62	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	448	2934	604	1138	3397	212	630	445	108	138	1252	363
Grp Volume(v), veh/h	25	120	122	153	611	630	285	0	0	285	0	0
Grp Sat Flow(s),veh/h/ln	448	1777	1762	1138	1777	1832	1183	0	0	1752	0	0
Q Serve(g_s), s	3.1	2.5	2.6	5.7	18.0	18.0	8.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.1	2.5	2.6	8.3	18.0	18.0	21.3	0.0	0.0	12.4	0.0	0.0
Prop In Lane	1.00		0.34	1.00		0.12	0.57		0.09	0.13		0.21
Lane Grp Cap(c), veh/h	267	1099	1089	751	1099	1133	390	0	0	529	0	0
V/C Ratio(X)	0.09	0.11	0.11	0.20	0.56	0.56	0.73	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	267	1099	1089	751	1099	1133	573	0	0	761	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.1	7.0	7.0	8.8	10.0	10.0	31.8	0.0	0.0	28.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.2	0.2	0.6	2.0	2.0	2.7	0.0	0.0	0.9	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	0.6	1.6	1.7	2.6	11.1	11.4	10.1	0.0	0.0	9.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	7.2	7.3	9.4	12.0	12.0	34.4	0.0	0.0	28.9	0.0	0.0
LnGrp LOS	B	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h	267			1394			285			285		
Approach Delay, s/veh	8.1			11.7			34.4			28.9		
Approach LOS	A			B			C			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	60.2			29.8			60.2			29.8		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green Setting (Gmax), s	43.4			* 37			43.4			* 37		
Max Q Clear Time (g_c+I1), s	20.0			14.4			23.1			23.3		
Green Ext Time (p_c), s	10.2			1.7			1.6			1.5		

Intersection Summary

HCM 6th Ctrl Delay 16.4

HCM 6th LOS B

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	184	39	141	1075	67	150	88	24	33	175	54
Future Volume (veh/h)	23	184	39	141	1075	67	150	88	24	33	175	54
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	200	42	153	1168	73	163	96	26	36	190	59
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	267	1814	373	751	2100	131	237	123	30	83	346	100
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
Prop Arrive On Green	0.62	0.62	0.62	0.62	0.62	0.62	0.28	0.28	0.28	0.28	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.8	7.2	7.3	9.4	12.0	12.0	34.4	0.0	0.0	28.9	0.0	0.0
Ln Grp LOS	B	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h	267			1394			285			285		
Approach Delay, s/veh	8.1			11.7			34.4			28.9		
Approach LOS	A			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	60.2			29.8			60.2			29.8		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	43.4			* 37			43.4			* 37		
Max Allow Headway (MAH), s	5.2			5.3			5.7			5.6		
Max Q Clear (g_c+I1), s	20.0			14.4			23.1			23.3		
Green Ext Time (g_e), s	10.2			1.7			1.6			1.5		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			0.00			0.00			0.06		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1138			138			448			630		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3397			1252			2934			445		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	212			363			604			108		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	153	0	285	0	25	0	285
Grp Sat Flow (s), veh/h/ln	0	1138	0	1752	0	448	0	1183
Q Serve Time (g_s), s	0.0	5.7	0.0	0.0	0.0	3.1	0.0	8.9
Cycle Q Clear Time (g_c), s	0.0	8.3	0.0	12.4	0.0	21.1	0.0	21.3
Perm LT Sat Flow (s_l), veh/h/ln	0	1138	0	1289	0	448	0	1149
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1728	0	0	0	939
Perm LT Eff Green (g_p), s	0.0	55.6	0.0	24.9	0.0	55.6	0.0	24.9
Perm LT Serve Time (g_u), s	0.0	53.1	0.0	3.5	0.0	37.6	0.0	12.5
Perm LT Q Serve Time (g_ps), s	0.0	5.7	0.0	0.0	0.0	3.1	0.0	8.9
Time to First Blk (g_f), s	0.0	0.0	0.0	9.1	0.0	0.0	0.0	1.1
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	9.1	0.0	0.0	0.0	1.1
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.13	0.00	1.00	0.00	0.57
Lane Grp Cap (c), veh/h	0	751	0	529	0	267	0	390
V/C Ratio (X)	0.00	0.20	0.00	0.54	0.00	0.09	0.00	0.73
Avail Cap (c_a), veh/h	0	751	0	761	0	267	0	573
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	28.0	0.0	16.1	0.0	31.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.9	0.0	0.7	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	28.9	0.0	16.8	0.0	34.4
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	5.2	0.0	0.3	0.0	5.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.71	0.00	1.80	0.00	1.66
%ile Back of Q (95%), veh/ln	0.0	2.6	0.0	9.0	0.0	0.6	0.0	10.1
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.71	0.00	0.03	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	611	0	0	0	120	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	18.0	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	0.0	0.0	2.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1099	0	0	0	1099	0	0
V/C Ratio (X)	0.00	0.56	0.00	0.00	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	1099	0	0	0	1099	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.0	0.0	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.0	0.0	0.0	0.0	7.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.63	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	11.1	0.0	0.0	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.46	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	630	0	0	0	122	0	0
Grp Sat Flow (s), veh/h/ln	0	1832	0	0	0	1762	0	0
Q Serve Time (g_s), s	0.0	18.0	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.0	0.0	0.0	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.12	0.00	0.21	0.00	0.34	0.00	0.09
Lane Grp Cap (c), veh/h	0	1133	0	0	0	1089	0	0
V/C Ratio (X)	0.00	0.56	0.00	0.00	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	1133	0	0	0	1089	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.0	0.0	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.0	0.0	0.0	0.0	7.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.62	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	11.4	0.0	0.0	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/26/2023

Intersection

Intersection Delay, s/veh46.4

Intersection LOS E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	326	515	16	269	416
Future Vol, veh/h	15	326	515	16	269	416
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	16	354	560	17	292	452
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	20.6	85.9	28.7
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	97%
Vol Thru, %	0%	0%	4%	3%
Vol Right, %	0%	100%	96%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	269	416	341	531
LT Vol	269	0	0	515
Through Vol	0	0	15	16
RT Vol	0	416	326	0
Lane Flow Rate	292	452	371	577
Geometry Grp	7	7	2	2
Degree of Util (X)	0.624	0.814	0.646	1.074
Departure Headway (Hd)	7.949	6.717	6.502	6.701
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	456	543	560	543
Service Time	5.649	4.417	4.502	4.756
HCM Lane V/C Ratio	0.64	0.832	0.662	1.063
HCM Control Delay	22.9	32.5	20.6	85.9
HCM Lane LOS	C	D	C	F
HCM 95th-tile Q	4.2	8	4.6	17.3

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	430	204	0	911	0	54
Future Vol, veh/h	430	204	0	911	0	54
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	467	222	0	990	0	59

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 345
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 651
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 651
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	651	-	-	-
HCM Lane V/C Ratio	0.09	-	-	-
HCM Control Delay (s)	11.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	302	182	0	911	0	36
Future Vol, veh/h	302	182	0	911	0	36
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	328	198	0	990	0	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 263
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 735
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 735
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	735	-	-	-
HCM Lane V/C Ratio	0.053	-	-	-
HCM Control Delay (s)	10.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th TWSC
138: Porter Street & I-10 Off Ramps

07/26/2023

Intersection						
Int Delay, s/veh	185.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	135	132	28	367	630	192
Future Vol, veh/h	135	132	28	367	630	192
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	150
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	147	143	30	399	685	209
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	429	0	-	0	667	230
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	437	-
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	1130	-	-	-	~ 424	809
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	~ 651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1130	-	-	-	~ 364	809
Mov Cap-2 Maneuver	-	-	-	-	~ 364	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	~ 651	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.4	0		\$ 333.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1130	-	-	-	364	809
HCM Lane V/C Ratio	0.13	-	-	-	1.881	0.258
HCM Control Delay (s)	8.7	0	-	-	\$ 431.6	11
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	45.7	1
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection												
Int Delay, s/veh	134.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	580	0	304	10	48	0	0	215	10
Future Vol, veh/h	10	0	10	580	0	304	10	48	0	0	215	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	630	0	330	11	52	0	0	234	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	479	314	240	319	319	52	245	0	-	-	-	0
Stage 1	240	240	-	74	74	-	-	-	-	-	-	-
Stage 2	239	74	-	245	245	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	497	601	799	634	598	1016	1321	-	0	0	-	-
Stage 1	763	707	-	935	833	-	-	-	0	0	-	-
Stage 2	764	833	-	759	703	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	333	596	799	~ 621	593	1016	1321	-	-	-	-	-
Mov Cap-2 Maneuver	333	596	-	~ 621	593	-	-	-	-	-	-	-
Stage 1	756	707	-	927	826	-	-	-	-	-	-	-
Stage 2	511	826	-	749	703	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13		180.8		1.3		0					
HCM LOS	B		F									
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR						
Capacity (veh/h)	1321	-	470	717	-	-						
HCM Lane V/C Ratio	0.008	-	0.046	1.34	-	-						
HCM Control Delay (s)	7.7	0	13	180.8	-	-						
HCM Lane LOS	A	A	B	F	-	-						
HCM 95th %tile Q(veh)	0	-	0.1	39.6	-	-						
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	633	110	68	366	135	128	904	192	192	788	109
Future Volume (veh/h)	101	633	110	68	366	135	128	904	192	192	788	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	688	120	74	398	147	139	983	209	209	857	118
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	218	938	163	152	790	288	328	1656	351	243	1447	199
Arrive On Green	0.31	0.31	0.31	0.10	0.10	0.10	0.06	0.57	0.57	0.46	0.46	0.46
Sat Flow, veh/h	862	3025	527	675	2549	930	1781	2917	619	470	3137	432
Grp Volume(v), veh/h	110	404	404	74	276	269	139	598	594	209	485	490
Grp Sat Flow(s),veh/h/ln	862	1777	1775	675	1777	1703	1781	1777	1759	470	1777	1793
Q Serve(g_s), s	11.1	18.3	18.3	9.6	13.2	13.5	3.5	19.7	19.8	31.3	18.2	18.2
Cycle Q Clear(g_c), s	24.5	18.3	18.3	27.9	13.2	13.5	3.5	19.7	19.8	41.5	18.2	18.2
Prop In Lane	1.00		0.30	1.00		0.55	1.00		0.35	1.00		0.24
Lane Grp Cap(c), veh/h	218	551	550	152	551	528	328	1009	999	243	819	827
V/C Ratio(X)	0.50	0.73	0.73	0.49	0.50	0.51	0.42	0.59	0.59	0.86	0.59	0.59
Avail Cap(c_a), veh/h	218	551	550	152	551	528	328	1009	999	243	819	827
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	27.7	27.7	49.7	33.8	33.9	13.4	12.7	12.7	32.8	18.0	18.0
Incr Delay (d2), s/veh	8.1	8.4	8.4	10.7	3.2	3.5	0.9	0.9	1.0	25.2	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	13.7	13.7	4.0	11.0	10.8	2.5	11.8	11.8	10.4	11.8	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	36.1	36.2	60.4	37.0	37.4	14.2	13.6	13.7	58.0	19.1	19.1
LnGrp LOS	D	D	D	E	D	D	B	B	B	E	B	B
Approach Vol, veh/h	918			619			1331			1184		
Approach Delay, s/veh	37.1			40.0			13.7			26.0		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.6	47.0		33.4		56.6		33.4				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	5.0	* 42		* 28		* 51		* 28				
Max Q Clear Time (g_c+I1), s	5.5	43.5		29.9		21.8		26.5				
Green Ext Time (p_c), s	0.0	0.0		0.0		9.9		0.8				

Intersection Summary

HCM 6th Ctrl Delay 26.6

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	633	110	68	366	135	128	904	192	192	788	109
Future Volume (veh/h)	101	633	110	68	366	135	128	904	192	192	788	109
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	688	120	74	398	147	139	983	209	209	857	118
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	218	938	163	152	790	288	328	1656	351	243	1447	199
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.31	0.31	0.31	0.10	0.10	0.10	0.06	0.57	0.57	0.46	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.5	36.1	36.2	60.4	37.0	37.4	14.2	13.6	13.7	58.0	19.1	19.1
Ln Grp LOS	D	D	D	E	D	D	B	B	B	E	B	B
Approach Vol, veh/h	918			619			1331			1184		
Approach Delay, s/veh	37.1			40.0			13.7			26.0		
Approach LOS	D			D			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4			6	8					
Case No	1.2	6.3	6.0			4.0	6.0					
Phs Duration (G+Y+Rc), s	9.6	47.0	33.4			56.6	33.4					
Change Period (Y+Rc), s	4.6	* 5.5	* 5.5			* 5.5	* 5.5					
Max Green (Gmax), s	5.0	* 42	* 28			* 51	* 28					
Max Allow Headway (MAH), s	3.8	5.9	5.5			5.3	5.3					
Max Q Clear (g_c+I1), s	5.5	43.5	29.9			21.8	26.5					
Green Ext Time (g_e), s	0.0	0.0	0.0			9.9	0.8					
Prob of Phs Call (p_c)	0.97	1.00	1.00			1.00	1.00					
Prob of Max Out (p_x)	1.00	1.00	0.00			0.16	0.00					
Left-Turn Movement Data												
Assigned Mvmt	1	5	7			3						
Mvmt Sat Flow, veh/h	1781	470	675			862						
Through Movement Data												
Assigned Mvmt	2		4			6	8					
Mvmt Sat Flow, veh/h	3137		2549			2917	3025					
Right-Turn Movement Data												
Assigned Mvmt	12		14			16	18					
Mvmt Sat Flow, veh/h	432		930			619	527					
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)		L	L		L						

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	139	209	0	74	0	0	0	110
Grp Sat Flow (s), veh/h/ln	1781	470	0	675	0	0	0	862
Q Serve Time (g_s), s	3.5	31.3	0.0	9.6	0.0	0.0	0.0	11.1
Cycle Q Clear Time (g_c), s	3.5	41.5	0.0	27.9	0.0	0.0	0.0	24.5
Perm LT Sat Flow (s_l), veh/h/ln	577	470	0	675	0	0	0	862
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	43.5	41.5	0.0	27.9	0.0	0.0	0.0	27.9
Perm LT Serve Time (g_u), s	23.3	31.3	0.0	9.6	0.0	0.0	0.0	14.4
Perm LT Q Serve Time (g_ps), s	6.4	31.3	0.0	9.6	0.0	0.0	0.0	11.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	328	243	0	152	0	0	0	218
V/C Ratio (X)	0.42	0.86	0.00	0.49	0.00	0.00	0.00	0.50
Avail Cap (c_a), veh/h	328	243	0	152	0	0	0	218
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	13.4	32.8	0.0	49.7	0.0	0.0	0.0	36.4
Incr Delay (d2), s/veh	0.9	25.2	0.0	10.7	0.0	0.0	0.0	8.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.2	58.0	0.0	60.4	0.0	0.0	0.0	44.5
1st-Term Q (Q1), veh/ln	1.3	4.6	0.0	1.8	0.0	0.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.1	1.7	0.0	0.5	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.65	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.5	10.4	0.0	4.0	0.0	0.0	0.0	5.0
%ile Storage Ratio (RQ%)	0.37	1.05	0.00	1.04	0.00	0.00	0.00	1.69
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	485	0	276	0	598	0	404
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	18.2	0.0	13.2	0.0	19.7	0.0	18.3
Cycle Q Clear Time (g_c), s	0.0	18.2	0.0	13.2	0.0	19.7	0.0	18.3
Lane Grp Cap (c), veh/h	0	819	0	551	0	1009	0	551
V/C Ratio (X)	0.00	0.59	0.00	0.50	0.00	0.59	0.00	0.73
Avail Cap (c_a), veh/h	0	819	0	551	0	1009	0	551
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.0	0.0	33.8	0.0	12.7	0.0	27.7
Incr Delay (d2), s/veh	0.0	1.1	0.0	3.2	0.0	0.9	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	37.0	0.0	13.6	0.0	36.1
1st-Term Q (Q1), veh/ln	0.0	7.1	0.0	6.2	0.0	7.1	0.0	7.5
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.3	0.0	1.3

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.61	0.00	1.63	0.00	1.60	0.00	1.55
%ile Back of Q (95%), veh/ln	0.0	11.8	0.0	11.0	0.0	11.8	0.0	13.7
%ile Storage Ratio (RQ%)	0.00	0.57	0.00	1.02	0.00	0.46	0.00	1.60
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	490	0	269	0	594	0	404
Grp Sat Flow (s), veh/h/ln	0	1793	0	1703	0	1759	0	1775
Q Serve Time (g_s), s	0.0	18.2	0.0	13.5	0.0	19.8	0.0	18.3
Cycle Q Clear Time (g_c), s	0.0	18.2	0.0	13.5	0.0	19.8	0.0	18.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.24	0.00	0.55	0.00	0.35	0.00	0.30
Lane Grp Cap (c), veh/h	0	827	0	528	0	999	0	550
V/C Ratio (X)	0.00	0.59	0.00	0.51	0.00	0.59	0.00	0.73
Avail Cap (c_a), veh/h	0	827	0	528	0	999	0	550
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.0	0.0	33.9	0.0	12.7	0.0	27.7
Incr Delay (d2), s/veh	0.0	1.1	0.0	3.5	0.0	1.0	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	37.4	0.0	13.7	0.0	36.2
1st-Term Q (Q1), veh/ln	0.0	7.1	0.0	6.1	0.0	7.1	0.0	7.5
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.3	0.0	1.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.60	0.00	1.64	0.00	1.60	0.00	1.55
%ile Back of Q (95%), veh/ln	0.0	11.8	0.0	10.8	0.0	11.8	0.0	13.7
%ile Storage Ratio (RQ%)	0.00	0.58	0.00	1.00	0.00	0.45	0.00	1.60
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/26/2023

Intersection

Int Delay, s/veh 3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	
Traffic Vol, veh/h	1123	94	17	501	41	64
Future Vol, veh/h	1123	94	17	501	41	64
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	1221	102	18	545	45	70

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1323
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	518
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	518
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	55.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	178	-	-	518	-
HCM Lane V/C Ratio	0.641	-	-	0.036	-
HCM Control Delay (s)	55.6	-	-	12.2	0.3
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	3.7	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	733	283	61	432	96	58	123	61	62	162	70
Future Volume (veh/h)	154	733	283	61	432	96	58	123	61	62	162	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	797	308	66	470	104	63	134	66	67	176	76
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	405	1222	472	207	1413	311	152	311	139	138	347	137
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	839	2506	967	510	2896	637	299	909	405	263	1015	400
Grp Volume(v), veh/h	167	565	540	66	287	287	263	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	839	1777	1696	510	1777	1756	1613	0	0	1677	0	0
Q Serve(g_s), s	13.7	21.5	21.5	10.1	8.9	9.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	22.7	21.5	21.5	31.6	8.9	9.0	10.7	0.0	0.0	13.0	0.0	0.0
Prop In Lane	1.00		0.57	1.00		0.36	0.24		0.25	0.21		0.24
Lane Grp Cap(c), veh/h	405	867	827	207	867	856	602	0	0	622	0	0
V/C Ratio(X)	0.41	0.65	0.65	0.32	0.33	0.33	0.44	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	405	867	827	207	867	856	602	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.1	17.3	17.3	29.2	14.1	14.1	22.9	0.0	0.0	23.7	0.0	0.0
Incr Delay (d2), s/veh	3.1	3.8	4.0	4.0	1.0	1.1	2.3	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	5.3	14.1	13.6	2.6	6.5	6.6	8.1	0.0	0.0	9.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	21.1	21.3	33.2	15.1	15.2	25.2	0.0	0.0	26.7	0.0	0.0
LnGrp LOS	C	C	C	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h	1272			640			263			319		
Approach Delay, s/veh	21.6			17.0			25.2			26.7		
Approach LOS	C			B			C			C		
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	* 9.1			6.2			* 9.1			6.2		
Max Green Setting (Gmax), s	* 44			30.8			* 44			30.8		
Max Q Clear Time (g_c+I1), s	33.6			15.0			24.7			12.7		
Green Ext Time (p_c), s	3.1			1.8			8.7			1.5		
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	733	283	61	432	96	58	123	61	62	162	70
Future Volume (veh/h)	154	733	283	61	432	96	58	123	61	62	162	70
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	797	308	66	470	104	63	134	66	67	176	76
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	405	1222	472	207	1413	311	152	311	139	138	347	137
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.1	21.1	21.3	33.2	15.1	15.2	25.2	0.0	0.0	26.7	0.0	0.0
Ln Grp LOS	C	C	C	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h	1272			640			263			319		
Approach Delay, s/veh	21.6			17.0			25.2			26.7		
Approach LOS	C			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.6			5.4			5.4			5.5		
Max Q Clear (g_c+I1), s	33.6			15.0			24.7			12.7		
Green Ext Time (g_e), s	3.1			1.8			8.7			1.5		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.43			0.00			0.38			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	510			263			839			299		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2896			1015			2506			909		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	637			400			967			405		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	66	0	319	0	167	0	263
Grp Sat Flow (s), veh/h/ln	0	510	0	1677	0	839	0	1613
Q Serve Time (g_s), s	0.0	10.1	0.0	2.2	0.0	13.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	31.6	0.0	13.0	0.0	22.7	0.0	10.7
Perm LT Sat Flow (s_l), veh/h/ln	0	510	0	1201	0	839	0	1146
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1851	0	0	0	1605
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	22.4	0.0	20.1	0.0	34.9	0.0	17.8
Perm LT Q Serve Time (g_ps), s	0.0	10.1	0.0	2.2	0.0	13.7	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	6.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.3	0.0	0.0	0.0	6.3
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.24
Lane Grp Cap (c), veh/h	0	207	0	622	0	405	0	602
V/C Ratio (X)	0.00	0.32	0.00	0.51	0.00	0.41	0.00	0.44
Avail Cap (c_a), veh/h	0	207	0	622	0	405	0	602
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.2	0.0	23.7	0.0	21.1	0.0	22.9
Incr Delay (d2), s/veh	0.0	4.0	0.0	3.0	0.0	3.1	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.2	0.0	26.7	0.0	24.1	0.0	25.2
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	5.2	0.0	2.6	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.5	0.0	0.3	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.68	0.00	1.80	0.00	1.77
%ile Back of Q (95%), veh/ln	0.0	2.6	0.0	9.7	0.0	5.3	0.0	8.1
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	1.20	0.00	0.89	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	287	0	0	0	565	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.9	0.0	0.0	0.0	21.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	0.0	0.0	21.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.33	0.00	0.00	0.00	0.65	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.1	0.0	0.0	0.0	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	3.8	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
Control Delay (d), s/veh	0.0	15.1	0.0	0.0	0.0	21.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	0.0	0.0	8.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.9	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.54	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.5	0.0	0.0	0.0	14.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.72	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	287	0	0	0	540	0	0
Grp Sat Flow (s), veh/h/ln	0	1756	0	0	0	1696	0	0
Q Serve Time (g_s), s	0.0	9.0	0.0	0.0	0.0	21.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.0	0.0	0.0	0.0	21.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.24	0.00	0.57	0.00	0.25
Lane Grp Cap (c), veh/h	0	856	0	0	0	827	0	0
V/C Ratio (X)	0.00	0.33	0.00	0.00	0.00	0.65	0.00	0.00
Avail Cap (c_a), veh/h	0	856	0	0	0	827	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.1	0.0	0.0	0.0	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	4.0	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
Control Delay (d), s/veh	0.0	15.2	0.0	0.0	0.0	21.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	0.0	0.0	7.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.55	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.6	0.0	0.0	0.0	13.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.70	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/26/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	376	57	137	660	149	98	883	86	134	682	129
Future Volume (veh/h)	87	376	57	137	660	149	98	883	86	134	682	129
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	95	409	62	149	717	162	107	960	93	146	741	140
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	1056	159	301	982	222	311	1198	116	309	1567	296
Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Sat Flow, veh/h	631	3097	466	922	2880	650	630	3273	317	1781	2982	563
Grp Volume(v), veh/h	95	233	238	149	442	437	107	521	532	146	441	440
Grp Sat Flow(s),veh/h/ln	631	1777	1786	922	1777	1753	630	1777	1813	1781	1777	1769
Q Serve(g_s), s	9.0	9.0	9.1	14.1	21.7	21.7	11.7	23.7	23.7	4.1	14.1	14.1
Cycle Q Clear(g_c), s	30.7	9.0	9.1	23.2	21.7	21.7	11.7	23.7	23.7	4.1	14.1	14.1
Prop In Lane	1.00		0.26	1.00		0.37	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	143	606	609	301	606	598	311	650	664	309	934	930
V/C Ratio(X)	0.66	0.39	0.39	0.49	0.73	0.73	0.34	0.80	0.80	0.47	0.47	0.47
Avail Cap(c_a), veh/h	143	606	609	301	606	598	311	650	664	313	934	930
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	22.5	22.5	41.0	35.9	35.9	21.8	25.6	25.6	18.0	13.5	13.5
Incr Delay (d2), s/veh	10.9	0.4	0.4	1.3	4.5	4.5	3.0	10.0	9.9	1.1	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	6.7	6.8	6.4	16.4	16.3	3.5	16.9	17.1	3.0	9.6	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	22.9	22.9	42.3	40.4	40.5	24.8	35.6	35.5	19.1	15.2	15.2
LnGrp LOS	D	C	C	D	D	D	C	D	D	B	B	B
Approach Vol, veh/h	566		1028			1160			1027			
Approach Delay, s/veh	27.9		40.7			34.6			15.8			
Approach LOS	C		D			C			B			
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	53.0		37.0		14.4	38.6	37.0					
Change Period (Y+Rc), s	* 5.7		* 6.3		5.6	* 5.7	* 6.3					
Max Green Setting (Gmax), s	* 47		* 31		9.0	* 33	* 31					
Max Q Clear Time (g_c+I1), s	16.1		25.2		6.1	25.7	32.7					
Green Ext Time (p_c), s	6.6		2.9		0.1	4.1	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	376	57	137	660	149	98	883	86	134	682	129
Future Volume (veh/h)	87	376	57	137	660	149	98	883	86	134	682	129
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	409	62	149	717	162	107	960	93	146	741	140
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	143	1056	159	301	982	222	311	1198	116	309	1567	296
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Unsig. Movement Delay												
Ln Grp Delay, s/veh	52.9	22.9	22.9	42.3	40.4	40.5	24.8	35.6	35.5	19.1	15.2	15.2
Ln Grp LOS	D	C	C	D	D	D	C	D	D	B	B	B
Approach Vol, veh/h	566			1028			1160			1027		
Approach Delay, s/veh	27.9			40.7			34.6			15.8		
Approach LOS	C			D			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			5			6		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	53.0			37.0			14.4			38.6		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 5.7		
Max Green (Gmax), s	* 47			* 31			9.0			* 33		
Max Allow Headway (MAH), s	5.3			5.3			3.8			5.4		
Max Q Clear (g_c+I1), s	16.1			25.2			6.1			25.7		
Green Ext Time (g_e), s	6.6			2.9			0.1			4.1		
Prob of Phs Call (p_c)	1.00			1.00			0.97			1.00		
Prob of Max Out (p_x)	0.00			0.98			1.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				922			1781			630		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2982			2880			3273			3097		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	563			650			317			466		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	149	146	107	0	95
Grp Sat Flow (s), veh/h/ln	0	0	0	922	1781	630	0	631
Q Serve Time (g_s), s	0.0	0.0	0.0	14.1	4.1	11.7	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	23.2	4.1	11.7	0.0	30.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	922	536	630	0	631
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	30.7	34.9	32.9	0.0	30.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	21.6	9.2	32.9	0.0	9.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	14.1	9.2	11.7	0.0	9.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	301	309	311	0	143
V/C Ratio (X)	0.00	0.00	0.00	0.49	0.47	0.34	0.00	0.66
Avail Cap (c_a), veh/h	0	0	0	301	313	311	0	143
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	41.0	18.0	21.8	0.0	42.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	1.1	3.0	0.0	10.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	42.3	19.1	24.8	0.0	52.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.5	1.6	1.7	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.1	0.3	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.4	3.0	3.5	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.04	0.27	0.44	0.00	0.27
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	441	0	442	0	521	0	233
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	14.1	0.0	21.7	0.0	23.7	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	21.7	0.0	23.7	0.0	9.0
Lane Grp Cap (c), veh/h	0	934	0	606	0	650	0	606
V/C Ratio (X)	0.00	0.47	0.00	0.73	0.00	0.80	0.00	0.39
Avail Cap (c_a), veh/h	0	934	0	606	0	650	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	35.9	0.0	25.6	0.0	22.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	4.5	0.0	10.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	40.4	0.0	35.6	0.0	22.9
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	10.2	0.0	9.6	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.8	0.0	1.8	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.69	0.00	1.49	0.00	1.49	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.6	0.0	16.4	0.0	16.9	0.0	6.7
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	0.35	0.00	0.51	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	440	0	437	0	532	0	238
Grp Sat Flow (s), veh/h/ln	0	1769	0	1753	0	1813	0	1786
Q Serve Time (g_s), s	0.0	14.1	0.0	21.7	0.0	23.7	0.0	9.1
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	21.7	0.0	23.7	0.0	9.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.32	0.00	0.37	0.00	0.17	0.00	0.26
Lane Grp Cap (c), veh/h	0	930	0	598	0	664	0	609
V/C Ratio (X)	0.00	0.47	0.00	0.73	0.00	0.80	0.00	0.39
Avail Cap (c_a), veh/h	0	930	0	598	0	664	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	35.9	0.0	25.6	0.0	22.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	4.5	0.0	9.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	40.5	0.0	35.5	0.0	22.9
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	10.1	0.0	9.8	0.0	3.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.8	0.0	1.8	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.69	0.00	1.50	0.00	1.48	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.6	0.0	16.3	0.0	17.1	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.73	0.00	0.34	0.00	0.52	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	655	930	32	77	64
Future Vol, veh/h	21	655	930	32	77	64
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	23	712	1011	35	84	70

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1046	0	0 1431 523
Stage 1	-	-	- 1029 -
Stage 2	-	-	- 402 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	661	-	- 125 499
Stage 1	-	-	- 306 -
Stage 2	-	-	- 644 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	661	-	- 118 499
Mov Cap-2 Maneuver	-	-	- 118 -
Stage 1	-	-	- 288 -
Stage 2	-	-	- 644 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	84
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	661	-	-	-	181
HCM Lane V/C Ratio	0.035	-	-	-	0.847
HCM Control Delay (s)	10.6	0.3	-	-	84
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	6

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	47	563	128	47	662	56	141	140	78	80	286	114
Future Volume (veh/h)	47	563	128	47	662	56	141	140	78	80	286	114
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	51	612	139	51	720	61	153	152	85	87	311	124
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	363	1547	351	374	1783	151	166	146	71	119	350	132
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	692	2878	652	712	3316	281	308	409	200	204	981	369
Grp Volume(v), veh/h	51	377	374	51	386	395	390	0	0	522	0	0
Grp Sat Flow(s),veh/h/ln	692	1777	1753	712	1777	1820	916	0	0	1554	0	0
Q Serve(g_s), s	4.2	11.2	11.3	4.1	11.5	11.5	3.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.8	11.2	11.3	15.3	11.5	11.5	32.1	0.0	0.0	29.1	0.0	0.0
Prop In Lane	1.00		0.37	1.00		0.15	0.39		0.22	0.17		0.24
Lane Grp Cap(c), veh/h	363	956	943	374	956	979	382	0	0	601	0	0
V/C Ratio(X)	0.14	0.39	0.40	0.14	0.40	0.40	1.02	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h	363	956	943	374	956	979	382	0	0	601	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.9	12.2	12.2	16.7	12.3	12.3	30.9	0.0	0.0	27.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	1.2	1.2	0.8	1.3	1.2	51.1	0.0	0.0	12.9	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	1.3	7.9	7.9	1.3	8.1	8.3	20.2	0.0	0.0	18.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	13.4	13.5	17.5	13.5	13.5	82.0	0.0	0.0	40.5	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	F	A	A	D	A	A
Approach Vol, veh/h		802			832			390			522	
Approach Delay, s/veh		13.7			13.8			82.0			40.5	
Approach LOS		B			B			F			D	
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		4.6		* 4.9		4.6		* 4.9				
Max Green Setting (Gmax), s		48.4		* 32		48.4		* 32				
Max Q Clear Time (g_c+I1), s		17.3		31.1		17.8		34.1				
Green Ext Time (p_c), s		6.1		0.4		5.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				29.7								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	563	128	47	662	56	141	140	78	80	286	114
Future Volume (veh/h)	47	563	128	47	662	56	141	140	78	80	286	114
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	612	139	51	720	61	153	152	85	87	311	124
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	363	1547	351	374	1783	151	166	146	71	119	350	132
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
Prop Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.36	0.36	0.36	0.36	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	17.7	13.4	13.5	17.5	13.5	13.5	82.0	0.0	0.0	40.5	0.0	0.0
Ln Grp LOS	B	B	B	B	B	B	F	A	A	D	A	A
Approach Vol, veh/h	802			832			390			522		
Approach Delay, s/veh	13.7			13.8			82.0			40.5		
Approach LOS	B			B			F			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	48.4			* 32			48.4			* 32		
Max Allow Headway (MAH), s	5.3			5.4			5.4			5.8		
Max Q Clear (g_c+I1), s	17.3			31.1			17.8			34.1		
Green Ext Time (g_e), s	6.1			0.4			5.9			0.0		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			1.00			0.00			1.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	712			204			692			308		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3316			981			2878			409		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	281			369			652			200		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	51	0	522	0	51	0	390
Grp Sat Flow (s), veh/h/ln	0	712	0	1554	0	692	0	916
Q Serve Time (g_s), s	0.0	4.1	0.0	0.0	0.0	4.2	0.0	3.0
Cycle Q Clear Time (g_c), s	0.0	15.3	0.0	29.1	0.0	15.8	0.0	32.1
Perm LT Sat Flow (s_l), veh/h/ln	0	712	0	1161	0	692	0	969
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1500	0	0	0	794
Perm LT Eff Green (g_p), s	0.0	48.4	0.0	32.1	0.0	48.4	0.0	32.1
Perm LT Serve Time (g_u), s	0.0	37.1	0.0	0.0	0.0	36.9	0.0	3.0
Perm LT Q Serve Time (g_ps), s	0.0	4.1	0.0	0.0	0.0	4.2	0.0	3.0
Time to First Blk (g_f), s	0.0	0.0	0.0	5.9	0.0	0.0	0.0	2.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	5.9	0.0	0.0	0.0	2.3
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.17	0.00	1.00	0.00	0.39
Lane Grp Cap (c), veh/h	0	374	0	601	0	363	0	382
V/C Ratio (X)	0.00	0.14	0.00	0.87	0.00	0.14	0.00	1.02
Avail Cap (c_a), veh/h	0	374	0	601	0	363	0	382
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	27.6	0.0	16.9	0.0	30.9
Incr Delay (d2), s/veh	0.0	0.8	0.0	12.9	0.0	0.8	0.0	51.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	40.5	0.0	17.7	0.0	82.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	10.3	0.0	0.7	0.0	8.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	2.2	0.0	0.1	0.0	5.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.46	0.00	1.80	0.00	1.46
%ile Back of Q (95%), veh/ln	0.0	1.3	0.0	18.2	0.0	1.3	0.0	20.2
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	1.44	0.00	0.06	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	386	0	0	0	377	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	11.5	0.0	0.0	0.0	11.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	0.0	0.0	11.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	956	0	0	0	956	0	0
V/C Ratio (X)	0.00	0.40	0.00	0.00	0.00	0.39	0.00	0.00
Avail Cap (c_a), veh/h	0	956	0	0	0	956	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.3	0.0	0.0	0.0	12.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.5	0.0	0.0	0.0	13.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	0.0	0.0	4.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	0.00	1.00	0.00	1.78	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.1	0.0	0.0	0.0	7.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.36	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	395	0	0	0	374	0	0
Grp Sat Flow (s), veh/h/ln	0	1820	0	0	0	1753	0	0
Q Serve Time (g_s), s	0.0	11.5	0.0	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	0.0	0.0	11.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	0.24	0.00	0.37	0.00	0.22
Lane Grp Cap (c), veh/h	0	979	0	0	0	943	0	0
V/C Ratio (X)	0.00	0.40	0.00	0.00	0.00	0.40	0.00	0.00
Avail Cap (c_a), veh/h	0	979	0	0	0	943	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.3	0.0	0.0	0.0	12.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.5	0.0	0.0	0.0	13.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	0.0	0.0	4.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	0.00	1.00	0.00	1.78	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.3	0.0	0.0	0.0	7.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.36	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/26/2023

Intersection

Intersection Delay, s/veh35.6

Intersection LOS E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	293	438	40	322	413
Future Vol, veh/h	23	293	438	40	322	413
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	318	476	43	350	449
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	18.7	55.6	29.8
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	92%
Vol Thru, %	0%	0%	7%	8%
Vol Right, %	0%	100%	93%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	413	316	478
LT Vol	322	0	0	438
Through Vol	0	0	23	40
RT Vol	0	413	293	0
Lane Flow Rate	350	449	343	520
Geometry Grp	7	7	2	2
Degree of Util (X)	0.742	0.798	0.604	0.961
Departure Headway (Hd)	7.629	6.401	6.333	6.657
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	473	561	567	540
Service Time	5.421	4.192	4.421	4.732
HCM Lane V/C Ratio	0.74	0.8	0.605	0.963
HCM Control Delay	29.5	30.1	18.7	55.6
HCM Lane LOS	D	D	C	F
HCM 95th-tile Q	6.1	7.7	4	12.6

Intersection

Int Delay, s/veh 2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	951	87	0	574	0	203
Future Vol, veh/h	951	87	0	574	0	203
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	1034	95	0	624	0	221

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- 565
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	-	- 6.94
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	-	- 3.32
Pot Cap-1 Maneuver	-	0	0 468
Stage 1	-	0	0 -
Stage 2	-	0	0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- 468
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	468	-	-	-
HCM Lane V/C Ratio	0.471	-	-	-
HCM Control Delay (s)	19.4	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	2.5	-	-	-

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1097	57	0	574	0	180
Future Vol, veh/h	1097	57	0	574	0	180
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	1192	62	0	624	0	196

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 627
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 426
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 426
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	426	-	-	-
HCM Lane V/C Ratio	0.459	-	-	-
HCM Control Delay (s)	20.4	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	2.4	-	-	-

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	35	11	69	112	14
Future Vol, veh/h	44	35	11	69	112	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	38	12	75	122	15
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	229	130	137	0	-	0
Stage 1	130	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	759	920	1447	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	752	920	1447	-	-	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.9	1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1447	-	818	-	-	
HCM Lane V/C Ratio	0.008	-	0.105	-	-	
HCM Control Delay (s)	7.5	0	9.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.4	-	-	

HCM 6th TWSC
138: Porter Street & I-10 EB Off-Ramp

07/26/2023

Intersection						
Int Delay, s/veh	38.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	315	144	29	544	165	76
Future Vol, veh/h	315	144	29	544	165	76
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	185
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	342	157	32	591	179	83
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	623	0	-	0	1169	328
Stage 1	-	-	-	-	328	-
Stage 2	-	-	-	-	841	-
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	958	-	-	-	213	713
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	423	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	958	-	-	-	~ 130	713
Mov Cap-2 Maneuver	-	-	-	-	~ 130	-
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	423	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.4	0		191.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	958	-	-	-	130	713
HCM Lane V/C Ratio	0.357	-	-	-	1.38	0.116
HCM Control Delay (s)	10.8	0	-	-	274.6	10.7
HCM Lane LOS	B	A	-	-	F	B
HCM 95th %tile Q(veh)	1.6	-	-	-	11.8	0.4
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 6th TWSC
214: Mateo Street & Enterprise Street/I-10 WB Off-Ramp

07/26/2023

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	123	0	72	10	174	0	0	497	10
Future Vol, veh/h	10	0	10	123	0	72	10	174	0	0	497	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	134	0	78	11	189	0	0	540	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	796	757	546	762	762	189	551	0	-	-	-	0
Stage 1	546	546	-	211	211	-	-	-	-	-	-	-
Stage 2	250	211	-	551	551	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	305	337	538	322	335	853	1019	-	0	0	-	-
Stage 1	522	518	-	791	728	-	-	-	0	0	-	-
Stage 2	754	728	-	519	515	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	275	333	538	313	331	853	1019	-	-	-	-	-
Mov Cap-2 Maneuver	275	333	-	313	331	-	-	-	-	-	-	-
Stage 1	516	518	-	782	719	-	-	-	-	-	-	-
Stage 2	677	719	-	509	515	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	15.5		23		0.5		0					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL		NBT EBLn1WBLn1		SBT		SBR					
Capacity (veh/h)	1019		-		364		408		-		-	
HCM Lane V/C Ratio	0.011		-		0.06		0.52		-		-	
HCM Control Delay (s)	8.6		0		15.5		23		-		-	
HCM Lane LOS	A		A		C		C		-		-	
HCM 95th %tile Q(veh)	0		-		0.2		2.9		-		-	

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	129	77	166	626	141	73	619	59	40	738	88
Future Volume (veh/h)	42	129	77	166	626	141	73	619	59	40	738	88
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	46	140	84	180	680	153	79	673	64	43	802	96
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	297	1096	620	606	1444	325	193	1293	123	240	981	117
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.39	0.39	0.31	0.31	0.31
Sat Flow, veh/h	659	2187	1237	1157	2883	648	1781	3280	312	721	3196	382
Grp Volume(v), veh/h	46	112	112	180	419	414	79	364	373	43	446	452
Grp Sat Flow(s),veh/h/ln	659	1777	1648	1157	1777	1754	1781	1777	1814	721	1777	1802
Q Serve(g_s), s	5.1	3.5	3.8	10.4	16.2	16.2	3.1	16.4	16.4	5.1	24.4	24.4
Cycle Q Clear(g_c), s	21.3	3.5	3.8	14.2	16.2	16.2	3.1	16.4	16.4	12.3	24.4	24.4
Prop In Lane	1.00		0.75	1.00		0.37	1.00		0.17	1.00		0.21
Lane Grp Cap(c), veh/h	297	890	825	606	890	878	193	701	716	240	545	553
V/C Ratio(X)	0.15	0.13	0.14	0.30	0.47	0.47	0.41	0.52	0.52	0.18	0.82	0.82
Avail Cap(c_a), veh/h	297	890	825	606	890	878	240	939	959	317	736	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	14.0	14.0	17.8	17.1	17.1	25.6	24.2	24.2	32.4	33.7	33.7
Incr Delay (d2), s/veh	1.1	0.3	0.3	1.3	1.8	1.8	1.4	0.6	0.6	0.4	5.3	5.3
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	1.6	2.6	2.7	5.3	11.1	11.0	2.4	11.2	11.4	1.6	16.6	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	14.3	14.4	19.1	18.9	18.9	27.0	24.8	24.8	32.8	39.0	38.9
LnGrp LOS	C	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h	270			1013			816			941		
Approach Delay, s/veh	16.2			18.9			25.0			38.7		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.2	37.7		58.1		46.9		58.1				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	7.4	* 44		* 39		* 56		* 39				
Max Q Clear Time (g_c+I1), s	5.1	26.4		18.2		18.4		23.3				
Green Ext Time (p_c), s	0.0	5.8		6.2		5.3		1.4				
Intersection Summary												
HCM 6th Ctrl Delay	26.4											
HCM 6th LOS	C											
Notes												

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

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	129	77	166	626	141	73	619	59	40	738	88
Future Volume (veh/h)	42	129	77	166	626	141	73	619	59	40	738	88
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	140	84	180	680	153	79	673	64	43	802	96
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
Opposing Right Turn Influence	Yes				Yes				Yes			
Cap, veh/h	297	1096	620	606	1444	325	193	1293	123	240	981	117
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
Prop Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.04	0.39	0.39	0.31	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.2	14.3	14.4	19.1	18.9	18.9	27.0	24.8	24.8	32.8	39.0	38.9
Ln Grp LOS	C	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h	270			1013			816			941		
Approach Delay, s/veh	16.2			18.9			25.0			38.7		
Approach LOS	B			B			C			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1		2		4		6		8			
Case No	1.2		6.3		6.0		4.0		6.0			
Phs Duration (G+Y+Rc), s	9.2		37.7		58.1		46.9		58.1			
Change Period (Y+Rc), s	4.6		* 5.5		* 5.5		* 5.5		* 5.5			
Max Green (Gmax), s	7.4		* 44		* 39		* 56		* 39			
Max Allow Headway (MAH), s	3.8		5.3		5.1		5.3		5.6			
Max Q Clear (g_c+I1), s	5.1		26.4		18.2		18.4		23.3			
Green Ext Time (g_e), s	0.0		5.8		6.2		5.3		1.4			
Prob of Phs Call (p_c)	0.90		1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)	1.00		0.25		0.00		0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt	1		5		7		3					
Mvmt Sat Flow, veh/h	1781		721		1157		659					
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3196		2883		3280		2187			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			382		648		312		1237			
Left Lane Group Data												
Assigned Mvmt	1		5		0		7		0		0	
Lane Assignment	L (Pr/Pm)		L				L				L	

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	79	43	0	180	0	0	0	46
Grp Sat Flow (s), veh/h/ln	1781	721	0	1157	0	0	0	659
Q Serve Time (g_s), s	3.1	5.1	0.0	10.4	0.0	0.0	0.0	5.1
Cycle Q Clear Time (g_c), s	3.1	12.3	0.0	14.2	0.0	0.0	0.0	21.3
Perm LT Sat Flow (s_l), veh/h/ln	620	721	0	1157	0	0	0	659
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	34.2	32.2	0.0	52.6	0.0	0.0	0.0	52.6
Perm LT Serve Time (g_u), s	7.8	25.0	0.0	48.8	0.0	0.0	0.0	36.4
Perm LT Q Serve Time (g_ps), s	3.9	5.1	0.0	10.4	0.0	0.0	0.0	5.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	193	240	0	606	0	0	0	297
V/C Ratio (X)	0.41	0.18	0.00	0.30	0.00	0.00	0.00	0.15
Avail Cap (c_a), veh/h	240	317	0	606	0	0	0	297
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	25.6	32.4	0.0	17.8	0.0	0.0	0.0	24.1
Incr Delay (d2), s/veh	1.4	0.4	0.0	1.3	0.0	0.0	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
Control Delay (d), s/veh	27.0	32.8	0.0	19.1	0.0	0.0	0.0	25.2
1st-Term Q (Q1), veh/ln	1.3	0.9	0.0	2.7	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.4	1.6	0.0	5.3	0.0	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.36	0.16	0.00	1.36	0.00	0.00	0.00	0.54
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	446	0	419	0	364	0	112
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	24.4	0.0	16.2	0.0	16.4	0.0	3.5
Cycle Q Clear Time (g_c), s	0.0	24.4	0.0	16.2	0.0	16.4	0.0	3.5
Lane Grp Cap (c), veh/h	0	545	0	890	0	701	0	890
V/C Ratio (X)	0.00	0.82	0.00	0.47	0.00	0.52	0.00	0.13
Avail Cap (c_a), veh/h	0	736	0	890	0	939	0	890
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	17.1	0.0	24.2	0.0	14.0
Incr Delay (d2), s/veh	0.0	5.3	0.0	1.8	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.0	0.0	18.9	0.0	24.8	0.0	14.3
1st-Term Q (Q1), veh/ln	0.0	10.3	0.0	6.4	0.0	6.8	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.4	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.49	0.00	1.63	0.00	1.62	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	16.6	0.0	11.1	0.0	11.2	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.81	0.00	0.26	0.00	0.43	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	452	0	414	0	373	0	112
Grp Sat Flow (s), veh/h/ln	0	1802	0	1754	0	1814	0	1648
Q Serve Time (g_s), s	0.0	24.4	0.0	16.2	0.0	16.4	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	24.4	0.0	16.2	0.0	16.4	0.0	3.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.21	0.00	0.37	0.00	0.17	0.00	0.75
Lane Grp Cap (c), veh/h	0	553	0	878	0	716	0	825
V/C Ratio (X)	0.00	0.82	0.00	0.47	0.00	0.52	0.00	0.14
Avail Cap (c_a), veh/h	0	746	0	878	0	959	0	825
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	17.1	0.0	24.2	0.0	14.0
Incr Delay (d2), s/veh	0.0	5.3	0.0	1.8	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	38.9	0.0	18.9	0.0	24.8	0.0	14.4
1st-Term Q (Q1), veh/ln	0.0	10.5	0.0	6.3	0.0	6.9	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.4	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.49	0.00	1.63	0.00	1.62	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	16.8	0.0	11.0	0.0	11.4	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.82	0.00	0.26	0.00	0.44	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/25/2023

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	213	37	22	952	25	14
Future Vol, veh/h	213	37	22	952	25	14
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	232	40	24	1035	27	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	272
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1288
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1288
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	1288	-
HCM Lane V/C Ratio	0.108	-	-	0.019	-
HCM Control Delay (s)	15.2	-	-	7.8	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	162	28	97	883	126	61	97	6	12	106	66
Future Volume (veh/h)	35	162	28	97	883	126	61	97	6	12	106	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	176	30	105	960	137	66	105	7	13	115	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	1486	249	616	1523	217	232	350	22	58	365	214
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	514	3046	510	1176	3122	445	519	1022	63	46	1066	625
Grp Volume(v), veh/h	38	101	105	105	546	551	178	0	0	200	0	0
Grp Sat Flow(s),veh/h/ln	514	1777	1779	1176	1777	1790	1604	0	0	1737	0	0
Q Serve(g_s), s	5.3	2.8	2.9	4.8	20.5	20.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	25.8	2.8	2.9	7.7	20.5	20.5	6.4	0.0	0.0	7.6	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.25	0.37		0.04	0.06		0.36
Lane Grp Cap(c), veh/h	214	867	868	616	867	873	604	0	0	637	0	0
V/C Ratio(X)	0.18	0.12	0.12	0.17	0.63	0.63	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	214	867	868	616	867	873	604	0	0	637	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.6	12.5	12.5	14.6	17.0	17.1	21.6	0.0	0.0	22.0	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.3	0.3	0.6	3.5	3.4	1.2	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	2.0	2.1	2.4	13.5	13.6	5.2	0.0	0.0	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	12.8	12.8	15.2	20.5	20.5	22.8	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	C	B	B	B	C	C	C	A	A	C	A	A
Approach Vol, veh/h	244		1202				178				200	
Approach Delay, s/veh	15.2		20.0				22.8				23.3	
Approach LOS	B		C				C				C	
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	* 9.1			6.2			* 9.1			6.2		
Max Green Setting (Gmax), s	* 44			30.8			* 44			30.8		
Max Q Clear Time (g_c+I1), s	22.5			9.6			27.8			8.4		
Green Ext Time (p_c), s	8.2			1.1			1.4			1.0		
Intersection Summary												
HCM 6th Ctrl Delay			20.0									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	162	28	97	883	126	61	97	6	12	106	66
Future Volume (veh/h)	35	162	28	97	883	126	61	97	6	12	106	66
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	176	30	105	960	137	66	105	7	13	115	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	214	1486	249	616	1523	217	232	350	22	58	365	214
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.4	12.8	12.8	15.2	20.5	20.5	22.8	0.0	0.0	23.3	0.0	0.0
Ln Grp LOS	C	B	B	B	C	C	C	A	A	C	A	A
Approach Vol, veh/h	244			1202			178			200		
Approach Delay, s/veh	15.2			20.0			22.8			23.3		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.2			5.4			5.7			5.4		
Max Q Clear (g_c+I1), s	22.5			9.6			27.8			8.4		
Green Ext Time (g_e), s	8.2			1.1			1.4			1.0		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.26			0.00			0.02			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1176			46			514			519		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3122			1066			3046			1022		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	445			625			510			63		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	105	0	200	0	38	0	178
Grp Sat Flow (s), veh/h/ln	0	1176	0	1737	0	514	0	1604
Q Serve Time (g_s), s	0.0	4.8	0.0	0.0	0.0	5.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.7	0.0	7.6	0.0	25.8	0.0	6.4
Perm LT Sat Flow (s_l), veh/h/ln	0	1176	0	1301	0	514	0	1215
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1864	0	0	0	1763
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	41.0	0.0	24.4	0.0	23.4	0.0	23.2
Perm LT Q Serve Time (g_ps), s	0.0	4.8	0.0	0.0	0.0	5.3	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	18.2	0.0	0.0	0.0	3.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.6	0.0	0.0	0.0	3.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.06	0.00	1.00	0.00	0.37
Lane Grp Cap (c), veh/h	0	616	0	637	0	214	0	604
V/C Ratio (X)	0.00	0.17	0.00	0.31	0.00	0.18	0.00	0.29
Avail Cap (c_a), veh/h	0	616	0	637	0	214	0	604
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	22.0	0.0	26.6	0.0	21.6
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.3	0.0	1.8	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	23.3	0.0	28.4	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	3.1	0.0	0.6	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.4	0.0	5.9	0.0	1.3	0.0	5.2
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.73	0.00	0.23	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	546	0	0	0	101	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	20.5	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.5	0.0	0.0	0.0	2.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.63	0.00	0.00	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	0.0	0.0	12.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.5	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.5	0.0	0.0	0.0	12.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.8	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.5	0.0	0.0	0.0	2.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.00	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	551	0	0	0	105	0	0
Grp Sat Flow (s), veh/h/ln	0	1790	0	0	0	1779	0	0
Q Serve Time (g_s), s	0.0	20.5	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.5	0.0	0.0	0.0	2.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.25	0.00	0.36	0.00	0.29	0.00	0.04
Lane Grp Cap (c), veh/h	0	873	0	0	0	868	0	0
V/C Ratio (X)	0.00	0.63	0.00	0.00	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	873	0	0	0	868	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	0.0	0.0	12.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.4	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.5	0.0	0.0	0.0	12.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.9	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.6	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.38	0.00	0.00	0.00	0.11	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/25/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	178	102	104	931	103	83	586	50	59	760	233
Future Volume (veh/h)	45	178	102	104	931	103	83	586	50	59	760	233
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	49	193	111	113	1012	112	90	637	54	64	826	253
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	794	436	397	1157	128	231	1213	103	384	1361	417
Arrive On Green	0.36	0.36	0.36	0.72	0.72	0.72	0.37	0.37	0.37	0.08	0.51	0.51
Sat Flow, veh/h	501	2212	1216	1075	3226	357	523	3316	281	1781	2679	820
Grp Volume(v), veh/h	49	153	151	113	557	567	90	341	350	64	548	531
Grp Sat Flow(s),veh/h/ln	501	1777	1651	1075	1777	1806	523	1777	1820	1781	1777	1723
Q Serve(g_s), s	8.6	5.4	5.8	4.9	21.4	21.4	13.3	13.6	13.6	1.8	19.7	19.8
Cycle Q Clear(g_c), s	29.9	5.4	5.8	10.7	21.4	21.4	20.3	13.6	13.6	1.8	19.7	19.8
Prop In Lane	1.00		0.74	1.00		0.20	1.00		0.15	1.00		0.48
Lane Grp Cap(c), veh/h	141	637	592	397	637	648	231	650	666	384	903	875
V/C Ratio(X)	0.35	0.24	0.25	0.28	0.87	0.87	0.39	0.52	0.53	0.17	0.61	0.61
Avail Cap(c_a), veh/h	149	665	618	414	665	676	231	650	666	420	903	875
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	20.3	20.4	11.2	11.2	11.2	27.5	22.4	22.4	14.7	15.7	15.8
Incr Delay (d2), s/veh	1.5	0.2	0.2	0.4	12.1	12.0	4.9	3.0	3.0	0.2	3.0	3.1
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	2.0	4.0	4.0	1.5	9.9	10.0	3.5	10.0	10.2	1.3	12.9	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	20.4	20.6	11.6	23.2	23.1	32.5	25.4	25.4	14.9	18.8	18.9
LnGrp LOS	D	C	C	B	C	C	C	C	C	B	B	B
Approach Vol, veh/h	353		1237				781			1143		
Approach Delay, s/veh	23.2		22.1				26.2			18.6		
Approach LOS	C		C				C			B		
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	51.4		38.6		12.8	38.6	38.6					
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	21.8		23.4		3.8	22.3	31.9					
Green Ext Time (p_c), s	7.9		5.6		0.0	3.1	0.4					

Intersection Summary

HCM 6th Ctrl Delay 22.0

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	178	102	104	931	103	83	586	50	59	760	233
Future Volume (veh/h)	45	178	102	104	931	103	83	586	50	59	760	233
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	193	111	113	1012	112	90	637	54	64	826	253
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	141	794	436	397	1157	128	231	1213	103	384	1361	417
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
Prop Arrive On Green	0.36	0.36	0.36	0.72	0.72	0.72	0.37	0.37	0.37	0.08	0.51	0.51
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.0	20.4	20.6	11.6	23.2	23.1	32.5	25.4	25.4	14.9	18.8	18.9
Ln Grp LOS	D	C	C	B	C	C	C	C	C	B	B	B
Approach Vol, veh/h	353			1237			781			1143		
Approach Delay, s/veh	23.2			22.1			26.2			18.6		
Approach LOS	C			C			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	51.4			38.6			12.8			38.6		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 6.3		
Max Green (Gmax), s	* 44			* 34			9.0			* 30		
Max Allow Headway (MAH), s	5.3			5.2			3.8			5.6		
Max Q Clear (g_c+I1), s	21.8			23.4			3.8			22.3		
Green Ext Time (g_e), s	7.9			5.6			0.0			3.1		
Prob of Phs Call (p_c)	1.00			1.00			0.80			1.00		
Prob of Max Out (p_x)	0.00			0.68			0.17			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				1075			1781			523		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2679			3226			3316			2212		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	820			357			281			1216		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	113	64	90	0	49
Grp Sat Flow (s), veh/h/ln	0	0	0	1075	1781	523	0	501
Q Serve Time (g_s), s	0.0	0.0	0.0	4.9	1.8	13.3	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.7	1.8	20.3	0.0	29.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1075	752	523	0	501
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	32.3	34.9	32.9	0.0	32.3
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	26.5	19.3	25.9	0.0	10.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	4.9	1.5	13.3	0.0	8.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	397	384	231	0	141
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.17	0.39	0.00	0.35
Avail Cap (c_a), veh/h	0	0	0	414	420	231	0	149
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	14.7	27.5	0.0	38.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.2	4.9	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	11.6	14.9	32.5	0.0	40.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.7	1.6	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.5	1.3	3.5	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.23	0.12	0.44	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	548	0	557	0	341	0	153
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	19.7	0.0	21.4	0.0	13.6	0.0	5.4
Cycle Q Clear Time (g_c), s	0.0	19.7	0.0	21.4	0.0	13.6	0.0	5.4
Lane Grp Cap (c), veh/h	0	903	0	637	0	650	0	637
V/C Ratio (X)	0.00	0.61	0.00	0.87	0.00	0.52	0.00	0.24
Avail Cap (c_a), veh/h	0	903	0	665	0	650	0	665
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.7	0.0	11.2	0.0	22.4	0.0	20.3
Incr Delay (d2), s/veh	0.0	3.0	0.0	12.1	0.0	3.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	23.2	0.0	25.4	0.0	20.4
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	3.7	0.0	5.5	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	2.1	0.0	0.5	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	0.00	1.68	0.00	1.67	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	12.9	0.0	9.9	0.0	10.0	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.98	0.00	0.21	0.00	0.30	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	531	0	567	0	350	0	151
Grp Sat Flow (s), veh/h/ln	0	1723	0	1806	0	1820	0	1651
Q Serve Time (g_s), s	0.0	19.8	0.0	21.4	0.0	13.6	0.0	5.8
Cycle Q Clear Time (g_c), s	0.0	19.8	0.0	21.4	0.0	13.6	0.0	5.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.48	0.00	0.20	0.00	0.15	0.00	0.74
Lane Grp Cap (c), veh/h	0	875	0	648	0	666	0	592
V/C Ratio (X)	0.00	0.61	0.00	0.87	0.00	0.53	0.00	0.25
Avail Cap (c_a), veh/h	0	875	0	676	0	666	0	618
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.8	0.0	11.2	0.0	22.4	0.0	20.4
Incr Delay (d2), s/veh	0.0	3.1	0.0	12.0	0.0	3.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.9	0.0	23.1	0.0	25.4	0.0	20.6
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	3.8	0.0	5.6	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	2.2	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.58	0.00	1.67	0.00	1.66	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	12.6	0.0	10.0	0.0	10.2	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.96	0.00	0.21	0.00	0.31	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

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

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	14	226	1129	39	22	57
Future Vol, veh/h	14	226	1129	39	22	57
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	15	246	1227	42	24	62
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1269	0	-	0	1401	635
Stage 1	-	-	-	-	1248	-
Stage 2	-	-	-	-	153	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	543	-	-	-	131	421
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	543	-	-	-	127	421
Mov Cap-2 Maneuver	-	-	-	-	127	-
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	859	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		26		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	543	-	-	-	256	
HCM Lane V/C Ratio	0.028	-	-	-	0.335	
HCM Control Delay (s)	11.8	0.2	-	-	26	
HCM Lane LOS	B	A	-	-	D	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4	

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	186	35	145	1068	69	75	91	25	28	164	42
Future Volume (veh/h)	24	186	35	145	1068	69	75	91	25	28	164	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	202	38	158	1161	75	82	99	27	30	178	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	2119	391	862	2398	155	137	139	33	69	246	60
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	450	2994	553	1140	3389	219	433	746	176	129	1314	319
Grp Volume(v), veh/h	26	118	122	158	608	628	208	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	450	1777	1771	1140	1777	1831	1356	0	0	1762	0	0
Q Serve(g_s), s	2.5	1.9	1.9	4.5	13.7	13.7	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.2	1.9	1.9	6.5	13.7	13.7	13.6	0.0	0.0	12.2	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.12	0.39		0.13	0.12		0.18
Lane Grp Cap(c), veh/h	330	1257	1253	862	1257	1295	309	0	0	374	0	0
V/C Ratio(X)	0.08	0.09	0.10	0.18	0.48	0.48	0.67	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	330	1257	1253	862	1257	1295	642	0	0	761	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.5	4.1	4.1	5.2	5.9	5.9	35.0	0.0	0.0	34.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.1	0.2	0.5	1.3	1.3	2.5	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	1.1	1.1	1.8	8.1	8.3	8.0	0.0	0.0	9.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	4.3	4.3	5.6	7.2	7.2	37.5	0.0	0.0	36.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h	266		1394				208		254			
Approach Delay, s/veh	4.8		7.0				37.5		36.8			
Approach LOS	A		A				D		D			
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	4.6		* 4.9		4.6		* 4.9					
Max Green Setting (Gmax), s	43.4		* 37		43.4		* 37					
Max Q Clear Time (g_c+I1), s	15.7		14.2		18.2		15.6					
Green Ext Time (p_c), s	11.0		1.5		1.8		1.2					
Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	186	35	145	1068	69	75	91	25	28	164	42
Future Volume (veh/h)	24	186	35	145	1068	69	75	91	25	28	164	42
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	202	38	158	1161	75	82	99	27	30	178	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	330	2119	391	862	2398	155	137	139	33	69	246	60
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
Prop Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.19	0.19	0.19	0.19	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	9.9	4.3	4.3	5.6	7.2	7.2	37.5	0.0	0.0	36.8	0.0	0.0
Ln Grp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h	266			1394			208			254		
Approach Delay, s/veh	4.8			7.0			37.5			36.8		
Approach LOS	A			A			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	68.3			21.7			68.3			21.7		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	43.4			* 37			43.4			* 37		
Max Allow Headway (MAH), s	5.2			5.3			5.7			5.5		
Max Q Clear (g_c+I1), s	15.7			14.2			18.2			15.6		
Green Ext Time (g_e), s	11.0			1.5			1.8			1.2		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			0.00			0.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1140			129			450			433		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3389			1314			2994			746		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	219			319			553			176		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	158	0	254	0	26	0	208
Grp Sat Flow (s), veh/h/ln	0	1140	0	1762	0	450	0	1356
Q Serve Time (g_s), s	0.0	4.5	0.0	0.0	0.0	2.5	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	12.2	0.0	16.2	0.0	13.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1140	0	1285	0	450	0	1175
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1741	0	0	0	1186
Perm LT Eff Green (g_p), s	0.0	63.7	0.0	16.8	0.0	63.7	0.0	16.8
Perm LT Serve Time (g_u), s	0.0	61.7	0.0	3.2	0.0	49.9	0.0	4.6
Perm LT Q Serve Time (g_ps), s	0.0	4.5	0.0	0.0	0.0	2.5	0.0	1.4
Time to First Blk (g_f), s	0.0	0.0	0.0	6.2	0.0	0.0	0.0	2.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	6.2	0.0	0.0	0.0	2.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.12	0.00	1.00	0.00	0.39
Lane Grp Cap (c), veh/h	0	862	0	374	0	330	0	309
V/C Ratio (X)	0.00	0.18	0.00	0.68	0.00	0.08	0.00	0.67
Avail Cap (c_a), veh/h	0	862	0	761	0	330	0	642
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.2	0.0	34.7	0.0	9.5	0.0	35.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	2.2	0.0	0.5	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.6	0.0	36.8	0.0	9.9	0.0	37.5
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	5.2	0.0	0.2	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.71	0.00	1.80	0.00	1.77
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	9.2	0.0	0.5	0.0	8.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.73	0.00	0.02	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	608	0	0	0	118	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	13.7	0.0	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	0.0	0.0	1.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	1257	0	0	0	1257	0	0
V/C Ratio (X)	0.00	0.48	0.00	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	1257	0	0	0	1257	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.9	0.0	0.0	0.0	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	0.1	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
Control Delay (d), s/veh	0.0	7.2	0.0	0.0	0.0	4.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.77	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.1	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.33	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	628	0	0	0	122	0	0
Grp Sat Flow (s), veh/h/ln	0	1831	0	0	0	1771	0	0
Q Serve Time (g_s), s	0.0	13.7	0.0	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	0.0	0.0	1.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.12	0.00	0.18	0.00	0.31	0.00	0.13
Lane Grp Cap (c), veh/h	0	1295	0	0	0	1253	0	0
V/C Ratio (X)	0.00	0.48	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	1295	0	0	0	1253	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.9	0.0	0.0	0.0	4.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	0.0	0.0	0.0	4.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.76	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.3	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
90: I-10 WB Off-Ramps & 8th Street

07/25/2023

Intersection

Intersection Delay, s/veh 51.8

Intersection LOS F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	328	531	16	250	429
Future Vol, veh/h	15	328	531	16	250	429
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	16	357	577	17	272	466
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	21	97.7	30.4
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	97%
Vol Thru, %	0%	0%	4%	3%
Vol Right, %	0%	100%	96%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	429	343	547
LT Vol	250	0	0	531
Through Vol	0	0	15	16
RT Vol	0	429	328	0
Lane Flow Rate	272	466	373	595
Geometry Grp	7	7	2	2
Degree of Util (X)	0.58	0.841	0.651	1.11
Departure Headway (Hd)	8.01	6.778	6.554	6.722
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	454	536	556	541
Service Time	5.71	4.478	4.554	4.769
HCM Lane V/C Ratio	0.599	0.869	0.671	1.1
HCM Control Delay	21.2	35.7	21	97.7
HCM Lane LOS	C	E	C	F
HCM 95th-tile Q	3.6	8.7	4.7	19

HCM 6th TWSC

138: Porter Street & I-10 Off Ramps

07/25/2023

Intersection						
Int Delay, s/veh	193.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	126	136	29	378	649	171
Future Vol, veh/h	126	136	29	378	649	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	150
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	137	148	32	411	705	186
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	443	0	-	0	660	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	422	-
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	1117	-	-	-	~ 428	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	~ 662	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1117	-	-	-	~ 371	801
Mov Cap-2 Maneuver	-	-	-	-	~ 371	-
Stage 1	-	-	-	-	~ 695	-
Stage 2	-	-	-	-	~ 662	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.2	0		\$ 350.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1117	-	-	-	371	801
HCM Lane V/C Ratio	0.123	-	-	-	1.901	0.232
HCM Control Delay (s)	8.7	0	-	-	\$ 439.9	10.8
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	47.4	0.9
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection												
Int Delay, s/veh	121.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	10	0	10	598	0	286	10	23	0	0	208	10
Future Vol, veh/h	10	0	10	598	0	286	10	23	0	0	208	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	650	0	311	11	25	0	0	226	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	435	279	232	284	284	25	237	0	-	-	-	0
Stage 1	232	232	-	47	47	-	-	-	-	-	-	-
Stage 2	203	47	-	237	237	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	531	629	807	668	625	1051	1330	-	0	0	-	-
Stage 1	771	713	-	967	856	-	-	-	0	0	-	-
Stage 2	799	856	-	766	709	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	372	624	807	655	620	1051	1330	-	-	-	-	-
Mov Cap-2 Maneuver	372	624	-	655	620	-	-	-	-	-	-	-
Stage 1	765	713	-	959	849	-	-	-	-	-	-	-
Stage 2	558	849	-	756	709	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.4		158.3		2.3		0					
HCM LOS	B		F									
Minor Lane/Major Mvmt	NBL		NBT EBLn1WBLn1		SBT		SBR					
Capacity (veh/h)	1330		-		509 746		-					
HCM Lane V/C Ratio	0.008		-		0.043 1.288		-					
HCM Control Delay (s)	7.7		0		12.4 158.3		-					
HCM Lane LOS	A		A		B F		-					
HCM 95th %tile Q(veh)	0		-		0.1 36.7		-					

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	639	113	70	377	117	100	931	112	162	812	112
Future Volume (veh/h)	104	639	113	70	377	117	100	931	112	162	812	112
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	113	695	123	76	410	127	109	1012	122	176	883	122
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	225	946	167	152	840	257	313	1801	217	260	1446	200
Arrive On Green	0.31	0.31	0.31	0.10	0.10	0.10	0.05	0.56	0.56	0.46	0.46	0.46
Sat Flow, veh/h	868	3018	534	668	2678	821	1781	3193	385	496	3136	433
Grp Volume(v), veh/h	113	409	409	76	271	266	109	563	571	176	500	505
Grp Sat Flow(s),veh/h/ln	868	1777	1774	668	1777	1723	1781	1777	1801	496	1777	1792
Q Serve(g_s), s	11.2	18.5	18.5	9.7	12.9	13.2	2.7	18.2	18.2	31.6	19.0	19.0
Cycle Q Clear(g_c), s	24.4	18.5	18.5	28.2	12.9	13.2	2.7	18.2	18.2	40.5	19.0	19.0
Prop In Lane	1.00		0.30	1.00		0.48	1.00		0.21	1.00		0.24
Lane Grp Cap(c), veh/h	225	557	556	152	557	540	313	1002	1016	260	819	826
V/C Ratio(X)	0.50	0.73	0.73	0.50	0.49	0.49	0.35	0.56	0.56	0.68	0.61	0.61
Avail Cap(c_a), veh/h	225	557	556	152	557	540	319	1009	1023	260	819	826
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	27.5	27.5	49.8	33.5	33.6	13.4	12.5	12.5	28.4	18.2	18.2
Incr Delay (d2), s/veh	7.8	8.3	8.4	11.2	3.0	3.2	0.7	0.7	0.7	6.9	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	13.8	13.8	4.1	10.8	10.7	1.9	11.1	11.2	7.3	12.2	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	35.9	35.9	61.1	36.5	36.8	14.1	13.2	13.2	35.3	19.5	19.5
LnGrp LOS	D	D	D	E	D	D	B	B	B	D	B	B
Approach Vol, veh/h	931			613			1243			1181		
Approach Delay, s/veh	36.8			39.7			13.3			21.9		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.3	47.0		33.7		56.3		33.7				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	5.0	* 42		* 28		* 51		* 28				
Max Q Clear Time (g_c+I1), s	4.7	42.5		30.2		20.2		26.4				
Green Ext Time (p_c), s	0.0	0.0		0.0		9.3		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			25.4									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	639	113	70	377	117	100	931	112	162	812	112
Future Volume (veh/h)	104	639	113	70	377	117	100	931	112	162	812	112
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	695	123	76	410	127	109	1012	122	176	883	122
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	225	946	167	152	840	257	313	1801	217	260	1446	200
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.31	0.31	0.31	0.10	0.10	0.10	0.05	0.56	0.56	0.46	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	43.6	35.9	35.9	61.1	36.5	36.8	14.1	13.2	13.2	35.3	19.5	19.5
Ln Grp LOS	D	D	D	E	D	D	B	B	B	D	B	B
Approach Vol, veh/h	931			613			1243			1181		
Approach Delay, s/veh	36.8			39.7			13.3			21.9		
Approach LOS	D			D			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4			6	8					
Case No	1.2	6.3	6.0			4.0	6.0					
Phs Duration (G+Y+Rc), s	9.3	47.0	33.7			56.3	33.7					
Change Period (Y+Rc), s	4.6	* 5.5	* 5.5			* 5.5	* 5.5					
Max Green (Gmax), s	5.0	* 42	* 28			* 51	* 28					
Max Allow Headway (MAH), s	3.8	5.7	5.5			5.3	5.3					
Max Q Clear (g_c+I1), s	4.7	42.5	30.2			20.2	26.4					
Green Ext Time (g_e), s	0.0	0.0	0.0			9.3	0.9					
Prob of Phs Call (p_c)	0.93	1.00	1.00			1.00	1.00					
Prob of Max Out (p_x)	1.00	1.00	0.00			0.11	0.00					
Left-Turn Movement Data												
Assigned Mvmt	1	5	7			3						
Mvmt Sat Flow, veh/h	1781	496	668			868						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3136		2678		3193		3018					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	433		821		385		534					
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)		L	L				L				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	109	176	0	76	0	0	0	113
Grp Sat Flow (s), veh/h/ln	1781	496	0	668	0	0	0	868
Q Serve Time (g_s), s	2.7	31.6	0.0	9.7	0.0	0.0	0.0	11.2
Cycle Q Clear Time (g_c), s	2.7	40.5	0.0	28.2	0.0	0.0	0.0	24.4
Perm LT Sat Flow (s_l), veh/h/ln	561	496	0	668	0	0	0	868
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	43.5	41.5	0.0	28.2	0.0	0.0	0.0	28.2
Perm LT Serve Time (g_u), s	22.5	32.6	0.0	9.7	0.0	0.0	0.0	15.1
Perm LT Q Serve Time (g_ps), s	5.1	31.6	0.0	9.7	0.0	0.0	0.0	11.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	313	260	0	152	0	0	0	225
V/C Ratio (X)	0.35	0.68	0.00	0.50	0.00	0.00	0.00	0.50
Avail Cap (c_a), veh/h	319	260	0	152	0	0	0	225
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	13.4	28.4	0.0	49.8	0.0	0.0	0.0	35.9
Incr Delay (d2), s/veh	0.7	6.9	0.0	11.2	0.0	0.0	0.0	7.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.1	35.3	0.0	61.1	0.0	0.0	0.0	43.6
1st-Term Q (Q1), veh/ln	1.0	3.6	0.0	1.8	0.0	0.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.1	0.5	0.0	0.5	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	1.9	7.3	0.0	4.1	0.0	0.0	0.0	5.1
%ile Storage Ratio (RQ%)	0.29	0.74	0.00	1.07	0.00	0.00	0.00	1.72
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	500	0	271	0	563	0	409
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	19.0	0.0	12.9	0.0	18.2	0.0	18.5
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	12.9	0.0	18.2	0.0	18.5
Lane Grp Cap (c), veh/h	0	819	0	557	0	1002	0	557
V/C Ratio (X)	0.00	0.61	0.00	0.49	0.00	0.56	0.00	0.73
Avail Cap (c_a), veh/h	0	819	0	557	0	1009	0	557
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	33.5	0.0	12.5	0.0	27.5
Incr Delay (d2), s/veh	0.0	1.3	0.0	3.0	0.0	0.7	0.0	8.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.5	0.0	36.5	0.0	13.2	0.0	35.9
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	6.1	0.0	6.6	0.0	7.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.2	0.0	1.3

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.59	0.00	1.64	0.00	1.63	0.00	1.55
%ile Back of Q (95%), veh/ln	0.0	12.2	0.0	10.8	0.0	11.1	0.0	13.8
%ile Storage Ratio (RQ%)	0.00	0.60	0.00	0.25	0.00	0.43	0.00	1.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	505	0	266	0	571	0	409
Grp Sat Flow (s), veh/h/ln	0	1792	0	1723	0	1801	0	1774
Q Serve Time (g_s), s	0.0	19.0	0.0	13.2	0.0	18.2	0.0	18.5
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	13.2	0.0	18.2	0.0	18.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.24	0.00	0.48	0.00	0.21	0.00	0.30
Lane Grp Cap (c), veh/h	0	826	0	540	0	1016	0	556
V/C Ratio (X)	0.00	0.61	0.00	0.49	0.00	0.56	0.00	0.73
Avail Cap (c_a), veh/h	0	826	0	540	0	1023	0	556
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	33.6	0.0	12.5	0.0	27.5
Incr Delay (d2), s/veh	0.0	1.3	0.0	3.2	0.0	0.7	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.5	0.0	36.8	0.0	13.2	0.0	35.9
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	6.0	0.0	6.7	0.0	7.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.2	0.0	1.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.59	0.00	1.64	0.00	1.62	0.00	1.55
%ile Back of Q (95%), veh/ln	0.0	12.3	0.0	10.7	0.0	11.2	0.0	13.8
%ile Storage Ratio (RQ%)	0.00	0.60	0.00	0.25	0.00	0.43	0.00	1.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/25/2023

Intersection

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	930	27	12	559	21	50
Future Vol, veh/h	930	27	12	559	21	50
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	1011	29	13	608	23	54

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1040
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	664
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	664
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	22.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	279	-	-	664	-
HCM Lane V/C Ratio	0.277	-	-	0.02	-
HCM Control Delay (s)	22.8	-	-	10.5	0.2
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	733	106	55	483	94	60	127	63	64	167	72
Future Volume (veh/h)	125	733	106	55	483	94	60	127	63	64	167	72
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	136	797	115	60	525	102	65	138	68	70	182	78
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	381	1520	219	271	1448	280	151	309	138	140	346	135
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	799	3117	450	612	2969	574	297	903	402	268	1011	396
Grp Volume(v), veh/h	136	454	458	60	313	314	271	0	0	330	0	0
Grp Sat Flow(s),veh/h/ln	799	1777	1789	612	1777	1767	1602	0	0	1675	0	0
Q Serve(g_s), s	11.5	15.8	15.8	6.7	9.9	10.0	0.0	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	21.5	15.8	15.8	22.6	9.9	10.0	11.3	0.0	0.0	13.6	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.33	0.24		0.25	0.21		0.24
Lane Grp Cap(c), veh/h	381	867	873	271	867	862	598	0	0	622	0	0
V/C Ratio(X)	0.36	0.52	0.52	0.22	0.36	0.36	0.45	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	381	867	873	271	867	862	598	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.0	15.9	15.9	23.6	14.3	14.4	23.0	0.0	0.0	23.9	0.0	0.0
Incr Delay (d2), s/veh	2.6	2.3	2.2	1.9	1.2	1.2	2.5	0.0	0.0	3.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	10.8	10.9	2.0	7.3	7.3	8.4	0.0	0.0	10.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	18.1	18.1	25.5	15.5	15.5	25.5	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		1048			687			271			330	
Approach Delay, s/veh		18.8			16.4			25.5			27.1	
Approach LOS		B			B			C			C	
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		* 9.1		6.2		* 9.1		6.2				
Max Green Setting (Gmax), s		* 44		30.8		* 44		30.8				
Max Q Clear Time (g_c+I1), s		24.6		15.6		23.5		13.3				
Green Ext Time (p_c), s		4.4		1.8		7.1		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				20.1								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

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07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	733	106	55	483	94	60	127	63	64	167	72
Future Volume (veh/h)	125	733	106	55	483	94	60	127	63	64	167	72
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	136	797	115	60	525	102	65	138	68	70	182	78
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	381	1520	219	271	1448	280	151	309	138	140	346	135
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.6	18.1	18.1	25.5	15.5	15.5	25.5	0.0	0.0	27.1	0.0	0.0
Ln Grp LOS	C	B	B	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h	1048			687			271			330		
Approach Delay, s/veh	18.8			16.4			25.5			27.1		
Approach LOS	B			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.4			5.4			5.3			5.5		
Max Q Clear (g_c+I1), s	24.6			15.6			23.5			13.3		
Green Ext Time (g_e), s	4.4			1.8			7.1			1.5		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.09			0.00			0.22			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	612			268			799			297		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2969			1011			3117			903		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	574			396			450			402		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	60	0	330	0	136	0	271
Grp Sat Flow (s), veh/h/ln	0	612	0	1675	0	799	0	1602
Q Serve Time (g_s), s	0.0	6.7	0.0	2.3	0.0	11.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.6	0.0	13.6	0.0	21.5	0.0	11.3
Perm LT Sat Flow (s_l), veh/h/ln	0	612	0	1195	0	799	0	1137
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1811	0	0	0	1564
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	28.1	0.0	19.5	0.0	33.9	0.0	17.2
Perm LT Q Serve Time (g_ps), s	0.0	6.7	0.0	2.3	0.0	11.5	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	7.1	0.0	0.0	0.0	6.2
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.1	0.0	0.0	0.0	6.2
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.24
Lane Grp Cap (c), veh/h	0	271	0	622	0	381	0	598
V/C Ratio (X)	0.00	0.22	0.00	0.53	0.00	0.36	0.00	0.45
Avail Cap (c_a), veh/h	0	271	0	622	0	381	0	598
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.6	0.0	23.9	0.0	21.0	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	3.2	0.0	2.6	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.5	0.0	27.1	0.0	23.6	0.0	25.5
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	5.5	0.0	2.1	0.0	4.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.6	0.0	0.3	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.67	0.00	1.80	0.00	1.75
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	10.1	0.0	4.2	0.0	8.4
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	1.24	0.00	0.72	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	313	0	0	0	454	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	9.9	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	0.0	0.0	15.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	0.00	0.52	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.3	0.0	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	2.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	0.0	0.0	18.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	6.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.64	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.3	0.0	0.0	0.0	10.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.00	0.00	0.56	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	314	0	0	0	458	0	0
Grp Sat Flow (s), veh/h/ln	0	1767	0	0	0	1789	0	0
Q Serve Time (g_s), s	0.0	10.0	0.0	0.0	0.0	15.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.0	0.0	0.0	0.0	15.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.33	0.00	0.24	0.00	0.25	0.00	0.25
Lane Grp Cap (c), veh/h	0	862	0	0	0	873	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	0.00	0.52	0.00	0.00
Avail Cap (c_a), veh/h	0	862	0	0	0	873	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.4	0.0	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	2.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	0.0	0.0	18.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	6.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.64	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.3	0.0	0.0	0.0	10.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.00	0.00	0.56	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/25/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	387	59	87	671	105	101	888	89	138	703	133
Future Volume (veh/h)	83	387	59	87	671	105	101	888	89	138	703	133
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	421	64	95	729	114	110	965	97	150	764	145
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	154	1056	159	295	1050	164	302	1192	120	307	1566	297
Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Sat Flow, veh/h	653	3096	468	911	3079	481	614	3261	328	1781	2980	565
Grp Volume(v), veh/h	90	240	245	95	421	422	110	526	536	150	456	453
Grp Sat Flow(s),veh/h/ln	653	1777	1786	911	1777	1784	614	1777	1811	1781	1777	1769
Q Serve(g_s), s	10.2	9.3	9.4	9.0	20.5	20.5	12.5	24.0	24.0	4.3	14.7	14.7
Cycle Q Clear(g_c), s	30.7	9.3	9.4	18.4	20.5	20.5	12.9	24.0	24.0	4.3	14.7	14.7
Prop In Lane	1.00		0.26	1.00		0.27	1.00		0.18	1.00		0.32
Lane Grp Cap(c), veh/h	154	606	609	295	606	608	302	650	662	307	934	929
V/C Ratio(X)	0.59	0.40	0.40	0.32	0.69	0.69	0.36	0.81	0.81	0.49	0.49	0.49
Avail Cap(c_a), veh/h	154	606	609	295	606	608	302	650	662	311	934	929
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	22.6	22.6	39.0	35.4	35.4	22.3	25.7	25.7	18.2	13.6	13.6
Incr Delay (d2), s/veh	5.6	0.4	0.4	0.6	3.4	3.4	3.4	10.5	10.3	1.2	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	6.9	7.0	4.0	15.5	15.6	3.7	17.2	17.4	3.1	10.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	23.0	23.1	39.6	38.8	38.8	25.7	36.2	36.0	19.4	15.4	15.5
LnGrp LOS	D	C	C	D	D	D	C	D	D	B	B	B
Approach Vol, veh/h	575			938			1172			1059		
Approach Delay, s/veh	26.7			38.9			35.1			16.0		
Approach LOS	C			D			D			B		
Timer - Assigned Phs	2			4		5	6	8				
Phs Duration (G+Y+Rc), s	53.0			37.0		14.4	38.6	37.0				
Change Period (Y+Rc), s	* 5.7			* 6.3		5.6	* 5.7	* 6.3				
Max Green Setting (Gmax), s	* 47			* 31		9.0	* 33	* 31				
Max Q Clear Time (g_c+I1), s	16.7			22.5		6.3	26.0	32.7				
Green Ext Time (p_c), s	6.8			3.7		0.1	4.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 29.4

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	387	59	87	671	105	101	888	89	138	703	133
Future Volume (veh/h)	83	387	59	87	671	105	101	888	89	138	703	133
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	421	64	95	729	114	110	965	97	150	764	145
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	154	1056	159	295	1050	164	302	1192	120	307	1566	297
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Unsig. Movement Delay												
Ln Grp Delay, s/veh	46.4	23.0	23.1	39.6	38.8	38.8	25.7	36.2	36.0	19.4	15.4	15.5
Ln Grp LOS	D	C	C	D	D	D	C	D	D	B	B	B
Approach Vol, veh/h	575			938			1172			1059		
Approach Delay, s/veh	26.7			38.9			35.1			16.0		
Approach LOS	C			D			D			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			5			6		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	53.0			37.0			14.4			38.6		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 5.7		
Max Green (Gmax), s	* 47			* 31			9.0			* 33		
Max Allow Headway (MAH), s	5.3			5.3			3.8			5.4		
Max Q Clear (g_c+I1), s	16.7			22.5			6.3			26.0		
Green Ext Time (g_e), s	6.8			3.7			0.1			4.0		
Prob of Phs Call (p_c)	1.00			1.00			0.98			1.00		
Prob of Max Out (p_x)	0.00			0.70			1.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				911			1781			614		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2980			3079			3261			3096		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	565			481			328			468		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	95	150	110	0	90
Grp Sat Flow (s), veh/h/ln	0	0	0	911	1781	614	0	653
Q Serve Time (g_s), s	0.0	0.0	0.0	9.0	4.3	12.5	0.0	10.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	18.4	4.3	12.9	0.0	30.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	911	531	614	0	653
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	30.7	34.9	32.9	0.0	30.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	21.3	8.9	32.6	0.0	10.2
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	9.0	8.9	12.5	0.0	10.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	295	307	302	0	154
V/C Ratio (X)	0.00	0.00	0.00	0.32	0.49	0.36	0.00	0.59
Avail Cap (c_a), veh/h	0	0	0	295	311	302	0	154
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	39.0	18.2	22.3	0.0	40.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	1.2	3.4	0.0	5.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	39.6	19.4	25.7	0.0	46.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.2	1.6	1.8	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.1	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.0	3.1	3.7	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.64	0.28	0.46	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	456	0	421	0	526	0	240
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	14.7	0.0	20.5	0.0	24.0	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	20.5	0.0	24.0	0.0	9.3
Lane Grp Cap (c), veh/h	0	934	0	606	0	650	0	606
V/C Ratio (X)	0.00	0.49	0.00	0.69	0.00	0.81	0.00	0.40
Avail Cap (c_a), veh/h	0	934	0	606	0	650	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	35.4	0.0	25.7	0.0	22.6
Incr Delay (d2), s/veh	0.0	1.8	0.0	3.4	0.0	10.5	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	38.8	0.0	36.2	0.0	23.0
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	9.7	0.0	9.7	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.6	0.0	1.9	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.67	0.00	1.51	0.00	1.48	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	10.0	0.0	15.5	0.0	17.2	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.76	0.00	0.33	0.00	0.52	0.00	0.41
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	453	0	422	0	536	0	245
Grp Sat Flow (s), veh/h/ln	0	1769	0	1784	0	1811	0	1786
Q Serve Time (g_s), s	0.0	14.7	0.0	20.5	0.0	24.0	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	20.5	0.0	24.0	0.0	9.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.32	0.00	0.27	0.00	0.18	0.00	0.26
Lane Grp Cap (c), veh/h	0	929	0	608	0	662	0	609
V/C Ratio (X)	0.00	0.49	0.00	0.69	0.00	0.81	0.00	0.40
Avail Cap (c_a), veh/h	0	929	0	608	0	662	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	35.4	0.0	25.7	0.0	22.6
Incr Delay (d2), s/veh	0.0	1.8	0.0	3.4	0.0	10.3	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	38.8	0.0	36.0	0.0	23.1
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	9.7	0.0	9.9	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.6	0.0	1.9	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.67	0.00	1.51	0.00	1.48	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.9	0.0	15.6	0.0	17.4	0.0	7.0
%ile Storage Ratio (RQ%)	0.00	0.76	0.00	0.33	0.00	0.53	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	675	852	23	28	59
Future Vol, veh/h	22	675	852	23	28	59
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	24	734	926	25	30	64

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	951	0	0 1354 476
Stage 1	-	-	- 939 -
Stage 2	-	-	- 415 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	718	-	- 141 535
Stage 1	-	-	- 341 -
Stage 2	-	-	- 635 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	718	-	- 133 535
Mov Cap-2 Maneuver	-	-	- 133 -
Stage 1	-	-	- 322 -
Stage 2	-	-	- 635 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	25.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	718	-	-	-	271
HCM Lane V/C Ratio	0.033	-	-	-	0.349
HCM Control Delay (s)	10.2	0.3	-	-	25.2
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.5

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	558	102	48	662	58	106	144	80	50	198	60
Future Volume (veh/h)	48	558	102	48	662	58	106	144	80	50	198	60
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	52	607	111	52	720	63	115	157	87	54	215	65
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	416	1796	328	444	1978	173	162	194	97	99	329	92
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	691	3001	548	734	3306	289	368	655	327	177	1111	311
Grp Volume(v), veh/h	52	359	359	52	387	396	359	0	0	334	0	0
Grp Sat Flow(s),veh/h/ln	691	1777	1772	734	1777	1818	1350	0	0	1600	0	0
Q Serve(g_s), s	3.8	9.1	9.2	3.5	10.1	10.1	7.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.8	9.1	9.2	12.6	10.1	10.1	23.4	0.0	0.0	16.2	0.0	0.0
Prop In Lane	1.00		0.31	1.00		0.16	0.32		0.24	0.16		0.19
Lane Grp Cap(c), veh/h	416	1063	1060	444	1063	1088	452	0	0	520	0	0
V/C Ratio(X)	0.13	0.34	0.34	0.12	0.36	0.36	0.79	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	416	1063	1060	444	1063	1088	542	0	0	620	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.8	9.1	9.1	12.3	9.3	9.3	30.5	0.0	0.0	27.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.9	0.9	0.5	1.0	0.9	6.7	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	6.3	6.3	1.1	6.9	7.0	12.8	0.0	0.0	10.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.4	10.0	10.0	12.8	10.2	10.2	37.2	0.0	0.0	29.4	0.0	0.0
LnGrp LOS	B	A	A	B	B	B	D	A	A	C	A	A
Approach Vol, veh/h	770			835			359			334		
Approach Delay, s/veh	10.2			10.4			37.2			29.4		
Approach LOS	B			B			D			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	58.5			31.5			58.5			31.5		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green Setting (Gmax), s	48.4			* 32			48.4			* 32		
Max Q Clear Time (g_c+I1), s	14.6			18.2			15.8			25.4		
Green Ext Time (p_c), s	6.2			1.7			5.6			1.3		
Intersection Summary												
HCM 6th Ctrl Delay			17.3									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/25/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	558	102	48	662	58	106	144	80	50	198	60
Future Volume (veh/h)	48	558	102	48	662	58	106	144	80	50	198	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	607	111	52	720	63	115	157	87	54	215	65
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	416	1796	328	444	1978	173	162	194	97	99	329	92
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
Prop Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.30	0.30	0.30	0.30	0.30	0.30
Unsig. Movement Delay												
Ln Grp Delay, s/veh	13.4	10.0	10.0	12.8	10.2	10.2	37.2	0.0	0.0	29.4	0.0	0.0
Ln Grp LOS	B	A	A	B	B	B	D	A	A	C	A	A
Approach Vol, veh/h	770			835			359			334		
Approach Delay, s/veh	10.2			10.4			37.2			29.4		
Approach LOS	B			B			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	58.5			31.5			58.5			31.5		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	48.4			* 32			48.4			* 32		
Max Allow Headway (MAH), s	5.3			5.4			5.4			5.6		
Max Q Clear (g_c+I1), s	14.6			18.2			15.8			25.4		
Green Ext Time (g_e), s	6.2			1.7			5.6			1.3		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			0.06			0.00			0.70		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	734			177			691			368		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3306			1111			3001			655		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	289			311			548			327		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/25/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	52	0	334	0	52	0	359
Grp Sat Flow (s), veh/h/ln	0	734	0	1600	0	691	0	1350
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	3.8	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	12.6	0.0	16.2	0.0	13.8	0.0	23.4
Perm LT Sat Flow (s_l), veh/h/ln	0	734	0	1154	0	691	0	1117
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1494	0	0	0	1151
Perm LT Eff Green (g_p), s	0.0	53.9	0.0	26.6	0.0	53.9	0.0	26.6
Perm LT Serve Time (g_u), s	0.0	44.7	0.0	3.3	0.0	43.8	0.0	10.4
Perm LT Q Serve Time (g_ps), s	0.0	3.5	0.0	0.0	0.0	3.8	0.0	7.1
Time to First Blk (g_f), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	3.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	3.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	0.32
Lane Grp Cap (c), veh/h	0	444	0	520	0	416	0	452
V/C Ratio (X)	0.00	0.12	0.00	0.64	0.00	0.13	0.00	0.79
Avail Cap (c_a), veh/h	0	444	0	620	0	416	0	542
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.3	0.0	27.7	0.0	12.8	0.0	30.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.7	0.0	0.6	0.0	6.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.8	0.0	29.4	0.0	13.4	0.0	37.2
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	6.1	0.0	0.6	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.65	0.00	1.80	0.00	1.58
%ile Back of Q (95%), veh/ln	0.0	1.1	0.0	10.5	0.0	1.1	0.0	12.8
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.83	0.00	0.05	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	387	0	0	0	359	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	10.1	0.0	0.0	0.0	9.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	0.0	0.0	9.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	1063	0	0	0	1063	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	0.00	0.34	0.00	0.00
Avail Cap (c_a), veh/h	0	1063	0	0	0	1063	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.3	0.0	0.0	0.0	9.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	0.9	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
Control Delay (d), s/veh	0.0	10.2	0.0	0.0	0.0	10.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	0.0	0.0	3.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/25/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.9	0.0	0.0	0.0	6.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.28	0.00	0.00	0.00	0.29	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	396	0	0	0	359	0	0
Grp Sat Flow (s), veh/h/ln	0	1818	0	0	0	1772	0	0
Q Serve Time (g_s), s	0.0	10.1	0.0	0.0	0.0	9.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	0.0	0.0	9.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	0.19	0.00	0.31	0.00	0.24
Lane Grp Cap (c), veh/h	0	1088	0	0	0	1060	0	0
V/C Ratio (X)	0.00	0.36	0.00	0.00	0.00	0.34	0.00	0.00
Avail Cap (c_a), veh/h	0	1088	0	0	0	1060	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.3	0.0	0.0	0.0	9.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.9	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
Control Delay (d), s/veh	0.0	10.2	0.0	0.0	0.0	10.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.0	0.0	3.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.0	0.0	0.0	0.0	6.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.29	0.00	0.00	0.00	0.29	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/25/2023

Intersection

Intersection Delay, s/veh36.8

Intersection LOS E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	250	451	41	318	426
Future Vol, veh/h	24	250	451	41	318	426
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	26	272	490	45	346	463
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	16.4	58.5	29.9
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	92%
Vol Thru, %	0%	0%	9%	8%
Vol Right, %	0%	100%	91%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	318	426	274	492
LT Vol	318	0	0	451
Through Vol	0	0	24	41
RT Vol	0	426	250	0
Lane Flow Rate	346	463	298	535
Geometry Grp	7	7	2	2
Degree of Util (X)	0.726	0.814	0.527	0.976
Departure Headway (Hd)	7.557	6.33	6.367	6.569
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	477	570	563	551
Service Time	5.344	4.116	4.452	4.637
HCM Lane V/C Ratio	0.725	0.812	0.529	0.971
HCM Control Delay	28.1	31.3	16.4	58.5
HCM Lane LOS	D	D	C	F
HCM 95th-tile Q	5.8	8.1	3.1	13.3

HCM 6th TWSC
138: Porter Street & I-10 EB Off-Ramp

07/25/2023

Intersection						
Int Delay, s/veh	22.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	250	148	30	560	170	65
Future Vol, veh/h	250	148	30	560	170	65
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	185
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	272	161	33	609	185	71
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	642	0	-	0	1043	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	705	-
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	943	-	-	-	254	704
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	~ 173	704
Mov Cap-2 Maneuver	-	-	-	-	~ 173	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	490	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.5	0		105.9		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	943	-	-	-	173	704
HCM Lane V/C Ratio	0.288	-	-	-	1.068	0.1
HCM Control Delay (s)	10.4	0	-	-	142.3	10.7
HCM Lane LOS	B	A	-	-	F	B
HCM 95th %tile Q(veh)	1.2	-	-	-	9.1	0.3
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	127	0	61	10	166	0	0	438	10
Future Vol, veh/h	10	0	10	127	0	61	10	166	0	0	438	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	138	0	66	11	180	0	0	476	11
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	717	684	482	689	689	180	487	0	-	-	-	0
Stage 1	482	482	-	202	202	-	-	-	-	-	-	-
Stage 2	235	202	-	487	487	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	345	371	584	360	369	863	1076	-	0	0	-	-
Stage 1	565	553	-	800	734	-	-	-	0	0	-	-
Stage 2	768	734	-	562	550	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	316	367	584	350	365	863	1076	-	-	-	-	-
Mov Cap-2 Maneuver	316	367	-	350	365	-	-	-	-	-	-	-
Stage 1	559	553	-	791	726	-	-	-	-	-	-	-
Stage 2	701	726	-	552	550	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14.3		20.5		0.5		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL		NBT EBLn1WBLn1		SBT		SBR					
Capacity (veh/h)	1076		-		410		434		-		-	
HCM Lane V/C Ratio	0.01		-		0.053		0.471		-		-	
HCM Control Delay (s)	8.4		0		14.3		20.5		-		-	
HCM Lane LOS	A		A		B		C		-		-	
HCM 95th %tile Q(veh)	0		-		0.2		2.5		-		-	

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	152	77	166	626	144	80	619	212	106	738	88
Future Volume (veh/h)	42	152	77	166	626	144	80	619	212	106	738	88
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	46	165	84	180	680	157	87	673	230	115	802	96
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	256	1056	513	534	1306	301	232	1143	390	219	1119	134
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.05	0.44	0.44	0.35	0.35	0.35
Sat Flow, veh/h	657	2318	1126	1131	2867	661	1781	2599	888	617	3196	382
Grp Volume(v), veh/h	46	125	124	180	421	416	87	460	443	115	446	452
Grp Sat Flow(s),veh/h/ln	657	1777	1668	1131	1777	1751	1781	1777	1711	617	1777	1802
Q Serve(g_s), s	5.6	4.3	4.6	11.7	17.8	17.8	3.2	20.6	20.6	18.2	22.9	22.9
Cycle Q Clear(g_c), s	23.4	4.3	4.6	16.3	17.8	17.8	3.2	20.6	20.6	29.4	22.9	22.9
Prop In Lane	1.00		0.68	1.00		0.38	1.00		0.52	1.00		0.21
Lane Grp Cap(c), veh/h	256	810	760	534	810	798	232	781	752	219	622	631
V/C Ratio(X)	0.18	0.15	0.16	0.34	0.52	0.52	0.38	0.59	0.59	0.53	0.72	0.72
Avail Cap(c_a), veh/h	256	810	760	534	810	798	276	939	904	258	736	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	16.7	16.8	21.6	20.4	20.4	22.3	22.2	22.2	36.9	29.6	29.6
Incr Delay (d2), s/veh	1.5	0.4	0.5	1.7	2.4	2.4	1.0	0.7	0.7	1.9	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	3.3	3.3	6.0	12.3	12.1	2.4	13.3	12.9	5.1	15.2	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	17.1	17.3	23.3	22.8	22.8	23.3	23.0	23.0	38.8	32.3	32.3
LnGrp LOS	C	B	B	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h	295			1017			990			1013		
Approach Delay, s/veh	19.2			22.9			23.0			33.0		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.4	42.3		53.3		51.7		53.3				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	7.4	* 44		* 39		* 56		* 39				
Max Q Clear Time (g_c+I1), s	5.2	31.4		19.8		22.6		25.4				
Green Ext Time (p_c), s	0.0	5.4		6.1		7.0		1.5				

Intersection Summary

HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	152	77	166	626	144	80	619	212	106	738	88
Future Volume (veh/h)	42	152	77	166	626	144	80	619	212	106	738	88
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	165	84	180	680	157	87	673	230	115	802	96
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	256	1056	513	534	1306	301	232	1143	390	219	1119	134
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
Prop Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.05	0.44	0.44	0.35	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.3	17.1	17.3	23.3	22.8	22.8	23.3	23.0	23.0	38.8	32.3	32.3
Ln Grp LOS	C	B	B	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h	295			1017			990			1013		
Approach Delay, s/veh	19.2			22.9			23.0			33.0		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Case No	1.2	6.3		6.0		4.0		6.0				
Phs Duration (G+Y+Rc), s	9.4	42.3		53.3		51.7		53.3				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green (Gmax), s	7.4	* 44		* 39		* 56		* 39				
Max Allow Headway (MAH), s	3.8	5.5		5.2		5.3		5.6				
Max Q Clear (g_c+I1), s	5.2	31.4		19.8		22.6		25.4				
Green Ext Time (g_e), s	0.0	5.4		6.1		7.0		1.5				
Prob of Phs Call (p_c)	0.92	1.00		1.00		1.00		1.00				
Prob of Max Out (p_x)	1.00	0.52		0.00		0.03		0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	5		7				3				
Mvmt Sat Flow, veh/h	1781	617		1131				657				
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3196		2867		2599		2318				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		382		661		888		1126				
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)	L		L				L				

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	87	115	0	180	0	0	0	46
Grp Sat Flow (s), veh/h/ln	1781	617	0	1131	0	0	0	657
Q Serve Time (g_s), s	3.2	18.2	0.0	11.7	0.0	0.0	0.0	5.6
Cycle Q Clear Time (g_c), s	3.2	29.4	0.0	16.3	0.0	0.0	0.0	23.4
Perm LT Sat Flow (s_l), veh/h/ln	620	617	0	1131	0	0	0	657
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	38.8	36.8	0.0	47.8	0.0	0.0	0.0	47.8
Perm LT Serve Time (g_u), s	13.9	25.6	0.0	43.2	0.0	0.0	0.0	30.0
Perm LT Q Serve Time (g_ps), s	4.1	18.2	0.0	11.7	0.0	0.0	0.0	5.6
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	232	219	0	534	0	0	0	256
V/C Ratio (X)	0.38	0.53	0.00	0.34	0.00	0.00	0.00	0.18
Avail Cap (c_a), veh/h	276	258	0	534	0	0	0	256
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	22.3	36.9	0.0	21.6	0.0	0.0	0.0	28.8
Incr Delay (d2), s/veh	1.0	1.9	0.0	1.7	0.0	0.0	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.3	38.8	0.0	23.3	0.0	0.0	0.0	30.3
1st-Term Q (Q1), veh/ln	1.3	2.7	0.0	3.1	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.80	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.4	5.1	0.0	6.0	0.0	0.0	0.0	1.8
%ile Storage Ratio (RQ%)	0.37	0.51	0.00	1.54	0.00	0.00	0.00	0.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	446	0	421	0	460	0	125
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	22.9	0.0	17.8	0.0	20.6	0.0	4.3
Cycle Q Clear Time (g_c), s	0.0	22.9	0.0	17.8	0.0	20.6	0.0	4.3
Lane Grp Cap (c), veh/h	0	622	0	810	0	781	0	810
V/C Ratio (X)	0.00	0.72	0.00	0.52	0.00	0.59	0.00	0.15
Avail Cap (c_a), veh/h	0	736	0	810	0	939	0	810
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	20.4	0.0	22.2	0.0	16.7
Incr Delay (d2), s/veh	0.0	2.7	0.0	2.4	0.0	0.7	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.3	0.0	22.8	0.0	23.0	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	9.6	0.0	7.2	0.0	8.4	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.5	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.52	0.00	1.59	0.00	1.56	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	15.2	0.0	12.3	0.0	13.3	0.0	3.3
%ile Storage Ratio (RQ%)	0.00	0.74	0.00	1.31	0.00	0.51	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	452	0	416	0	443	0	124
Grp Sat Flow (s), veh/h/ln	0	1802	0	1751	0	1711	0	1668
Q Serve Time (g_s), s	0.0	22.9	0.0	17.8	0.0	20.6	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	22.9	0.0	17.8	0.0	20.6	0.0	4.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.21	0.00	0.38	0.00	0.52	0.00	0.68
Lane Grp Cap (c), veh/h	0	631	0	798	0	752	0	760
V/C Ratio (X)	0.00	0.72	0.00	0.52	0.00	0.59	0.00	0.16
Avail Cap (c_a), veh/h	0	746	0	798	0	904	0	760
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	20.4	0.0	22.2	0.0	16.8
Incr Delay (d2), s/veh	0.0	2.7	0.0	2.4	0.0	0.7	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.3	0.0	22.8	0.0	23.0	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	9.7	0.0	7.1	0.0	8.0	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.5	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.51	0.00	1.59	0.00	1.57	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	15.4	0.0	12.1	0.0	12.9	0.0	3.3
%ile Storage Ratio (RQ%)	0.00	0.75	0.00	1.30	0.00	0.50	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/26/2023

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	266	64	32	952	28	17
Future Vol, veh/h	266	64	32	952	28	17
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	289	70	35	1035	30	18

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	359
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1196
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1196
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	1196	-
HCM Lane V/C Ratio	0.142	-	-	0.029	-
HCM Control Delay (s)	17.2	-	-	8.1	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	172	65	109	893	136	61	97	6	12	106	66
Future Volume (veh/h)	43	172	65	109	893	136	61	97	6	12	106	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	187	71	118	971	148	66	105	7	13	115	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	1242	455	580	1508	230	232	350	22	58	365	214
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	503	2545	934	1121	3092	471	519	1022	63	46	1066	625
Grp Volume(v), veh/h	47	129	129	118	558	561	178	0	0	200	0	0
Grp Sat Flow(s),veh/h/ln	503	1777	1702	1121	1777	1786	1604	0	0	1737	0	0
Q Serve(g_s), s	6.9	3.6	3.8	5.9	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	28.1	3.6	3.8	9.7	21.1	21.1	6.4	0.0	0.0	7.6	0.0	0.0
Prop In Lane	1.00		0.55	1.00		0.26	0.37		0.04	0.06		0.36
Lane Grp Cap(c), veh/h	207	867	830	580	867	871	604	0	0	637	0	0
V/C Ratio(X)	0.23	0.15	0.16	0.20	0.64	0.64	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	207	867	830	580	867	871	604	0	0	637	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.7	12.7	12.8	15.5	17.2	17.2	21.6	0.0	0.0	22.0	0.0	0.0
Incr Delay (d2), s/veh	2.5	0.4	0.4	0.8	3.7	3.7	1.2	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	2.6	2.7	2.8	13.8	13.9	5.2	0.0	0.0	5.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	13.1	13.2	16.2	20.9	20.9	22.8	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	C	B	B	B	C	C	C	A	A	C	A	A
Approach Vol, veh/h	305					1237		178		200		
Approach Delay, s/veh	15.8					20.4		22.8		23.3		
Approach LOS	B					C		C		C		
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	* 9.1		6.2		* 9.1		6.2					
Max Green Setting (Gmax), s	* 44		30.8		* 44		30.8					
Max Q Clear Time (g_c+I1), s	23.1		9.6		30.1		8.4					
Green Ext Time (p_c), s	8.4		1.1		1.7		1.0					
Intersection Summary												
HCM 6th Ctrl Delay			20.2									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	172	65	109	893	136	61	97	6	12	106	66
Future Volume (veh/h)	43	172	65	109	893	136	61	97	6	12	106	66
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	187	71	118	971	148	66	105	7	13	115	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	207	1242	455	580	1508	230	232	350	22	58	365	214
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.2	13.1	13.2	16.2	20.9	20.9	22.8	0.0	0.0	23.3	0.0	0.0
Ln Grp LOS	C	B	B	B	C	C	C	A	A	C	A	A
Approach Vol, veh/h	305			1237			178			200		
Approach Delay, s/veh	15.8			20.4			22.8			23.3		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.2			5.4			5.8			5.4		
Max Q Clear (g_c+I1), s	23.1			9.6			30.1			8.4		
Green Ext Time (g_e), s	8.4			1.1			1.7			1.0		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.30			0.00			0.07			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1121			46			503			519		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3092			1066			2545			1022		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	471			625			934			63		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	118	0	200	0	47	0	178
Grp Sat Flow (s), veh/h/ln	0	1121	0	1737	0	503	0	1604
Q Serve Time (g_s), s	0.0	5.9	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.7	0.0	7.6	0.0	28.1	0.0	6.4
Perm LT Sat Flow (s_l), veh/h/ln	0	1121	0	1301	0	503	0	1215
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1864	0	0	0	1763
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	40.1	0.0	24.4	0.0	22.8	0.0	23.2
Perm LT Q Serve Time (g_ps), s	0.0	5.9	0.0	0.0	0.0	6.9	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	18.2	0.0	0.0	0.0	3.4
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.6	0.0	0.0	0.0	3.4
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.06	0.00	1.00	0.00	0.37
Lane Grp Cap (c), veh/h	0	580	0	637	0	207	0	604
V/C Ratio (X)	0.00	0.20	0.00	0.31	0.00	0.23	0.00	0.29
Avail Cap (c_a), veh/h	0	580	0	637	0	207	0	604
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.5	0.0	22.0	0.0	27.7	0.0	21.6
Incr Delay (d2), s/veh	0.0	0.8	0.0	1.3	0.0	2.5	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.2	0.0	23.3	0.0	30.2	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	3.1	0.0	0.8	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.8	0.0	5.9	0.0	1.7	0.0	5.2
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.73	0.00	0.29	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	558	0	0	0	129	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	21.1	0.0	0.0	0.0	3.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.1	0.0	0.0	0.0	3.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.64	0.00	0.00	0.00	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	0.0	0.0	12.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.7	0.0	0.0	0.0	0.4	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
Control Delay (d), s/veh	0.0	20.9	0.0	0.0	0.0	13.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.0	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.55	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.8	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.38	0.00	0.00	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	561	0	0	0	129	0	0
Grp Sat Flow (s), veh/h/ln	0	1786	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	21.1	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.1	0.0	0.0	0.0	3.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.26	0.00	0.36	0.00	0.55	0.00	0.04
Lane Grp Cap (c), veh/h	0	871	0	0	0	830	0	0
V/C Ratio (X)	0.00	0.64	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	871	0	0	0	830	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.7	0.0	0.0	0.0	0.4	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
Control Delay (d), s/veh	0.0	20.9	0.0	0.0	0.0	13.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.0	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.55	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	13.9	0.0	0.0	0.0	2.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.39	0.00	0.00	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/26/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	178	102	115	934	197	83	626	50	59	760	233
Future Volume (veh/h)	52	178	102	115	934	197	83	626	50	59	760	233
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	57	193	111	125	1015	214	90	680	54	64	826	253
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	119	828	455	415	1094	230	219	1168	93	355	1319	404
Arrive On Green	0.37	0.37	0.37	0.75	0.75	0.75	0.35	0.35	0.35	0.08	0.49	0.49
Sat Flow, veh/h	453	2212	1216	1075	2922	615	523	3335	265	1781	2679	820
Grp Volume(v), veh/h	57	153	151	125	616	613	90	362	372	64	548	531
Grp Sat Flow(s),veh/h/ln	453	1777	1651	1075	1777	1760	523	1777	1823	1781	1777	1723
Q Serve(g_s), s	7.8	5.3	5.7	5.1	25.6	25.9	13.7	15.0	15.0	1.8	20.4	20.4
Cycle Q Clear(g_c), s	33.7	5.3	5.7	10.8	25.6	25.9	21.3	15.0	15.0	1.8	20.4	20.4
Prop In Lane	1.00		0.74	1.00		0.35	1.00		0.15	1.00		0.48
Lane Grp Cap(c), veh/h	119	665	618	415	665	659	219	622	638	355	875	848
V/C Ratio(X)	0.48	0.23	0.24	0.30	0.93	0.93	0.41	0.58	0.58	0.18	0.63	0.63
Avail Cap(c_a), veh/h	119	665	618	415	665	659	219	622	638	391	875	848
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	19.3	19.4	9.8	10.3	10.3	29.3	23.9	23.9	15.8	16.8	16.8
Incr Delay (d2), s/veh	3.0	0.2	0.2	0.4	19.1	19.8	5.6	3.9	3.9	0.2	3.4	3.5
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	2.4	3.9	3.9	1.4	11.6	11.7	3.6	11.0	11.2	1.3	13.4	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	19.4	19.6	10.2	29.3	30.1	34.9	27.8	27.7	16.0	20.1	20.3
LnGrp LOS	D	B	B	B	C	C	C	C	C	B	C	C
Approach Vol, veh/h	361		1354			824			1143			
Approach Delay, s/veh	23.6		27.9			28.6			20.0			
Approach LOS	C		C			C			B			
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	50.0		40.0		12.8	37.2	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	22.4		27.9		3.8	23.3	35.7					
Green Ext Time (p_c), s	7.8		3.9		0.0	2.9	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			25.2									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	178	102	115	934	197	83	626	50	59	760	233
Future Volume (veh/h)	52	178	102	115	934	197	83	626	50	59	760	233
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	193	111	125	1015	214	90	680	54	64	826	253
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	119	828	455	415	1094	230	219	1168	93	355	1319	404
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
Prop Arrive On Green	0.37	0.37	0.37	0.75	0.75	0.75	0.35	0.35	0.35	0.08	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	45.3	19.4	19.6	10.2	29.3	30.1	34.9	27.8	27.7	16.0	20.1	20.3
Ln Grp LOS	D	B	B	B	C	C	C	C	C	B	C	C
Approach Vol, veh/h	361			1354			824			1143		
Approach Delay, s/veh	23.6			27.9			28.6			20.0		
Approach LOS	C			C			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	50.0			40.0			12.8			37.2		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 5.7		
Max Green (Gmax), s	* 44			* 34			9.0			* 30		
Max Allow Headway (MAH), s	5.3			5.2			3.8			5.6		
Max Q Clear (g_c+I1), s	22.4			27.9			3.8			23.3		
Green Ext Time (g_e), s	7.8			3.9			0.0			2.9		
Prob of Phs Call (p_c)	1.00			1.00			0.80			1.00		
Prob of Max Out (p_x)	0.00			0.97			0.19			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				1075			1781			523		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2679			2922			3335			2212		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	820			615			265			1216		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	125	64	90	0	57
Grp Sat Flow (s), veh/h/ln	0	0	0	1075	1781	523	0	453
Q Serve Time (g_s), s	0.0	0.0	0.0	5.1	1.8	13.7	0.0	7.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.8	1.8	21.3	0.0	33.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1075	723	523	0	453
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	33.7	33.5	31.5	0.0	33.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	28.0	16.5	23.9	0.0	7.8
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	5.1	1.7	13.7	0.0	7.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	415	355	219	0	119
V/C Ratio (X)	0.00	0.00	0.00	0.30	0.18	0.41	0.00	0.48
Avail Cap (c_a), veh/h	0	0	0	415	391	219	0	119
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	9.8	15.8	29.3	0.0	42.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.2	5.6	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	10.2	16.0	34.9	0.0	45.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.7	1.7	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	1.4	1.3	3.6	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.23	0.12	0.46	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	548	0	616	0	362	0	153
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	20.4	0.0	25.6	0.0	15.0	0.0	5.3
Cycle Q Clear Time (g_c), s	0.0	20.4	0.0	25.6	0.0	15.0	0.0	5.3
Lane Grp Cap (c), veh/h	0	875	0	665	0	622	0	665
V/C Ratio (X)	0.00	0.63	0.00	0.93	0.00	0.58	0.00	0.23
Avail Cap (c_a), veh/h	0	875	0	665	0	622	0	665
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	10.3	0.0	23.9	0.0	19.3
Incr Delay (d2), s/veh	0.0	3.4	0.0	19.1	0.0	3.9	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.1	0.0	29.3	0.0	27.8	0.0	19.4
1st-Term Q (Q1), veh/ln	0.0	7.8	0.0	3.7	0.0	6.1	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	3.5	0.0	0.7	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.56	0.00	1.61	0.00	1.63	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	13.4	0.0	11.6	0.0	11.0	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	1.02	0.00	0.24	0.00	0.33	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	531	0	613	0	372	0	151
Grp Sat Flow (s), veh/h/ln	0	1723	0	1760	0	1823	0	1651
Q Serve Time (g_s), s	0.0	20.4	0.0	25.9	0.0	15.0	0.0	5.7
Cycle Q Clear Time (g_c), s	0.0	20.4	0.0	25.9	0.0	15.0	0.0	5.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.48	0.00	0.35	0.00	0.15	0.00	0.74
Lane Grp Cap (c), veh/h	0	848	0	659	0	638	0	618
V/C Ratio (X)	0.00	0.63	0.00	0.93	0.00	0.58	0.00	0.24
Avail Cap (c_a), veh/h	0	848	0	659	0	638	0	618
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	10.3	0.0	23.9	0.0	19.4
Incr Delay (d2), s/veh	0.0	3.5	0.0	19.8	0.0	3.9	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.3	0.0	30.1	0.0	27.7	0.0	19.6
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	3.6	0.0	6.2	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	3.6	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.57	0.00	1.61	0.00	1.62	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	13.1	0.0	11.7	0.0	11.2	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	1.00	0.00	0.25	0.00	0.34	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	14	226	1236	60	30	58
Future Vol, veh/h	14	226	1236	60	30	58
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	15	246	1343	65	33	63

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1408	0	0 1529 704
Stage 1	-	-	- 1376 -
Stage 2	-	-	- 153 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	481	-	- 108 379
Stage 1	-	-	- 200 -
Stage 2	-	-	- 859 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	481	-	- 104 379
Mov Cap-2 Maneuver	-	-	- 104 -
Stage 1	-	-	- 193 -
Stage 2	-	-	- 859 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	38.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	481	-	-	-	199
HCM Lane V/C Ratio	0.032	-	-	-	0.481
HCM Control Delay (s)	12.7	0.2	-	-	38.8
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	189	40	145	1106	69	152	91	25	34	180	55
Future Volume (veh/h)	24	189	40	145	1106	69	152	91	25	34	180	55
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	26	205	43	158	1202	75	165	99	27	37	196	60
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	253	1795	369	739	2078	130	238	126	31	84	354	101
Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	433	2935	604	1132	3397	212	621	446	109	138	1253	358
Grp Volume(v), veh/h	26	122	126	158	628	649	291	0	0	293	0	0
Grp Sat Flow(s),veh/h/ln	433	1777	1762	1132	1777	1832	1176	0	0	1750	0	0
Q Serve(g_s), s	3.5	2.6	2.7	6.1	19.1	19.2	9.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.6	2.6	2.7	8.8	19.1	19.2	21.9	0.0	0.0	12.7	0.0	0.0
Prop In Lane	1.00		0.34	1.00		0.12	0.57		0.09	0.13		0.20
Lane Grp Cap(c), veh/h	253	1087	1078	739	1087	1121	395	0	0	540	0	0
V/C Ratio(X)	0.10	0.11	0.12	0.21	0.58	0.58	0.74	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	253	1087	1078	739	1087	1121	569	0	0	761	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	7.3	7.3	9.1	10.5	10.5	31.5	0.0	0.0	27.7	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.2	0.2	0.7	2.2	2.2	2.9	0.0	0.0	0.9	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	0.7	1.7	1.8	2.7	11.7	12.0	10.3	0.0	0.0	9.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	7.5	7.5	9.8	12.7	12.7	34.4	0.0	0.0	28.5	0.0	0.0
LnGrp LOS	B	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h	274		1435				291		293			
Approach Delay, s/veh	8.5		12.4				34.4		28.5			
Approach LOS	A		B				C		C			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	59.7		30.3		59.7		30.3					
Change Period (Y+Rc), s	4.6		* 4.9		4.6		* 4.9					
Max Green Setting (Gmax), s	43.4		* 37		43.4		* 37					
Max Q Clear Time (g_c+I1), s	21.2		14.7		24.6		23.9					
Green Ext Time (p_c), s	10.3		1.8		1.7		1.5					
Intersection Summary												
HCM 6th Ctrl Delay			16.8									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	189	40	145	1106	69	152	91	25	34	180	55
Future Volume (veh/h)	24	189	40	145	1106	69	152	91	25	34	180	55
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	205	43	158	1202	75	165	99	27	37	196	60
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	253	1795	369	739	2078	130	238	126	31	84	354	101
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
Prop Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.28	0.28	0.28	0.28	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.1	7.5	7.5	9.8	12.7	12.7	34.4	0.0	0.0	28.5	0.0	0.0
Ln Grp LOS	B	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h	274			1435			291			293		
Approach Delay, s/veh	8.5			12.4			34.4			28.5		
Approach LOS	A			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	59.7			30.3			59.7			30.3		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	43.4			* 37			43.4			* 37		
Max Allow Headway (MAH), s	5.2			5.3			5.7			5.6		
Max Q Clear (g_c+I1), s	21.2			14.7			24.6			23.9		
Green Ext Time (g_e), s	10.3			1.8			1.7			1.5		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			0.00			0.00			0.07		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	1132			138			433			621		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3397			1253			2935			446		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	212			358			604			109		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	158	0	293	0	26	0	291
Grp Sat Flow (s), veh/h/ln	0	1132	0	1750	0	433	0	1176
Q Serve Time (g_s), s	0.0	6.1	0.0	0.0	0.0	3.5	0.0	9.2
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	12.7	0.0	22.6	0.0	21.9
Perm LT Sat Flow (s_l), veh/h/ln	0	1132	0	1285	0	433	0	1141
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1724	0	0	0	929
Perm LT Eff Green (g_p), s	0.0	55.1	0.0	25.4	0.0	55.1	0.0	25.4
Perm LT Serve Time (g_u), s	0.0	52.4	0.0	3.5	0.0	35.9	0.0	12.7
Perm LT Q Serve Time (g_ps), s	0.0	6.1	0.0	0.0	0.0	3.5	0.0	9.2
Time to First Blk (g_f), s	0.0	0.0	0.0	9.2	0.0	0.0	0.0	1.1
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	9.2	0.0	0.0	0.0	1.1
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.13	0.00	1.00	0.00	0.57
Lane Grp Cap (c), veh/h	0	739	0	540	0	253	0	395
V/C Ratio (X)	0.00	0.21	0.00	0.54	0.00	0.10	0.00	0.74
Avail Cap (c_a), veh/h	0	739	0	761	0	253	0	569
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.1	0.0	27.7	0.0	17.3	0.0	31.5
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.9	0.0	0.8	0.0	2.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.8	0.0	28.5	0.0	18.1	0.0	34.4
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	5.3	0.0	0.3	0.0	5.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.71	0.00	1.80	0.00	1.66
%ile Back of Q (95%), veh/ln	0.0	2.7	0.0	9.2	0.0	0.7	0.0	10.3
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.73	0.00	0.03	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	628	0	0	0	122	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	19.1	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.1	0.0	0.0	0.0	2.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	1087	0	0	0	1087	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.00	0.00	0.11	0.00	0.00
Avail Cap (c_a), veh/h	0	1087	0	0	0	1087	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.5	0.0	0.0	0.0	7.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.7	0.0	0.0	0.0	7.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.6	0.0	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.61	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	11.7	0.0	0.0	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.49	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	649	0	0	0	126	0	0
Grp Sat Flow (s), veh/h/ln	0	1832	0	0	0	1762	0	0
Q Serve Time (g_s), s	0.0	19.2	0.0	0.0	0.0	2.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	19.2	0.0	0.0	0.0	2.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.12	0.00	0.20	0.00	0.34	0.00	0.09
Lane Grp Cap (c), veh/h	0	1121	0	0	0	1078	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.00	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	1121	0	0	0	1078	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.5	0.0	0.0	0.0	7.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.7	0.0	0.0	0.0	7.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.8	0.0	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.60	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	12.0	0.0	0.0	0.0	1.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.50	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/26/2023

Intersection

Intersection Delay, s/veh53.1

Intersection LOS F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	336	531	16	276	429
Future Vol, veh/h	15	336	531	16	276	429
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	16	365	577	17	300	466
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	21.9	101	31.5
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	97%
Vol Thru, %	0%	0%	4%	3%
Vol Right, %	0%	100%	96%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	276	429	351	547
LT Vol	276	0	0	531
Through Vol	0	0	15	16
RT Vol	0	429	336	0
Lane Flow Rate	300	466	382	595
Geometry Grp	7	7	2	2
Degree of Util (X)	0.643	0.844	0.669	1.119
Departure Headway (Hd)	8.046	6.812	6.592	6.774
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	453	536	553	535
Service Time	5.746	4.512	4.592	4.817
HCM Lane V/C Ratio	0.662	0.869	0.691	1.112
HCM Control Delay	24.1	36.2	21.9	101
HCM Lane LOS	C	E	C	F
HCM 95th-tile Q	4.4	8.8	5	19.3

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	437	204	0	938	0	54
Future Vol, veh/h	437	204	0	938	0	54
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	475	222	0	1020	0	59

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 349
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 647
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 647
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	647	-	-	-
HCM Lane V/C Ratio	0.091	-	-	-
HCM Control Delay (s)	11.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	309	182	0	938	0	36
Future Vol, veh/h	309	182	0	938	0	36
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	336	198	0	1020	0	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 267
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 731
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 731
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	731	-	-	-
HCM Lane V/C Ratio	0.054	-	-	-
HCM Control Delay (s)	10.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th TWSC
138: Porter Street & I-10 Off Ramps

07/26/2023

Intersection						
Int Delay, s/veh	210					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	136	29	378	649	197
Future Vol, veh/h	139	136	29	378	649	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	0	150
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	151	148	32	411	705	214
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	443	0	-	0	688	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	450	-
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	1117	-	-	-	~ 412	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	~ 642	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1117	-	-	-	~ 351	801
Mov Cap-2 Maneuver	-	-	-	-	~ 351	-
Stage 1	-	-	-	-	~ 684	-
Stage 2	-	-	-	-	~ 642	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.4	0		\$ 377.9		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1117	-	-	-	351	801
HCM Lane V/C Ratio	0.135	-	-	-	2.01	0.267
HCM Control Delay (s)	8.7	0	-	-	\$ 489.2	11.1
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.5	-	-	-	49.6	1.1
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection												
Int Delay, s/veh	152											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	598	0	312	10	49	0	0	221	10
Future Vol, veh/h	10	0	10	598	0	312	10	49	0	0	221	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	650	0	339	11	53	0	0	240	11
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	491	321	246	326	326	53	251	0	-	-	-	0
Stage 1	246	246	-	75	75	-	-	-	-	-	-	-
Stage 2	245	75	-	251	251	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	488	596	793	~ 627	592	1014	1314	-	0	0	-	-
Stage 1	758	703	-	934	833	-	-	-	0	0	-	-
Stage 2	759	833	-	753	699	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	323	591	793	~ 614	587	1014	1314	-	-	-	-	-
Mov Cap-2 Maneuver	323	591	-	~ 614	587	-	-	-	-	-	-	-
Stage 1	751	703	-	926	826	-	-	-	-	-	-	-
Stage 2	501	826	-	743	699	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	13.2		203.4			1.3			0			
HCM LOS	B		F									
Minor Lane/Major Mvmt	NBL		NBT	EBLn1WBLn1		SBT	SBR					
Capacity (veh/h)	1314		-	459 710		-	-					
HCM Lane V/C Ratio	0.008		-	0.047 1.393		-	-					
HCM Control Delay (s)	7.8		0	13.2 203.4		-	-					
HCM Lane LOS	A		A	B F		-	-					
HCM 95th %tile Q(veh)	0		-	0.1 43.4		-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM 6th Signalized Intersection Summary

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	652	113	70	377	138	131	931	195	197	812	112
Future Volume (veh/h)	104	652	113	70	377	138	131	931	195	197	812	112
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	113	709	123	76	410	150	142	1012	212	214	883	122
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	213	939	163	145	792	287	319	1661	347	234	1446	200
Arrive On Green	0.31	0.31	0.31	0.10	0.10	0.10	0.06	0.57	0.57	0.46	0.46	0.46
Sat Flow, veh/h	850	3028	525	660	2556	925	1781	2926	611	456	3136	433
Grp Volume(v), veh/h	113	416	416	76	284	276	142	614	610	214	500	505
Grp Sat Flow(s),veh/h/ln	850	1777	1776	660	1777	1704	1781	1777	1760	456	1777	1792
Q Serve(g_s), s	11.7	19.0	19.0	8.9	13.6	13.8	3.6	20.5	20.6	30.5	19.0	19.0
Cycle Q Clear(g_c), s	25.5	19.0	19.0	27.9	13.6	13.8	3.6	20.5	20.6	41.5	19.0	19.0
Prop In Lane	1.00		0.30	1.00		0.54	1.00		0.35	1.00		0.24
Lane Grp Cap(c), veh/h	213	551	551	145	551	528	319	1009	999	234	819	826
V/C Ratio(X)	0.53	0.76	0.76	0.52	0.51	0.52	0.45	0.61	0.61	0.91	0.61	0.61
Avail Cap(c_a), veh/h	213	551	551	145	551	528	319	1009	999	234	819	826
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	28.0	28.0	50.5	34.0	34.1	13.7	12.8	12.9	34.0	18.2	18.2
Incr Delay (d2), s/veh	9.2	9.3	9.3	12.8	3.4	3.7	1.0	1.1	1.1	36.4	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	14.2	14.2	4.2	11.3	11.1	2.5	12.3	12.2	11.5	12.2	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	37.3	37.3	63.4	37.4	37.8	14.7	13.9	14.0	70.4	19.5	19.5
LnGrp LOS	D	D	D	E	D	D	B	B	B	E	B	B
Approach Vol, veh/h	945			636			1366			1219		
Approach Delay, s/veh	38.3			40.7			14.0			28.4		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.6	47.0		33.4		56.6		33.4				
Change Period (Y+Rc), s	4.6	* 5.5		* 5.5		* 5.5		* 5.5				
Max Green Setting (Gmax), s	5.0	* 42		* 28		* 51		* 28				
Max Q Clear Time (g_c+I1), s	5.6	43.5		29.9		22.6		27.5				
Green Ext Time (p_c), s	0.0	0.0		0.0		10.2		0.2				

Intersection Summary

HCM 6th Ctrl Delay 27.8

HCM 6th LOS C

Notes

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

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	652	113	70	377	138	131	931	195	197	812	112
Future Volume (veh/h)	104	652	113	70	377	138	131	931	195	197	812	112
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	709	123	76	410	150	142	1012	212	214	883	122
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	213	939	163	145	792	287	319	1661	347	234	1446	200
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.31	0.31	0.31	0.10	0.10	0.10	0.06	0.57	0.57	0.46	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	46.2	37.3	37.3	63.4	37.4	37.8	14.7	13.9	14.0	70.4	19.5	19.5
Ln Grp LOS	D	D	D	E	D	D	B	B	B	E	B	B
Approach Vol, veh/h	945			636			1366			1219		
Approach Delay, s/veh	38.3			40.7			14.0			28.4		
Approach LOS	D			D			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4			6	8					
Case No	1.2	6.3	6.0			4.0	6.0					
Phs Duration (G+Y+Rc), s	9.6	47.0	33.4			56.6	33.4					
Change Period (Y+Rc), s	4.6	* 5.5	* 5.5			* 5.5	* 5.5					
Max Green (Gmax), s	5.0	* 42	* 28			* 51	* 28					
Max Allow Headway (MAH), s	3.8	5.9	5.5			5.3	5.3					
Max Q Clear (g_c+I1), s	5.6	43.5	29.9			22.6	27.5					
Green Ext Time (g_e), s	0.0	0.0	0.0			10.2	0.2					
Prob of Phs Call (p_c)	0.97	1.00	1.00			1.00	1.00					
Prob of Max Out (p_x)	1.00	1.00	0.00			0.18	0.00					
Left-Turn Movement Data												
Assigned Mvmt	1	5	7			3						
Mvmt Sat Flow, veh/h	1781	456	660			850						
Through Movement Data												
Assigned Mvmt	2		4			6	8					
Mvmt Sat Flow, veh/h	3136		2556			2926	3028					
Right-Turn Movement Data												
Assigned Mvmt	12		14			16	18					
Mvmt Sat Flow, veh/h	433		925			611	525					
Left Lane Group Data												
Assigned Mvmt	1	5	0	7	0	0	0	3				
Lane Assignment	L (Pr/Pm)		L	L		L						

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

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Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	142	214	0	76	0	0	0	113
Grp Sat Flow (s), veh/h/ln	1781	456	0	660	0	0	0	850
Q Serve Time (g_s), s	3.6	30.5	0.0	8.9	0.0	0.0	0.0	11.7
Cycle Q Clear Time (g_c), s	3.6	41.5	0.0	27.9	0.0	0.0	0.0	25.5
Perm LT Sat Flow (s_l), veh/h/ln	561	456	0	660	0	0	0	850
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	43.5	41.5	0.0	27.9	0.0	0.0	0.0	27.9
Perm LT Serve Time (g_u), s	22.5	30.5	0.0	8.9	0.0	0.0	0.0	14.1
Perm LT Q Serve Time (g_ps), s	7.1	30.5	0.0	8.9	0.0	0.0	0.0	11.7
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	319	234	0	145	0	0	0	213
V/C Ratio (X)	0.45	0.91	0.00	0.52	0.00	0.00	0.00	0.53
Avail Cap (c_a), veh/h	319	234	0	145	0	0	0	213
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	13.7	34.0	0.0	50.5	0.0	0.0	0.0	37.0
Incr Delay (d2), s/veh	1.0	36.4	0.0	12.8	0.0	0.0	0.0	9.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	14.7	70.4	0.0	63.4	0.0	0.0	0.0	46.2
1st-Term Q (Q1), veh/ln	1.3	4.7	0.0	1.8	0.0	0.0	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.1	2.4	0.0	0.5	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	1.62	0.00	1.80	0.00	0.00	0.00	1.80
%ile Back of Q (95%), veh/ln	2.5	11.5	0.0	4.2	0.0	0.0	0.0	5.2
%ile Storage Ratio (RQ%)	0.38	1.16	0.00	1.09	0.00	0.00	0.00	1.78
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	500	0	284	0	614	0	416
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	19.0	0.0	13.6	0.0	20.5	0.0	19.0
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	13.6	0.0	20.5	0.0	19.0
Lane Grp Cap (c), veh/h	0	819	0	551	0	1009	0	551
V/C Ratio (X)	0.00	0.61	0.00	0.51	0.00	0.61	0.00	0.76
Avail Cap (c_a), veh/h	0	819	0	551	0	1009	0	551
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	34.0	0.0	12.8	0.0	28.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	3.4	0.0	1.1	0.0	9.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.5	0.0	37.4	0.0	13.9	0.0	37.3
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	6.4	0.0	7.4	0.0	7.8
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.3	0.0	1.4

HCM 6th Signalized Intersection Capacity Analysis

1: Alameda St & 6th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.59	0.00	1.62	0.00	1.59	0.00	1.54
%ile Back of Q (95%), veh/ln	0.0	12.2	0.0	11.3	0.0	12.3	0.0	14.2
%ile Storage Ratio (RQ%)	0.00	0.60	0.00	1.05	0.00	0.47	0.00	1.66
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	505	0	276	0	610	0	416
Grp Sat Flow (s), veh/h/ln	0	1792	0	1704	0	1760	0	1776
Q Serve Time (g_s), s	0.0	19.0	0.0	13.8	0.0	20.6	0.0	19.0
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	13.8	0.0	20.6	0.0	19.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.24	0.00	0.54	0.00	0.35	0.00	0.30
Lane Grp Cap (c), veh/h	0	826	0	528	0	999	0	551
V/C Ratio (X)	0.00	0.61	0.00	0.52	0.00	0.61	0.00	0.76
Avail Cap (c_a), veh/h	0	826	0	528	0	999	0	551
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	34.1	0.0	12.9	0.0	28.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	3.7	0.0	1.1	0.0	9.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.5	0.0	37.8	0.0	14.0	0.0	37.3
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	6.3	0.0	7.4	0.0	7.8
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.3	0.0	1.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.59	0.00	1.63	0.00	1.59	0.00	1.54
%ile Back of Q (95%), veh/ln	0.0	12.3	0.0	11.1	0.0	12.2	0.0	14.2
%ile Storage Ratio (RQ%)	0.00	0.60	0.00	1.03	0.00	0.47	0.00	1.66
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

Notes

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

HCM 6th TWSC
2: Mill St & 6th St

07/26/2023

Intersection

Int Delay, s/veh 4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	1181	95	17	559	42	65
Future Vol, veh/h	1181	95	17	559	42	65
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	1284	103	18	608	46	71

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1387
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	490
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	490
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	75.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	-	-	490	-
HCM Lane V/C Ratio	0.746	-	-	0.038	-
HCM Control Delay (s)	75.8	-	-	12.6	0.3
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	4.6	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mateo Street & 6th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	786	286	63	488	99	60	127	63	64	167	72
Future Volume (veh/h)	158	786	286	63	488	99	60	127	63	64	167	72
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	172	854	311	68	530	108	65	138	68	70	182	78
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	376	1245	452	191	1435	291	151	309	138	140	346	135
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	790	2553	927	482	2943	597	297	903	402	268	1011	396
Grp Volume(v), veh/h	172	594	571	68	319	319	271	0	0	330	0	0
Grp Sat Flow(s),veh/h/ln	790	1777	1703	482	1777	1763	1602	0	0	1675	0	0
Q Serve(g_s), s	15.7	23.1	23.3	11.4	10.1	10.2	0.0	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	25.8	23.1	23.3	34.7	10.1	10.2	11.3	0.0	0.0	13.6	0.0	0.0
Prop In Lane	1.00		0.54	1.00		0.34	0.24		0.25	0.21		0.24
Lane Grp Cap(c), veh/h	376	867	831	191	867	860	598	0	0	622	0	0
V/C Ratio(X)	0.46	0.69	0.69	0.36	0.37	0.37	0.45	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	376	867	831	191	867	860	598	0	0	622	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.5	17.7	17.8	31.1	14.4	14.4	23.0	0.0	0.0	23.9	0.0	0.0
Incr Delay (d2), s/veh	4.0	4.4	4.6	5.2	1.2	1.2	2.5	0.0	0.0	3.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.8	15.1	14.7	2.8	7.5	7.5	8.4	0.0	0.0	10.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	22.1	22.4	36.3	15.6	15.6	25.5	0.0	0.0	27.1	0.0	0.0
LnGrp LOS	C	C	C	D	B	B	C	A	A	C	A	A
Approach Vol, veh/h	1337			706			271			330		
Approach Delay, s/veh	22.8			17.6			25.5			27.1		
Approach LOS	C			B			C			C		
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	* 9.1			6.2			* 9.1			6.2		
Max Green Setting (Gmax), s	* 44			30.8			* 44			30.8		
Max Q Clear Time (g_c+I1), s	36.7			15.6			27.8			13.3		
Green Ext Time (p_c), s	2.8			1.8			8.4			1.5		
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	786	286	63	488	99	60	127	63	64	167	72
Future Volume (veh/h)	158	786	286	63	488	99	60	127	63	64	167	72
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	854	311	68	530	108	65	138	68	70	182	78
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	1245	452	191	1435	291	151	309	138	140	346	135
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
Prop Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.5	22.1	22.4	36.3	15.6	15.6	25.5	0.0	0.0	27.1	0.0	0.0
Ln Grp LOS	C	C	C	D	B	B	C	A	A	C	A	A
Approach Vol, veh/h	1337			706			271			330		
Approach Delay, s/veh	22.8			17.6			25.5			27.1		
Approach LOS	C			B			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	* 9.1			6.2			* 9.1			6.2		
Max Green (Gmax), s	* 44			30.8			* 44			30.8		
Max Allow Headway (MAH), s	5.6			5.4			5.4			5.5		
Max Q Clear (g_c+I1), s	36.7			15.6			27.8			13.3		
Green Ext Time (g_e), s	2.8			1.8			8.4			1.5		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.77			0.00			0.52			0.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	482			268			790			297		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2943			1011			2553			903		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	597			396			927			402		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	68	0	330	0	172	0	271
Grp Sat Flow (s), veh/h/ln	0	482	0	1675	0	790	0	1602
Q Serve Time (g_s), s	0.0	11.4	0.0	2.3	0.0	15.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	34.7	0.0	13.6	0.0	25.8	0.0	11.3
Perm LT Sat Flow (s_l), veh/h/ln	0	482	0	1195	0	790	0	1137
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1811	0	0	0	1564
Perm LT Eff Green (g_p), s	0.0	43.9	0.0	30.8	0.0	43.9	0.0	30.8
Perm LT Serve Time (g_u), s	0.0	20.6	0.0	19.5	0.0	33.7	0.0	17.2
Perm LT Q Serve Time (g_ps), s	0.0	11.4	0.0	2.3	0.0	15.7	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	7.1	0.0	0.0	0.0	6.2
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	7.1	0.0	0.0	0.0	6.2
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.24
Lane Grp Cap (c), veh/h	0	191	0	622	0	376	0	598
V/C Ratio (X)	0.00	0.36	0.00	0.53	0.00	0.46	0.00	0.45
Avail Cap (c_a), veh/h	0	191	0	622	0	376	0	598
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.1	0.0	23.9	0.0	22.5	0.0	23.0
Incr Delay (d2), s/veh	0.0	5.2	0.0	3.2	0.0	4.0	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.3	0.0	27.1	0.0	26.5	0.0	25.5
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	5.5	0.0	2.8	0.0	4.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.6	0.0	0.4	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.67	0.00	1.80	0.00	1.75
%ile Back of Q (95%), veh/ln	0.0	2.8	0.0	10.1	0.0	5.8	0.0	8.4
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	1.24	0.00	0.98	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	319	0	0	0	594	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	10.1	0.0	0.0	0.0	23.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	0.0	0.0	23.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	867	0	0	0	867	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.69	0.00	0.00
Avail Cap (c_a), veh/h	0	867	0	0	0	867	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.4	0.0	0.0	0.0	17.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	4.4	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
Control Delay (d), s/veh	0.0	15.6	0.0	0.0	0.0	22.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	8.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	1.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: Mateo Street & 6th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.52	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.5	0.0	0.0	0.0	15.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.77	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	319	0	0	0	571	0	0
Grp Sat Flow (s), veh/h/ln	0	1763	0	0	0	1703	0	0
Q Serve Time (g_s), s	0.0	10.2	0.0	0.0	0.0	23.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	0.0	0.0	23.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.34	0.00	0.24	0.00	0.54	0.00	0.25
Lane Grp Cap (c), veh/h	0	860	0	0	0	831	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.69	0.00	0.00
Avail Cap (c_a), veh/h	0	860	0	0	0	831	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.4	0.0	0.0	0.0	17.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	4.6	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
Control Delay (d), s/veh	0.0	15.6	0.0	0.0	0.0	22.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	8.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	1.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.53	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.5	0.0	0.0	0.0	14.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.75	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary

4: Alameda St & 7th St

07/26/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	387	59	140	680	152	101	909	89	138	703	133
Future Volume (veh/h)	89	387	59	140	680	152	101	909	89	138	703	133
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	97	421	64	152	739	165	110	988	97	150	764	145
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	137	1056	159	295	985	220	302	1195	117	301	1566	297
Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Sat Flow, veh/h	617	3096	468	911	2887	644	614	3269	321	1781	2980	565
Grp Volume(v), veh/h	97	240	245	152	455	449	110	537	548	150	456	453
Grp Sat Flow(s),veh/h/ln	617	1777	1786	911	1777	1754	614	1777	1813	1781	1777	1769
Q Serve(g_s), s	8.4	9.3	9.4	14.7	22.3	22.3	12.5	24.7	24.7	4.3	14.7	14.7
Cycle Q Clear(g_c), s	30.7	9.3	9.4	24.1	22.3	22.3	12.9	24.7	24.7	4.3	14.7	14.7
Prop In Lane	1.00		0.26	1.00		0.37	1.00		0.18	1.00		0.32
Lane Grp Cap(c), veh/h	137	606	609	295	606	598	302	650	663	301	934	929
V/C Ratio(X)	0.71	0.40	0.40	0.51	0.75	0.75	0.36	0.83	0.83	0.50	0.49	0.49
Avail Cap(c_a), veh/h	137	606	609	295	606	598	302	650	663	305	934	929
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	22.6	22.6	41.6	36.2	36.2	22.3	25.9	26.0	18.5	13.6	13.6
Incr Delay (d2), s/veh	15.3	0.4	0.4	1.5	5.2	5.3	3.4	11.5	11.3	1.3	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	6.9	7.0	6.6	17.0	16.8	3.7	17.7	18.0	3.1	10.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	23.0	23.1	43.1	41.4	41.5	25.7	37.4	37.3	19.8	15.4	15.5
LnGrp LOS	E	C	C	D	D	D	C	D	D	B	B	B
Approach Vol, veh/h	582		1056			1195			1059			
Approach Delay, s/veh	28.8		41.7			36.3			16.1			
Approach LOS	C		D			D			B			
Timer - Assigned Phs	2		4		5	6	8					
Phs Duration (G+Y+Rc), s	53.0		37.0		14.4	38.6	37.0					
Change Period (Y+Rc), s	* 5.7		* 6.3		5.6	* 5.7	* 6.3					
Max Green Setting (Gmax), s	* 47		* 31		9.0	* 33	* 31					
Max Q Clear Time (g_c+I1), s	16.7		26.1		6.3	26.7	32.7					
Green Ext Time (p_c), s	6.8		2.6		0.1	3.7	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			31.1									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	387	59	140	680	152	101	909	89	138	703	133
Future Volume (veh/h)	89	387	59	140	680	152	101	909	89	138	703	133
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	421	64	152	739	165	110	988	97	150	764	145
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	137	1056	159	295	985	220	302	1195	117	301	1566	297
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.34	0.34	0.34	0.11	0.11	0.11	0.37	0.37	0.37	0.10	0.53	0.53
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.8	23.0	23.1	43.1	41.4	41.5	25.7	37.4	37.3	19.8	15.4	15.5
Ln Grp LOS	E	C	C	D	D	D	C	D	D	B	B	B
Approach Vol, veh/h	582			1056			1195			1059		
Approach Delay, s/veh	28.8			41.7			36.3			16.1		
Approach LOS	C			D			D			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			5			6		
Case No	4.0			6.0			1.2			6.3		
Phs Duration (G+Y+Rc), s	53.0			37.0			14.4			38.6		
Change Period (Y+Rc), s	* 5.7			* 6.3			5.6			* 5.7		
Max Green (Gmax), s	* 47			* 31			9.0			* 33		
Max Allow Headway (MAH), s	5.3			5.3			3.8			5.4		
Max Q Clear (g_c+I1), s	16.7			26.1			6.3			26.7		
Green Ext Time (g_e), s	6.8			2.6			0.1			3.7		
Prob of Phs Call (p_c)	1.00			1.00			0.98			1.00		
Prob of Max Out (p_x)	0.00			1.00			1.00			0.00		
Left-Turn Movement Data												
Assigned Mvmt				7			5			1		
Mvmt Sat Flow, veh/h				911			1781			614		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2980			2887			3269			3096		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	565			644			321			468		
Left Lane Group Data												
Assigned Mvmt	0	0	0	7	5	1	0	3				
Lane Assignment				LL (Pr/Pm)			L			L		

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	152	150	110	0	97
Grp Sat Flow (s), veh/h/ln	0	0	0	911	1781	614	0	617
Q Serve Time (g_s), s	0.0	0.0	0.0	14.7	4.3	12.5	0.0	8.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	24.1	4.3	12.9	0.0	30.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	911	520	614	0	617
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	30.7	34.9	32.9	0.0	30.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	21.3	8.2	32.6	0.0	8.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	14.7	8.2	12.5	0.0	8.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	295	301	302	0	137
V/C Ratio (X)	0.00	0.00	0.00	0.51	0.50	0.36	0.00	0.71
Avail Cap (c_a), veh/h	0	0	0	295	305	302	0	137
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	41.6	18.5	22.3	0.0	42.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	1.3	3.4	0.0	15.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	43.1	19.8	25.7	0.0	57.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.6	1.6	1.8	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.1	0.3	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	6.6	3.1	3.7	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.06	0.28	0.46	0.00	0.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	456	0	455	0	537	0	240
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	14.7	0.0	22.3	0.0	24.7	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	22.3	0.0	24.7	0.0	9.3
Lane Grp Cap (c), veh/h	0	934	0	606	0	650	0	606
V/C Ratio (X)	0.00	0.49	0.00	0.75	0.00	0.83	0.00	0.40
Avail Cap (c_a), veh/h	0	934	0	606	0	650	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	36.2	0.0	25.9	0.0	22.6
Incr Delay (d2), s/veh	0.0	1.8	0.0	5.2	0.0	11.5	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	41.4	0.0	37.4	0.0	23.0
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	10.5	0.0	10.0	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.9	0.0	2.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

4: Alameda St & 7th St

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.67	0.00	1.49	0.00	1.47	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	10.0	0.0	17.0	0.0	17.7	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.76	0.00	0.36	0.00	0.54	0.00	0.41
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	453	0	449	0	548	0	245
Grp Sat Flow (s), veh/h/ln	0	1769	0	1754	0	1813	0	1786
Q Serve Time (g_s), s	0.0	14.7	0.0	22.3	0.0	24.7	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	22.3	0.0	24.7	0.0	9.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.32	0.00	0.37	0.00	0.18	0.00	0.26
Lane Grp Cap (c), veh/h	0	929	0	598	0	663	0	609
V/C Ratio (X)	0.00	0.49	0.00	0.75	0.00	0.83	0.00	0.40
Avail Cap (c_a), veh/h	0	929	0	598	0	663	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	36.2	0.0	26.0	0.0	22.6
Incr Delay (d2), s/veh	0.0	1.8	0.0	5.3	0.0	11.3	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	41.5	0.0	37.3	0.0	23.1
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	10.4	0.0	10.2	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.9	0.0	2.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.67	0.00	1.49	0.00	1.47	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	9.9	0.0	16.8	0.0	18.0	0.0	7.0
%ile Storage Ratio (RQ%)	0.00	0.76	0.00	0.35	0.00	0.54	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

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

Intersection

Int Delay, s/veh 8.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	675	955	33	78	66
Future Vol, veh/h	22	675	955	33	78	66
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	24	734	1038	36	85	72

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1074	0	0 1471 537
Stage 1	-	-	- 1056 -
Stage 2	-	-	- 415 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	645	-	- 118 488
Stage 1	-	-	- 296 -
Stage 2	-	-	- 635 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	645	-	- 111 488
Mov Cap-2 Maneuver	-	-	- 111 -
Stage 1	-	-	- 277 -
Stage 2	-	-	- 635 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	100.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	645	-	-	-	172
HCM Lane V/C Ratio	0.037	-	-	-	0.91
HCM Control Delay (s)	10.8	0.3	-	-	100.5
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	6.8

HCM 6th Signalized Intersection Summary

6: Mateo St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	48	579	131	48	681	58	144	144	80	81	292	116
Future Volume (veh/h)	48	579	131	48	681	58	144	144	80	81	292	116
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	52	629	142	52	740	63	157	157	87	88	317	126
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	354	1549	349	365	1782	152	163	141	69	119	350	132
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	678	2881	649	698	3314	282	300	397	193	204	982	369
Grp Volume(v), veh/h	52	388	383	52	397	406	401	0	0	531	0	0
Grp Sat Flow(s),veh/h/ln	678	1777	1753	698	1777	1820	889	0	0	1554	0	0
Q Serve(g_s), s	4.5	11.6	11.6	4.3	12.0	12.0	2.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.4	11.6	11.6	15.9	12.0	12.0	32.1	0.0	0.0	29.9	0.0	0.0
Prop In Lane	1.00		0.37	1.00		0.16	0.39		0.22	0.17		0.24
Lane Grp Cap(c), veh/h	354	956	943	365	956	979	373	0	0	601	0	0
V/C Ratio(X)	0.15	0.41	0.41	0.14	0.42	0.42	1.08	0.00	0.00	0.88	0.00	0.00
Avail Cap(c_a), veh/h	354	956	943	365	956	979	373	0	0	601	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	12.3	12.3	17.0	12.4	12.4	30.9	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.3	1.3	0.8	1.3	1.3	68.2	0.0	0.0	14.6	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	1.4	8.2	8.1	1.4	8.4	8.5	22.7	0.0	0.0	18.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	13.6	13.6	17.8	13.7	13.7	99.1	0.0	0.0	42.4	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	F	A	A	D	A	A
Approach Vol, veh/h		823			855			401			531	
Approach Delay, s/veh		13.9			13.9			99.1			42.4	
Approach LOS		B			B			F			D	
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		4.6		* 4.9		4.6		* 4.9				
Max Green Setting (Gmax), s		48.4		* 32		48.4		* 32				
Max Q Clear Time (g_c+I1), s		17.9		31.9		18.4		34.1				
Green Ext Time (p_c), s		6.3		0.1		6.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				32.8								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	579	131	48	681	58	144	144	80	81	292	116
Future Volume (veh/h)	48	579	131	48	681	58	144	144	80	81	292	116
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	629	142	52	740	63	157	157	87	88	317	126
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	354	1549	349	365	1782	152	163	141	69	119	350	132
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
Prop Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.36	0.36	0.36	0.36	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.1	13.6	13.6	17.8	13.7	13.7	99.1	0.0	0.0	42.4	0.0	0.0
Ln Grp LOS	B	B	B	B	B	B	F	A	A	D	A	A
Approach Vol, veh/h	823			855			401			531		
Approach Delay, s/veh	13.9			13.9			99.1			42.4		
Approach LOS	B			B			F			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Case No	6.0			8.0			6.0			8.0		
Phs Duration (G+Y+Rc), s	53.0			37.0			53.0			37.0		
Change Period (Y+Rc), s	4.6			* 4.9			4.6			* 4.9		
Max Green (Gmax), s	48.4			* 32			48.4			* 32		
Max Allow Headway (MAH), s	5.3			5.4			5.4			5.8		
Max Q Clear (g_c+I1), s	17.9			31.9			18.4			34.1		
Green Ext Time (g_e), s	6.3			0.1			6.1			0.0		
Prob of Phs Call (p_c)	1.00			1.00			1.00			1.00		
Prob of Max Out (p_x)	0.00			1.00			0.00			1.00		
Left-Turn Movement Data												
Assigned Mvmt	5			7			1			3		
Mvmt Sat Flow, veh/h	698			204			678			300		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3314			982			2881			397		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	282			369			649			193		
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment	L			L+T+R			L			L+T+R		

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	52	0	531	0	52	0	401
Grp Sat Flow (s), veh/h/ln	0	698	0	1554	0	678	0	889
Q Serve Time (g_s), s	0.0	4.3	0.0	0.0	0.0	4.5	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	15.9	0.0	29.9	0.0	16.4	0.0	32.1
Perm LT Sat Flow (s_l), veh/h/ln	0	698	0	1154	0	678	0	962
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1501	0	0	0	784
Perm LT Eff Green (g_p), s	0.0	48.4	0.0	32.1	0.0	48.4	0.0	32.1
Perm LT Serve Time (g_u), s	0.0	36.8	0.0	0.0	0.0	36.4	0.0	2.2
Perm LT Q Serve Time (g_ps), s	0.0	4.3	0.0	0.0	0.0	4.5	0.0	2.2
Time to First Blk (g_f), s	0.0	0.0	0.0	5.8	0.0	0.0	0.0	2.2
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	5.8	0.0	0.0	0.0	2.2
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.17	0.00	1.00	0.00	0.39
Lane Grp Cap (c), veh/h	0	365	0	601	0	354	0	373
V/C Ratio (X)	0.00	0.14	0.00	0.88	0.00	0.15	0.00	1.08
Avail Cap (c_a), veh/h	0	365	0	601	0	354	0	373
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	27.8	0.0	17.3	0.0	30.9
Incr Delay (d2), s/veh	0.0	0.8	0.0	14.6	0.0	0.9	0.0	68.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.8	0.0	42.4	0.0	18.1	0.0	99.1
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	10.6	0.0	0.7	0.0	8.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	2.4	0.0	0.1	0.0	7.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.45	0.00	1.80	0.00	1.49
%ile Back of Q (95%), veh/ln	0.0	1.4	0.0	18.9	0.0	1.4	0.0	22.7
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	1.49	0.00	0.06	0.00	0.33
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	397	0	0	0	388	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	12.0	0.0	0.0	0.0	11.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	0.0	0.0	11.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	956	0	0	0	956	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.00	0.00	0.41	0.00	0.00
Avail Cap (c_a), veh/h	0	956	0	0	0	956	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.7	0.0	0.0	0.0	13.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	0.0	0.0	4.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Mateo St & 7th St

07/26/2023

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.75	0.00	1.00	0.00	1.76	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.4	0.0	0.0	0.0	8.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.00	0.00	0.37	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	406	0	0	0	383	0	0
Grp Sat Flow (s), veh/h/ln	0	1820	0	0	0	1753	0	0
Q Serve Time (g_s), s	0.0	12.0	0.0	0.0	0.0	11.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	0.0	0.0	11.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	0.24	0.00	0.37	0.00	0.22
Lane Grp Cap (c), veh/h	0	979	0	0	0	943	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.00	0.00	0.41	0.00	0.00
Avail Cap (c_a), veh/h	0	979	0	0	0	943	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.7	0.0	0.0	0.0	13.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	0.0	0.0	4.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.74	0.00	1.00	0.00	1.77	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	8.5	0.0	0.0	0.0	8.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.00	0.00	0.37	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

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

HCM 6th AWSC
90: I-10 WB Ramps & 8th Street

07/26/2023

Intersection

Intersection Delay, s/veh40.3

Intersection LOS E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	300	451	41	331	426
Future Vol, veh/h	24	300	451	41	331	426
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	26	326	490	45	360	463
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	19.8	64.6	33.3
HCM LOS	C	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	92%
Vol Thru, %	0%	0%	7%	8%
Vol Right, %	0%	100%	93%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	331	426	324	492
LT Vol	331	0	0	451
Through Vol	0	0	24	41
RT Vol	0	426	300	0
Lane Flow Rate	360	463	352	535
Geometry Grp	7	7	2	2
Degree of Util (X)	0.771	0.834	0.627	0.998
Departure Headway (Hd)	7.713	6.484	6.414	6.719
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	468	556	560	540
Service Time	5.509	4.278	4.502	4.792
HCM Lane V/C Ratio	0.769	0.833	0.629	0.991
HCM Control Delay	32.2	34.1	19.8	64.6
HCM Lane LOS	D	D	C	F
HCM 95th-tile Q	6.7	8.6	4.3	14

HCM 6th TWSC
101: Driveway 1 & 6th St

07/26/2023

Intersection

Int Delay, s/veh 2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	978	87	0	591	0	203
Future Vol, veh/h	978	87	0	591	0	203
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	1063	95	0	642	0	221

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 579
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 458
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 458
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	458	-	-	-
HCM Lane V/C Ratio	0.482	-	-	-
HCM Control Delay (s)	20	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	2.6	-	-	-

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1124	57	0	591	0	180
Future Vol, veh/h	1124	57	0	591	0	180
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	1222	62	0	642	0	196

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 642
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 417
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 417
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	417	-	-	-
HCM Lane V/C Ratio	0.469	-	-	-
HCM Control Delay (s)	21	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	2.4	-	-	-

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	35	11	71	113	14
Future Vol, veh/h	44	35	11	71	113	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	38	12	77	123	15

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	232	131	138
Stage 1	131	-	-
Stage 2	101	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	756	919	1446
Stage 1	895	-	-
Stage 2	923	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	749	919	1446
Mov Cap-2 Maneuver	749	-	-
Stage 1	887	-	-
Stage 2	923	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	816	-	-
HCM Lane V/C Ratio	0.008	-	0.105	-	-
HCM Control Delay (s)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

HCM 6th TWSC
138: Porter Street & I-10 EB Off-Ramp

07/26/2023

Intersection						
Int Delay, s/veh	47.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	322	148	30	560	170	78
Future Vol, veh/h	322	148	30	560	170	78
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	185
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	350	161	33	609	185	85
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	642	0	-	0	1199	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	861	-
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	943	-	-	-	205	704
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	414	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	~ 121	704
Mov Cap-2 Maneuver	-	-	-	-	~ 121	-
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	414	-
Approach	EB	WB		SB		
HCM Control Delay, s	7.6	0		235.8		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	943	-	-	-	121	704
HCM Lane V/C Ratio	0.371	-	-	-	1.527	0.12
HCM Control Delay (s)	11.1	0	-	-	\$ 339.1	10.8
HCM Lane LOS	B	A	-	-	F	B
HCM 95th %tile Q(veh)	1.7	-	-	-	13.2	0.4
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	127	0	74	10	179	0	0	510	10
Future Vol, veh/h	10	0	10	127	0	74	10	179	0	0	510	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	138	0	80	11	195	0	0	554	11
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	817	777	560	782	782	195	565	0	-	-	-	0
Stage 1	560	560	-	217	217	-	-	-	-	-	-	-
Stage 2	257	217	-	565	565	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	295	328	528	312	326	846	1007	-	0	0	-	-
Stage 1	513	511	-	785	723	-	-	-	0	0	-	-
Stage 2	748	723	-	510	508	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	265	324	528	303	322	846	1007	-	-	-	-	-
Mov Cap-2 Maneuver	265	324	-	303	322	-	-	-	-	-	-	-
Stage 1	507	511	-	776	714	-	-	-	-	-	-	-
Stage 2	669	714	-	500	508	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	15.9		24.6			0.5			0			
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL		NBT	EBLn1WBLn1		SBT	SBR					
Capacity (veh/h)	1007		-	353		397	-					
HCM Lane V/C Ratio	0.011		-	0.062		0.55	-					
HCM Control Delay (s)	8.6		0	15.9		24.6	-					
HCM Lane LOS	A		A	C		C	-					
HCM 95th %tile O(veh)	0		-	0.2		3.2	-					

Appendix I.2

Los Angeles Department of Transportation
Assessment Letter

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

1206 E 6TH St/640 S Alameda St
DOT Case No. CEN23-54430

Date: July 17, 2024

To: Brenda Kahinju, Administrative Clerk
Department of City Planning

From: Eileen Hunt, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION ASSESSMENT FOR THE PROPOSED STUDIO PROJECT LOCATED AT 1206 EAST 6TH STREET AND 640 SOUTH ALAMEDA STREET (CPC-2022-5829-VCU/ENV-2022-5830-EIR)**

The Los Angeles Department of Transportation (LADOT) has reviewed the transportation assessment prepared by Gibson Transportation Consulting, Inc. (GTC), dated September 2023, for the proposed 6th & Alameda Studio (East End Studios Arts District Los Angeles (ADLA)) project located at 1206 East 6th Street and 640 South Alameda Street within the Central Area Planning Commission (APC). 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 to remove the existing 311,000 square feet of light industrial uses and construct a 675,611 square foot studio development on the block bounded by 6th Street to the north, Mill Street to the east, industrial uses and a privately own street labelled Wholesale Street to the south, and Alameda Street to the west. The development will provide: approximately 299,012 square feet of studio space including sound stages, production support, and mill space; 307,407 square feet of office space; 69,192 square feet of support space; a total of 759 vehicle parking spaces within an above grade parking structure (415 spaces) and a surface parking lot (344 spaces); and 172 (71 short-term and 101 long-term) bicycle parking spaces. The office space may be reduced to 299,407 square feet in order to provide up to 4,000 square feet retail space and 4,000 square feet of restaurant space. Access to the development would be provided by four driveways: two right-in/right-out driveways along 6th Street, one two-way full access driveway along Mill Street, and an ingress only driveway along Mill Street as illustrated in **Attachment A**. 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 project traffic at the I-10 eastbound off-ramp to Porter Street, I-10 westbound off-ramp to Mateo Street/Enterprise Street, and I-10 westbound off-ramp to 8th Street would add 25 or more peak hour trips. Therefore, the evaluation included an analysis of queue lengths and off-ramp storage length. Since the queues would not exceed the ramp storage length for any of the three off-ramps, a speed differential analyses for each of the three off-ramps is not required.

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, 9th Edition as well as applying trip generation adjustments when applicable, based on sociodemographic data and the built environment factors of the project's surroundings, it was determined that the project **does** exceed the net 250 daily vehicle trips threshold.

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 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, prepared by GTC, the project proposes to incorporate the TDM strategies of reduced parking supply by providing 759 of the Code-required 1,371 parking spaces and include bike parking per Los Angeles Municipal Code (LAMC) as project design features. With the application of these TDM measures, the proposed project is projected to have no Household VMT and Work VMT per employee of 5.5. 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

Access to the project will be provided along 6th Street and Mill Street. LADOT has reviewed this analysis and determined that it adequately discloses operational concerns. 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 may result in an adverse increase in delays or queuing in the project area. 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. Pedestrian Improvements

As required by the TAG and pursuant to the City's Site Plan Review authority, the analysis included a review of current deficiencies and potential future deficiencies that may result from the project. To address the deficiency at Mill Street and 6th Street, the applicant should install a crosswalk and accompanying curb ramps on the south leg of the Mill Street and 6th Street intersection. Additionally, LADOT recommends that the project applicant design and construct a Pedestrian Activated Yellow Flashing Beacon (PAYFB) at Mateo Street and Industrial Street, which was issued a Traffic Control Report by the LADOT Central District Office (**Attachment D**).

Should the project be approved, a final determination on how to implement each of the pedestrian improvements will be made by LADOT prior to the issuance of the first building permit. Each improvement should be considered separately and will be implemented **either** by the applicant through the B-Permit process of the Bureau of Engineering (BOE), **or** through payment of a one-time fixed fee to be determined by LADOT to fund the cost of the improvement. If LADOT selects the payment option, then the applicant would be required to pay the fixed fee to LADOT, and LADOT shall design and construct the upgrades.

If the improvement(s) is (are) implemented by the applicant through the B-Permit process, then the improvement(s) must be **guaranteed** prior to the issuance of any building permits and **completed** prior to the issuance of any certificate of occupancy. Temporary certificates of occupancy may be granted in the event of any delay through no fault of the applicant, provided that, in each case, the applicant has demonstrated reasonable efforts and due diligence to the

satisfaction of LADOT. Prior to setting the bond amount, BOE shall require that the developer's engineer or contractor email LADOT's B-Permit Coordinator at ladot.planprocessing@lacity.org to arrange a pre-design meeting to finalize the proposed design needed for the project.

2. Parking Requirements

The project would provide parking for 759 vehicles and 172 bicycles. The applicant should check with the Departments of Building and Safety and City Planning on the number of parking spaces required for this project.

3. Highway Dedication and Street Widening Requirements

Per the Mobility Element of the General Plan, **Alameda Street**, an Avenue I, would require a 35-foot half-width roadway within a 50-foot half-width right-of-way; **6th Street**, an Avenue II, would require a 28-foot half-width roadway within a 43-foot half-width right-of-way; and **Mill 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.

4. Project Access and Circulation

The conceptual site plan for the project (see **Attachment A**) shows four project driveways: two right-in/right-out driveways along 6th Street and two full access driveways along Mill Street. The north Mill Street driveway will be two-way and will be used primarily for garage and VIP access. The south Mill Street driveway will be ingress only and will be used for passenger vehicles and truck deliveries. 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 <ladot.onestop@lacity.org>. 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.

5. 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 <https://www.ladot.lacity.org/businesses/traffic-engineering-design-plans>. 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.

6. 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.

7. Development Review Fees

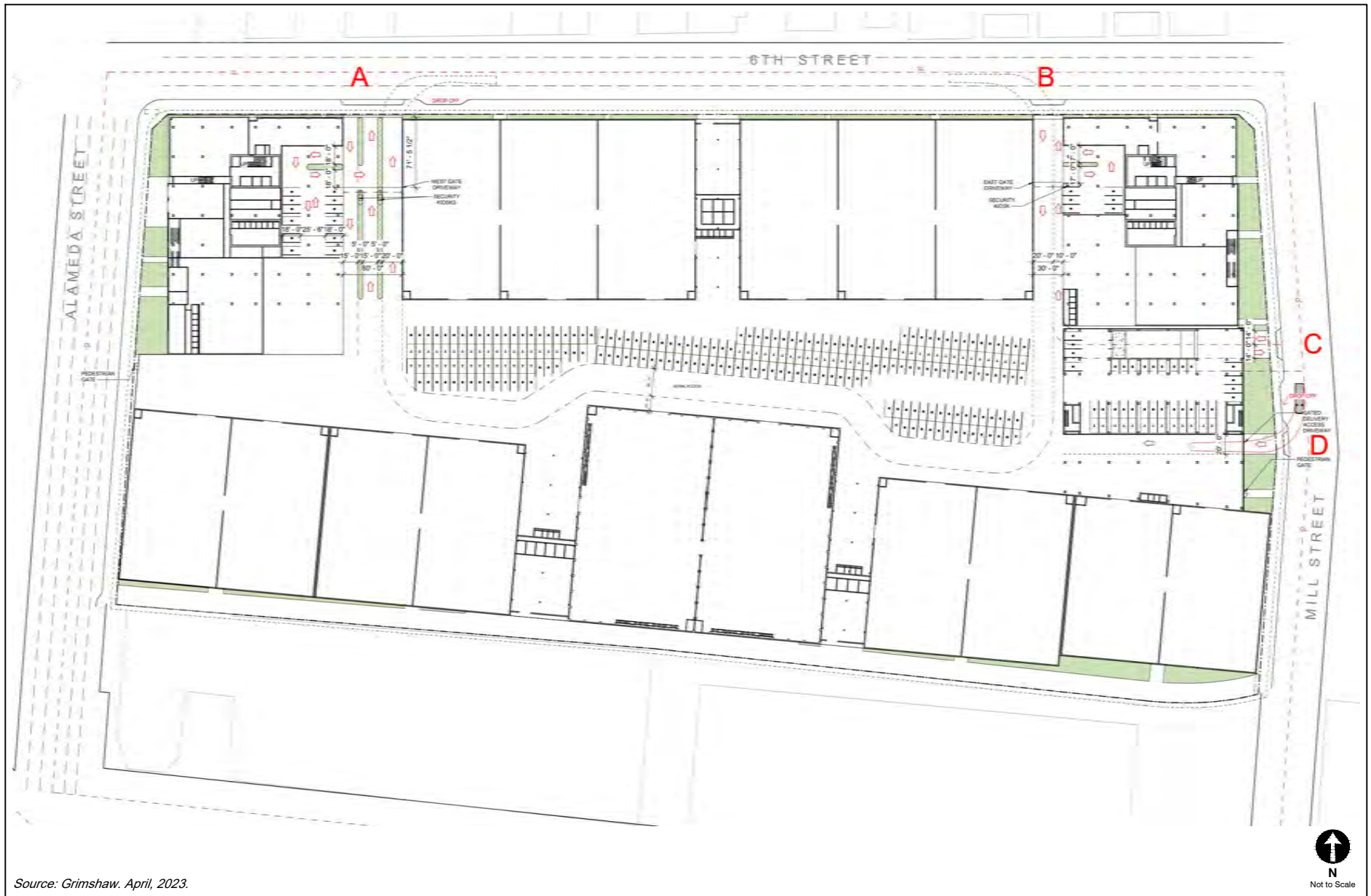
Section 19.15 of the LAMC identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact me at (213) 972-8481 or LADOT Central Development Review <ladot.devreview.cen@lacity.org>.

Attachments

I:\Letters\2024\CEN23-54430_640 Alameda_studio_ltr.docx

c: Erin Strellich/More Song, City Planning
Gerald Gubatan, Council District 14
Hokchi Chiu, Central District, BOE
Kaylinn Pell/Quan Tran/Bhuvan Bajaj, Central District, DOT
Taimour Tanavoli, Case Management Office, DOT
Sarah Drobis/Emily Wong, GTC



PROJECT SITE PLAN

FIGURE
1

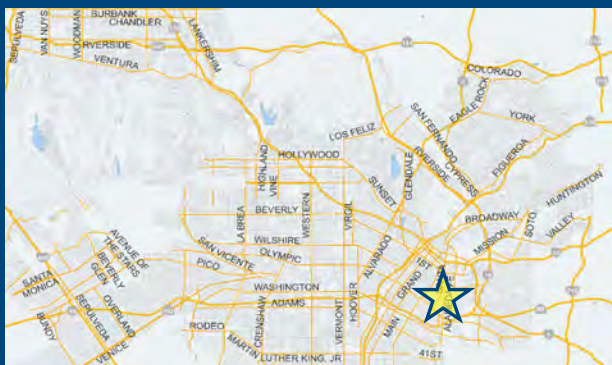
CITY OF LOS ANGELES VMT CALCULATOR Version 1.4



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

Project Information

Project: 6th and Alameda Studios
Scenario: [WWW](#)
Address: 1206 E 6TH ST, 90021 [Q](#)



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 Light Industrial	311	ksf
Industrial Light Industrial	311	ksf

[Click here to add a single custom land use type \(will be included in the above list\)](#)

Proposed Project Land Use

Land Use Type	Value	Unit
Retail High-Turnover Sit-Down Restaurant		ksf
Retail General Retail	4	ksf
Retail High-Turnover Sit-Down Restaurant	4	ksf
Office General Office	299.407	ksf
(custom) Stage and Support Uses Daily	2054	Trips
(custom) Stage and Support Uses HBW-Attr	52	Percent
(custom) Stage and Support Uses HBO-Attr	24	Percent
(custom) Stage and Support Uses NHB-Attr	12	Percent
(custom) Stage and Support Uses HBW-Prod	0	Percent
(custom) Stage and Support Uses HBO-Prod	0	Percent
(custom) Stage and Support Uses NHB-Prod	12	Percent
(custom) Stage and Support Uses Daily	0	Residents
(custom) Stage and Support Uses Daily	1334 [a]	Employee
(custom) Stage and Support Uses Daily	Non-Retail	Retail/Non

[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
1,701 Daily Vehicle Trips	4,387 Daily Vehicle Trips
11,821 Daily VMT	32,185 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	2,686 Net Daily Trips
The net increase in daily VMT ≤ 0	20,364 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	8.000 ksf
The proposed project is required to perform VMT analysis.	



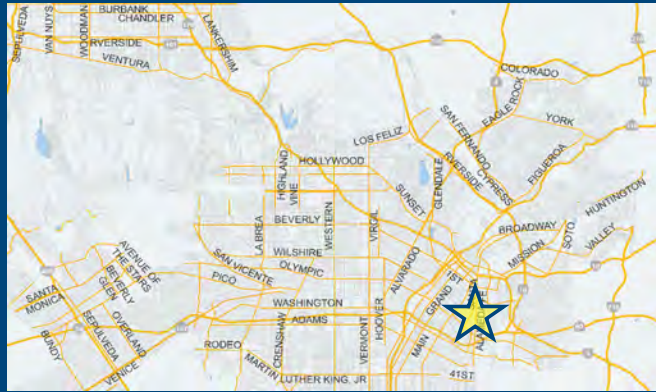
[a] The custom land use includes daily trips (see Table 4) and employee estimates (4.0 employees per 1,000 sf of sound stage use, 2.0 employees per 1,000 sf of production support use) for sound stage and production support that are based on other studios in the City.

CITY OF LOS ANGELES VMT CALCULATOR Version 1.4



Project Information

Project: 6th and Alameda Studios
 Scenario:
 Address: 1206 E 6TH ST, 90021



Proposed Project Land Use Type

Retail | General Retail
 Retail | High-Turnover Sit-Down Restaur
 Office | General Office
 (custom) Stage and Support Uses | Daily
 (custom) Stage and Support Uses | HBV
 (custom) Stage and Support Uses | HBC

Value Unit

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

Max Home Based TDM Achieved?

Proposed Project

No

With Mitigation

No

Max Work Based TDM Achieved?

No

No

A

Parking

Reduce Parking Supply

1371

city code parking provision for the project site

☒ Proposed Prj ☐ Mitigation

759

actual parking provision for the project site

Unbundle Parking

☐ Proposed Prj ☐ Mitigation

175

monthly parking cost (dollar) for the project site

Parking Cash-Out

☐ Proposed Prj ☐ Mitigation

50

percent of employees eligible

Price Workplace Parking

☐ Proposed Prj ☐ Mitigation

6.00

daily parking charge (dollar)

50

percent of employees subject to priced parking

Residential Area Parking

Permits

☐ Proposed Prj ☐ Mitigation

200

cost (dollar) of annual permit

B

Transit

C

Education & Encouragement

D

Commute Trip Reductions

E

Shared Mobility

F

Bicycle Infrastructure

G

Neighborhood Enhancement

Analysis Results

Proposed Project

3,815
Daily Vehicle Trips

27,985
Daily VMT

0.0
Household VMT
per Capita

5.5
Work VMT
per Employee

With Mitigation

3,815
Daily Vehicle Trips

27,985
Daily VMT

0.0
Household VMT
per Capita

5.5
Work VMT
per Employee

Significant VMT Impact?

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



CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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	4.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	4.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
Office	General Office	299.407	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	Stage and Support Uses	2054	Trips

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

Analysis Results			
Total Employees: 2,556			
Total Population: 0			
Proposed Project		With Mitigation	
3,815	Daily Vehicle Trips	3,815	Daily Vehicle Trips
27,985	Daily VMT	27,985	Daily VMT
0	Household VMT per Capita	0	Household VMT per Capita
5.5	Work VMT per Employee	5.5	Work VMT per Employee
Significant VMT Impact?			
APC: Central			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 7.6			
Proposed Project		With Mitigation	
VMT Threshold	Impact	VMT Threshold	Impact
Household > 6.0	No	Household > 6.0	No
Work > 7.6	No	Work > 7.6	No

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

TDM Strategy Inputs				
Strategy Type		Description	Proposed Project	Mitigations
Parking	Reduce parking supply	City code parking provision (spaces)	1371	1371
		Actual parking provision (spaces)	759	759
	Unbundle parking	Monthly cost for parking (\$)	\$0	\$0
	Parking cash-out	Employees eligible (%)	0%	0%
	Price workplace parking	Daily parking charge (\$)	\$0.00	\$0.00
		Employees subject to priced parking (%)	0%	0%
	Residential area parking permits	Cost of annual permit (\$)	\$0	\$0
(cont. on following page)				

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 2: TDM Inputs

Date: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: September 18, 2023
 Project Name: 6th and Alameda Studios
 Project Scenario:
 Project Address: 1206 E 6TH ST, 90021



Version 1.4

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

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: September 18, 2023
 Project Name: 6th and Alameda Studios
 Project Scenario:
 Project Address: 1206 E 6TH ST, 90021



Version 1.4

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	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Final Combined & Maximum TDM Effect

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

$$= \text{Minimum}(X\%, 1 - [(1-A) * (1-B) \dots])$$

where X%=

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

Note: $(1 - [(1-A) * (1-B) \dots])$ 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: September 18, 2023

Project Name: 6th and Alameda Studios

Project Scenario:

Project Address: 1206 E 6TH ST, 90021



Version 1.4

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	0	0.0%	0	6.7	0	0
Home Based Other Production	0	0.0%	0	4.6	0	0
Non-Home Based Other Production	755	-4.4%	722	7.5	5,663	5,415
Home-Based Work Attraction	2,691	-27.4%	1,955	8.2	22,066	16,031
Home-Based Other Attraction	1,554	-36.4%	988	5.9	9,169	5,829
Non-Home Based Other Attraction	755	-4.4%	722	6.8	5,134	4,910

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	-13.0%	0	0	-13.0%	0	0
Home Based Other Production	-13.0%	0	0	-13.0%	0	0
Non-Home Based Other Production	-13.0%	628	4,709	-13.0%	628	4,709
Home-Based Work Attraction	-13.0%	1,700	13,939	-13.0%	1,700	13,939
Home-Based Other Attraction	-13.0%	859	5,068	-13.0%	859	5,068
Non-Home Based Other Attraction	-13.0%	628	4,269	-13.0%	628	4,269

MXD VMT Methodology Per Capita & Per Employee

Total Population: 0

Total Employees: 2,556

APC: Central

	Proposed Project	Project with Mitigation Measures
Total Home Based Production VMT	0	0
Total Home Based Work Attraction VMT	13,939	13,939
Total Home Based VMT Per Capita	0.0	0.0
Total Work Based VMT Per Employee	5.5	5.5

TABLE 12
EXISTING WITH PROJECT CONDITIONS (YEAR 2023)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Alameda Street & 6th Street	AM PM	26.2 24.7	C C	25.5 26.6	C C
2. [b]	Mill Street & 6th Street	AM PM	14.0 20.0	B C	15.6 55.6	C F
3. [a]	Mateo Street & 6th Street	AM PM	19.6 19.6	B B	19.7 21.4	B C
4. [a]	Alameda Street & 7th Street	AM PM	21.4 28.5	C C	23.6 30.1	C C
5. [b]	Mill Street & 7th Street	AM PM	24.2 23.5	C C	35.0 84.0	D F
6. [a]	Mateo Street & 7th Street	AM PM	13.0 16.9	B B	16.4 29.7	B C

TABLE 13
FUTURE WITH PROJECT CONDITIONS (YEAR 2026)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions	
			Delay	LOS	Delay	LOS
1. [a]	Alameda Street & 6th Street	AM PM	26.4 25.4	C C	25.7 27.8	C C
2. [b]	Mill Street & 6th Street	AM PM	15.2 22.8	C C	17.2 75.8	C F
3. [a]	Mateo Street & 6th Street	AM PM	20.0 20.1	B C	20.2 22.2	C C
4. [a]	Alameda Street & 7th Street	AM PM	22.0 29.4	C C	25.2 31.1	C C
5. [b]	Mill Street & 7th Street	AM PM	26.0 25.2	D D	38.8 100.5	E F
6. [a]	Mateo Street & 7th Street	AM PM	13.3 17.3	B B	16.8 32.8	B C

Notes:

Delay is measured in seconds per vehicle

LOS = Level of service

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

[b] Unsignalized intersection analysis based on the HCM Unsignalized methodology, which calculates the control delay, in seconds, for each individual approach of an intersection. The reported control delay represents the worst-case approach, and does not account for traffic gaps created by adjacent traffic signals.

CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION

March 5, 2024

TRAFFIC
CONTROL
REPORT

14 – Central, SR# 1-4495353581
Mateo St and Industrial St

PEDESTRIAN ACTIVATED YELLOW FLASHING BEACON

DETERMINATION

1. That a Pedestrian Activated Yellow Flashing Beacon (PAYFB), along with appropriate signs, curb zones, and pavement markings, be authorized for installation to supplement the existing uncontrolled marked white crosswalk on the north leg of the intersection of Mateo Street and Industrial Street (L.A.M.C. Sections 80.08, 80.08.2, 80.37, 80.55 L.A.M.C.).
2. That the authorization for the signs, curb zones, and pavement markings supplementing the uncontrolled white marked crosswalk on the north leg of the intersection of Mateo Street and Industrial Street be rescinded upon activation of the Pedestrian Activated Yellow Flashing Beacon. (L.A.M.C. Sections 80.07, 80.08, 80.37)
3. That upon identification of funding, the Department will design and construct the Pedestrian Activated Yellow Flashing Beacon at Mateo Street and Industrial Street.

DISCUSSION

Per Council File 21-1134, the City Council has directed the Department of Transportation to complete traffic control studies for uncontrolled marked crosswalks that do not have existing or funded supplementary beacons, and to recommend traffic controls and/or beacons with the goal of improving motorist yield behavior and overall pedestrian safety. The Department has identified the marked white crosswalk crossing the north leg of the intersection of Mateo Street and Industrial Street as one such location.

A traffic engineering study has been conducted at this mid-block location. The study included a review of vehicular volumes and an investigation of the physical conditions and existing traffic controls. This location is a T-intersection with Mateo Street forming the north and south legs and Industrial Street forming the west leg. Industrial Street is one-way westbound, therefore, there is no traffic entering the subject intersection from Industrial Street. Mateo Street is designated as an "Avenue III" in the Mobility Plan 2035 Element of the City's General Plan. This segment of Mateo Street is striped with one through lane in each direction, has a prima facie speed limit of 25 miles per hour, and carries approximately 8,930 vehicles per day. Speed studies conducted at this intersection revealed an 85th percentile speed of 34 miles per hour.

Based on the number of traffic lanes, speed limit, and average volume on Mateo Street near Industrial Street, the Department recommends the installation of a Pedestrian Activated Yellow Flashing Beacon at the location to increase the conspicuity of pedestrians crossing Mateo Street, which has been observed to have a high 85th percentile speed. Department guidelines recommend the installation of a Pedestrian Activated Yellow Flashing Beacon at locations with Mateo Street's roadway configuration and average volumes if the speed is greater than 30 miles per hour.

The installation of a Pedestrian Activated Yellow Flashing Beacon, as described in the Determination, is justified to promote the safe and orderly movement of traffic at this location.

Recommended by:



Quan Tran, P.E.
Transportation Engineer
Central District

Approved by:



Bhuvan Bajaj, P.E.
Senior Transportation Engineer
Metro District Operations

cc: Councilmember Kevin de Leon, 14th Council District
LADOT, Central District